**GOVERNMENT OF THE DISTRICT OF COLUMBIA**
**District Department of the Environment**

**Office of the Director**

March 30, 2012

Nicholas DiPasquale
Director, Chesapeake Bay Program
410 Severn Avenue
Annapolis, Maryland 21403

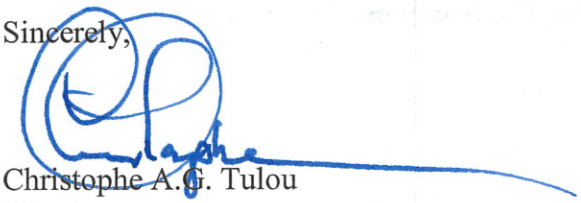
Dear Nick: Nick

Pursuant to an EPA letter of November 9, 2009 to the Chesapeake Bay Program's Principals' Staff Committee in support of the development of the Chesapeake Bay TMDL and Clean Water Act Section 117(g)(l), please find enclosed for your review the Final Phase II Chesapeake Bay TMDL Watershed Implementation Plan (WIP) for the District of Columbia. The document is entitled: *"Final Phase II Chesapeake Bay TMDL Watershed Implementation Plan, District of Columbia Department of the Environment, March 30, 2012."*

As shown in both WIP Phase I and this Final Phase II WIP, you will see that the District is well positioned to reduce its assigned nitrogen, phosphorous, and sediment loads by 2025; and to achieve 60% reduction by the year 2017. We were glad to submit our two-year milestones back in December for the next period: 2012-2013, as they are yet another set of actions and best management practices that nicely complement the WIP. The District appreciates the coordination and support provided by EPA and the nine Federal agencies with whom we selected to work in the development (and the implementation) of the WIP. We are happy to report forward and positive momentum of the WIP already. In fact, the majority of the milestones are currently underway and fully on track for timely completion as scheduled.

If you have any clarifying questions, please contact Dr. Hamid Karimi at 202-535-2277 or hamid.karimi@dc.gov. I look forward to seeing you at the next PSC or Executive Council meeting in June.

Sincerely,



Christophe A.G. Tulou
Director

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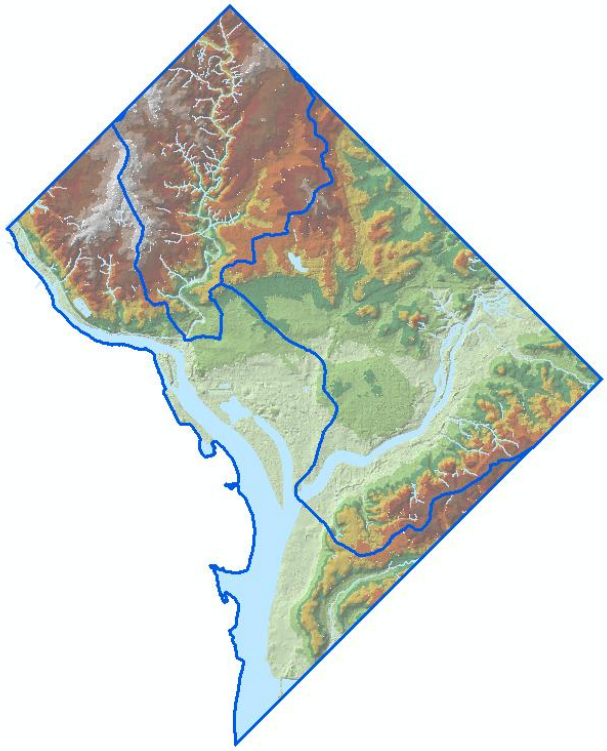
# Chesapeake Bay TMDL

## Phase II Watershed Implementation Plan



District of Columbia

Department of the Environment

March 30, 2012

District of Columbia Phase II Watershed Implementation Plan
for the Chesapeake Bay Total Maximum Daily Load
March 2012

Acknowledgements

The District Department of the Environment (DDOE) would like to acknowledge and thank the following people who assisted inthe preparation of its 2012 Final Phase II Watershed Implementation Plan (WIP). Key thanks go to DDOE's selected local, Federal partners. The District of Columbia could not have come this far if the selected Federal agencies had not been so fully forthcoming and cooperative. DDOE gives thanks to those agencies listed in the following chapters. DDOE also appreciate the efforts of DC Water which is an essential partner, on whose support the District relies. DDOE also acknowledges the Metropolitan Washington Council of Governments for helping with public outreach by offering needed meeting space. As mentioned in the following chapters, this Final Phase II Plan describes how the District's local partners will help the District attain the goals of an enhanced cleanup of the Chesapeake Bay. However, the District lacks direct authority over the Federal agencies; therefore, remaining somewhat limited in what DDOE can/cannot do in those facility areas. This fundamental limitation is discussed in greater length in several places throughout this WIP. To date, the Federal partners have cooperated with DDOE in very good faith, and are both currently and planning to continue "leading by example.' Through this District-Federal agency partnership, we plan to continue making steady progress in reducing nitrogen, phosphorous and sediments from our local rivers that flow into the Bay: the Anacostia and Potomac Rivers and Rock Creek. We also appreciate and depend upon our other stakeholders, such as the Anacostia Watershed Society, Alice Ferguson Society, Anacostia Riverkeeper, and Groundwork Anacostia River DC, to name just a few. It is through partnerships that we can accomplish the most important work in and around the City in rivers leading to the Bay.

Meetings Held
Federal Partners Meeting, April 26th 2011 at MWCOG
Public Stakeholders Meeting, June 23rd, 2011 at MWCOG
Federal Partners Meeting, February 27th, 2012 at MWCOG
Public Stakeholders meeting, March 1st at MWCOG
Meeting materials available on DDOE website at:
http://ddoe.dc.gov/service/phase-2-watershed-implementation-plan-meetings

District Contacts: Ms. Diane Davis at diane.davis2@dc.gov and Ms. Sarah Sand at sarah.sand@dc.gov

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# 1 Introduction

The primary purpose of this Final Phase II Watershed Implementation Plan (WIP) is to ensure that local partners who play a key role in cleaning the District of Columbia's waterways are engaged and ready to help implement what was outlined in the District's Phase I WIP. Since the District lacks counties or municipalities, it has instead reached out to Federal agencies with facilities located within the District. The District Department of the Environment is coordinating with nineFederal agencies as its 'local' partners. However nicely this parallels what the other states are doing with their counties/townships (etc.), it must be emphasized that the Federal agencies are not regulatorily 'bound' to abide by the local target loads that DDOE has assigned to them (as counties are bound to states such as Maryland or Virginia). The Federal agencies did readily submit (to EPA and to DDOE) two-year milestones and have also submitted best management practices (BMPs) to DDOE in response to the assigned target loads. Even with this level of cooperation, it must be emphasized and recognized that these BMPs remain optional and dependent upon future Federal funding levels in coming years in order to be fully realized and implemented. And, a majority of the Federal two-year milestones are programmatic in nature – indicating a different kind of commitments. The District will utilize its newly issued Municipal Separate Storm Sewer System (MS4)permit to the maximum extent possible to encourage Federal partners to comply with BMPs they submitted – but even with the Permit, what the Federal agencies submitted cannot be considered as fully binding 'commitments.'Even at press time for this final WIP, DDOE continues working with USEPA and many Federal agencies to craft a Memorandum of Understanding to promote Federal/District low impact development, to maximize stormwater retention, to encourage Federal agencies to utilize Energy Independence and Security Act #438 (EISA) wherever and whenever possible, to collaborate on opportunities, and to consolidated tracking.

The Department of Defense reflects other agency's assessments, when they indicated that this approach remains strictly optional for them, and can be readily cut if any budget restrictions occur in 2012 and beyond. For example, if they lack funds to pay for a green parking lot, but have submitted it to DDOE as a goal, then the plans will not go forward due to that lack of funding. The District met the letter of the EPA's October 17, 2011 Expectations Guidance by assigning target loads to local facilities, but the District lacks the requisite means to enforce compliance of any Federal agencies. It cannot be overstated: *the District of Columbia lacks the authority and means to force compliance of these Federal BMP submittals.*The District will proceed to implement the WIP as though each Federal submittal is a firm commitment, but it remain acutely aware of its jurisdictional limitations when enforcing the policies with a Federal agency who cannot or chooses not to meet its BMP submittals, and ultimately, load reductions.

On all other counts, this WIP is written to include the District'sFederal partners *as* local partners who play a key role in cleaning up its waterways. In fact, Federal agencies make up nearly one-third of the District's footprint or land surface area. For this reason alone, DDOE realized the necessity of reaching out to them to participate as other states have their counties participate. As willbe seen, DDOE was given both numbers/types of BMPs and programmatic actions that will help each agency meet their share of the Bay TMDL allocations for stormwater. However, it should be noted that the Federal BMP submittals have not been run through the Bay model to determine whether they are on the proper trajectory to reach

the allocations by 2025. Whatever DDOE received from the Federal partners, the District will be submitting as a separate Federal 2012-13 two year milestone input deck (attached). It should also be noted that not all outstanding issues have been fully resolved. Namely, DDOE will continue to work with DC Water (with EPA also) on a parallel track to help resolve the few issues that remain outstanding.

### 1.1 Assignment of Target Loads

DDOE issued proposed target load assignments to local Federal agencies located physically within the District on July 21, 2011. These draft load assignments were based on each agency's footprint in the CSO, MS4, and "Other" drainage pathways. The loadings were derived from the EPA spreadsheet entitled "Federal_analysis_112210.xls" which can be found on the Chesapeake Bay Program's FTP website. The MS4 and "Other" loadings comprise all of the loading accounted for on the EPA's Federal analysis spreadsheet. The CSO loading was not included in the EPA's analysis because stormwater loading from the CSO is largely handled by DC Water which has its loads assigned separately consistent with its own NPDES permit. However, DDOE considered it important that all Federal agencies located within CSO be made aware of their stormwater loads based upon their area footprint. Reducing the individual Federal partner's stormwater loading in the CSO area is consistent with the spirit of Executive Order 13508 and the Energy Independence and Security Act (EISA) Section 438 which requires all Federal agencies to 'lead by example,' specifically by reducing their stormwater loadings without regard to where their stormwater eventually drains. Since there are no significant differences between CSO, MS4, and "Other" drainage pathways CSO loading was derived using similar assumptions as were used for the MS4 and "Other" loadings.

## 2 Local Partners

### 2.1 Federal Agencies

DDOE has established a strong working relationship with the Federal Agencies within the District. The District's Federal Partners represent all of the Federal Agencies which hold land within the boundaries of the District of Columbia. DDOE received two year milestones from our Federal Partners as well as narratives to be included in this Phase II WIP.DDOE is interacting with its Federal Partners the same as it would any major stakeholder of land and indeed the same as it interacts with DC Water. DDOEhas submitted a separate input deck developed through the Chesapeake Assessment and Scenario Tool (CAST) for the Federal Partners. This input deck covers the 2012-2013 two year milestone period. DDOE will continue to submit input decks for the Federal Partners separately for each two year milestone period. Federal practices will, however, not be included in the District's input decks.

DDOE first held a meeting with representative from various Federal facilities located in D.C. on April 26th, 2011 at the Metropolitan Washington Council of Governments in the District. The meeting was designed as a workshop to both gather input and engage Federal agencies in the WIP II planning process. This meeting resulted in a strong District Federal Agency partnership and opened the doors to constant

communication. DDOE subsequently held a meeting on February 27th,2012 with its Federal partners to discuss the upcoming Final Phase II WIP,future expectations and reporting.

DDOE issued proposed target load assignments to nine Federal agencies locatedwithin the District on July 21, 2011. These draft load assignments were based on each agency's footprint in the CSO, MS4, and "Other" drainage pathways. The loadings were derived from the EPA spreadsheet titled "Federal_analysis_112210.xls" which can be found on Chesapeake Bay Program's ftp site. Federal load reductions in the MS4 and Other are based on the required percent reductions in the overall MS4 and Other areas, as established in the Phase I WIP. Federal agencies are being asked to reduce by the same percentage as the District requires of itself in the MS4 and "Other" areas. Since the entire CSO load is considered to be a point source in the Bay model, direct data on the stormwater component was not available. The stormwater load for the CSO was estimated using the unit area loads from the MS4, on the assumption that there is no substantial difference in the stormwater generation between these two drainage pathways.To determine the required load reductions from the CSO, the MS4 percent reduction in each land-river segment was applied. DDOE made the decision to develop loadings for Federal agencies in the CSO drainage area based on language in EISA 438 and Executive Order 13508: Strategy for Protecting and Restoring the Chesapeake Bay Watershed.

Once draft target loads were issued to Federal Agencies, agencies made comments and requested meetings with DDOE. Meetings were held with agencies upon request to discuss loadings and Phase II WIP strategies. Many agencies provided updated Geographical Information System (GIS) files to DDOE to be used to recalculate the loadings based on agency specific acreage data. DDOE recalculated loadings and provided additional information to those agencies that requested it. Target loadings were finalized with all agencies in October 2011.

For the 2012-13 two year milestone submission DDOE reviewed previous yearly reporting to the Chesapeake Bay Program and catalogued all submissions reported for reductions which were on Federal lands. Federal agencies compared the BMP list from DDOE to their internal lists. Practices that Federal agencies have in the ground that were not previously reported to the Bay Program for reductions were submitted for the 2012-13 two-year milestone period. It was determined by DDOE that Federal Agencies should be given credit for these practices which had already been installed but were not previously reported. Therefore the Federal milestones for 2012-13 are compiled of practices placed in the ground before 2012 as well as forthcoming practices through 2013. The next two-year milestone (2014-2015) period will be composed of new practices only.

DDOE held a CAST training for the Federal agencies in the District on October 25, 2011. Many agencies participated in the training via webinar or in person. Agencies have expressed interest in using CAST themselves. Many agencies want to be able to use it to track their reductions credited based on BMPs they have put in the ground as compared to the load allocation given to them by DDOE.

### Table 2.1. Federal Acreage Used for Calculating Loads

| | AOC | AFRH | ACOE | DoD | FRA | GSA | NPS | Smithsonian | USDA | VA | Walter Reed |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CSO | 264.40 | 298.88 | 24.53 | 80.34 | 49.10 | 328.30 | 472.10 | 150.70 | 13.80 | 34.00 | 0.00 |
| MS4 | 0.00 | 4.00 | 14.80 | 47.41 | 0.00 | 344.09 | 2184.80 | 53.10 | 65.00 | 0.00 | 112.02 |
| Other | 0.00 | 2.60 | 87.10 | 1177.91 | 0.00 | 28.10 | 3540.30 | 25.40 | 339.10 | 0.00 | 0.00 |

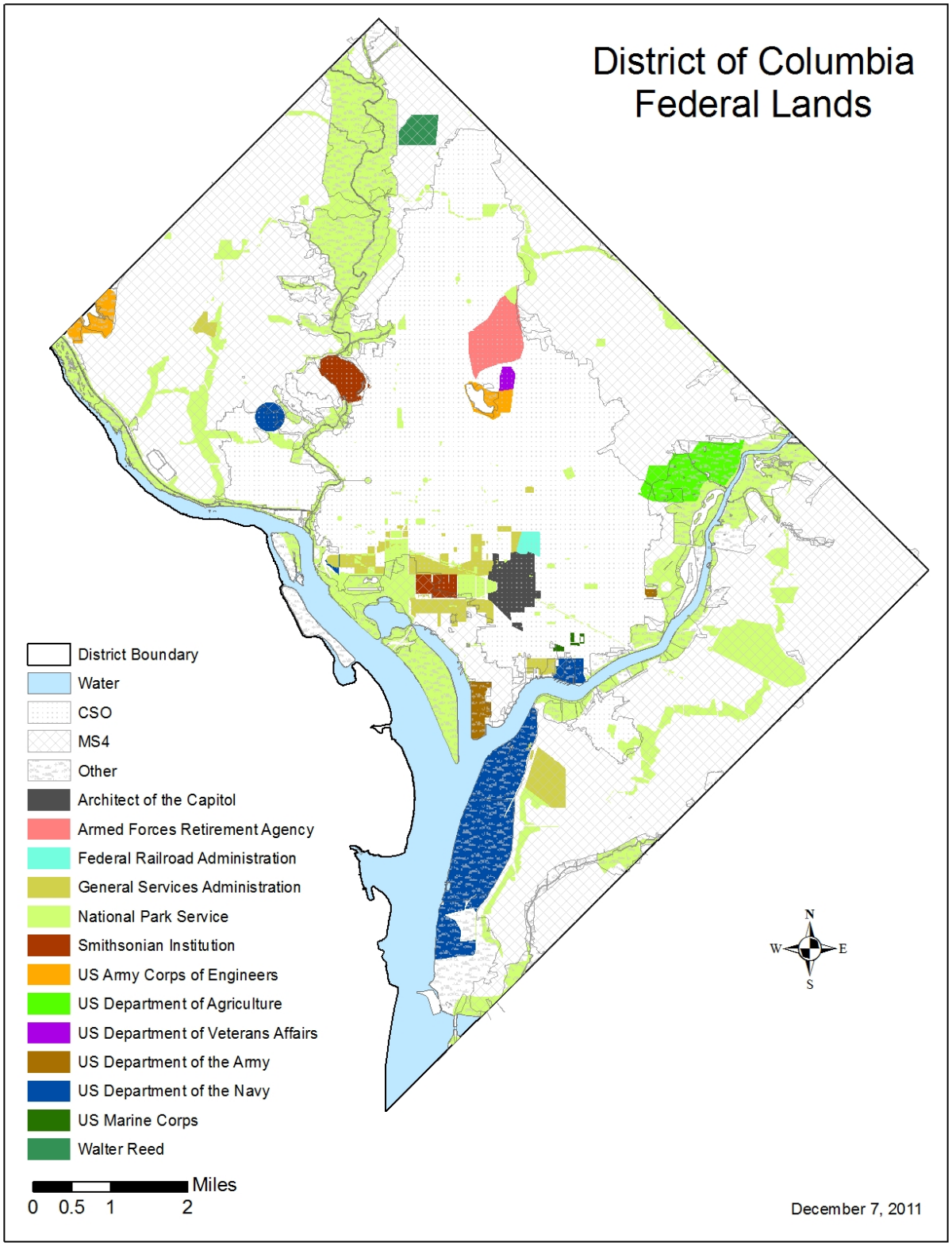


**Figure 2. 1. District of Columbia Federal Lands**

### 2.1.1 Architect of the Capitol

The Architect of the Capitol (AOC) is a Federal agency that is responsible for the maintenance, operation, development, and preservation of the United States Capitol Complex. As part of the Legislative Branch, Executive Orders do not apply to the AOC but EISA Section 438 does. As such, the AOC has included EISA Section 438 in the design standards for its new projects. AOC loads are summarized in Table 2.2.

**Table2. 2. Architect of the Capitol Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 1106 | 126 | 39.11 | 1007 | 96 | 28.93 |
| **MS4** | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| **Other** | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| **Total** | 1106 | 126 | 39.11 | 1007 | 96 | 28.93 |

The AOCsubmitted the following narrative as part of their 2012-13 two year milestones:

The Architect of the Capitol (AOC) is operating under a continued resolution (CR) that freezes funding at prior year levels. At this point the AOC does not have any funding for new capital or major renovation projects in FY12 or 13. One major FY11 funded project is the completion of the final phases of the storm water pollution prevention study. Through this study AOC will document the projects required to comply both with the Chesapeake Bay Program requirements as well as internal AOCsustainability goals.

The Architect of the Capitol's 2012-13two year milestones are attached in Appendix A. The AOC also submitted the following milestones which are generally programmatic in nature:

- Incorporation of erosion and sediment control best practices into AOC'sdesign standards for inclusion in all new construction projects;
- Award of the final phase of theCapitol Complex Storm Water Pollution Prevention and Management Plan; and
- Urban nutrient management program on 80 acres of Capitol grounds.

### 2.1.2 Armed Forces Retirement Home

The Armed Forces Retirement Home (AFRH) is an independent establishment in the executive branch of the Federal Government. Established in 1851 by the US Congress, AFRHWashington has seen many changes in two centuries. Built on farm land atop a hill overlooking the US Capitol, the Washington campus has been home to thousands of former enlisted military.AFRH loads are summarized in 2.3.

**Table 2.3. Armed Forces Retirement Home Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 1251 | 143 | 44.13 | 1139 | 109 | 32.63 |
| **MS4** | 19 | 2 | 0.44 | 16 | 1 | 0.32 |
| **Other** | 12 | 1 | 0.33 | 9 | 1 | 0.17 |
| **Total** | 1281 | 146 | 44.90 | 1165 | 111 | 33.12 |

AFRH is building a New Commons and Health Care Center which is currently under construction. The BMPs associated with this project are included in Appendix A.

In addition to the new building, AFRH is transitioning seven acres of grass area, currently mowed monthly, to become a wildlife refuge. The acreage will be seeded for wildflowers and wild bushes, such as wild raspberry and blackberry and will only be mowed once a year. Further, AFRH is looking for funding opportunities to replant the approximately 200 trees lost on their property over the past four years.

### 2.1.3 Army Corps of Engineers

The Washington Aqueduct is a Division of the Baltimore District, U.S. Army Corps of Engineers (USACE). USACE operates two facilities in the District;USACE loads are summarized in Table 2.4.

**Table 2.4. Army Corps of Engineers Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 103 | 12 | 3.63 | 93 | 9 | 2.68 |
| **MS4** | 116 | 4 | 2.11 | 100 | 3 | 1.55 |
| **Other** | 819 | 32 | 10.49 | 681 | 23 | 7.10 |
| **Total** | 1038 | 47 | 16.23 | 874 | 35 | 11.33 |

Washington Aqueduct submitted a narrative as part of their2012-13 two year milestones summarized below:

The Washington Aqueduct is a Federal entity owning land in the District and has been identified as a partner in the District's Chesapeake Bay WIP and TMDL process. In that capacity, the Washington Aqueduct is committed to meeting Chesapeake Bay Program goals as outlined in the following submitted programmatic two year milestones:

- Implement an inspection program for stormwater collection and control facilities (e.g.,inlets, storm septors, catch basins, detention ponds, etc.) to identify cleaning and maintenance needs at the Dalecarlia Water Treatment Plant, the grounds of the Dalecarlia Reservoir and the McMillan Water Treatment Plant. The inspection will be started on a quarterly basis and the frequency will be adjusted after one year based on inspection observations;

- Implement an inspection program for Georgetown Reservoir, 1st, 2nd and 3rd High Service Reservoirs to identify soil erosion and slope failures. Formal inspection will be on semi-annual basis. In addition there will be an inspection immediately following any significant rainfall (hurricane, tropical storm or a majorthunderstorm);

- Implement inspection of Little Falls Branch and its tributaries running within Washington Aqueduct property for stream bank erosion on semi-annual basis; and

- Maintain technical staff certification for the Erosion and Sediment Control Program. Enhance their ability for inspection, installation and maintenance of sediment control measures at construction sites.

### 2.1.4 Department of Defense

DoD aggregate footprint and loading are summarized in Tables 2.5 and Tables 2.6, respectively. Table 2.7, Table 2.8, and Table 2.9summarizes loads for the Department of the Army, Department of the Navy, and Marines, respectively.

**Table 2.5. Area Footprint in Acreage for DoD**

| | Army | Navy | Marines | DoD total |
|---|---|---|---|---|
| CSO | 7.441 | 59.5 | 13.4 | 80.341 |
| MS4 | 10.113 | 37.3 | 0 | 47.413 |
| Other | 100.408 | 1077.5 | 0 | 1177.908 |

**Table 2.6. Department of Defense Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 316 | 23 | 10.82 | 291 | 18 | 8.23 |
| **MS4** | 204 | 23 | 5.65 | 185 | 17 | 4.24 |
| **Other** | 5614 | 946 | 260.35 | 4474 | 692 | 138.69 |
| **Total** | 6134 | 993 | 276.83 | 4950 | 727 | 151.16 |

#### *2.1.4.1 Department of the Army*

Table 2.7 summarizes the Department of the Army loads below.

**Table 2.7. Department of Army Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 31 | 4 | 1.10 | 28 | 3 | 0.81 |
| **MS4** | 51 | 8 | 1.25 | 45 | 6 | 0.90 |
| **Other** | 519 | 86 | 11.24 | 402 | 45 | 5.22 |
| **Total** | 601 | 97 | 13.60 | 476 | 54 | 6.93 |

The Department of the Army submitted the following narrative for Fort McNair for the Phase II WIP:

Fort McNair Narrative: Fort Leslie J. McNair, is a part of Joint Base Myer-Henderson Hall (JBM-HH), a U.S. Army garrison managed by the U.S. Army Installation Management Command. JBM-HH is the first Army-led Joint Base reaching full operational capability when Fort Myer and Fort McNair, formerly Fort Myer Military Community, merged with Headquarters Marine Battalion Henderson Hall, effective 1 October 2009. JBM-HH supports Joint Force Headquarters –National Capital Region – Military District of Washington in homeland security, defense support to civil authorities, and in ceremonial activities, musical events and parades. JBM-HH is home to the Army's "showcase" community: the 3rd U.S. Infantry ("The Old Guard"), which serves as the Army's official ceremonial unit and Escort to the President;and the U.S. Army Band ("Pershing's Own"), the premier musical organization of the United States Army.

JBM-HH provides administrative, housing, and quality of life services to active duty, reserve component, retired military and DOD civilian personnel living in the National Capital Region. Jointly, the three installations that make up this installation cover approximately 380 acres of land within the Washington, D.C. Metropolitan Area. Fort McNair is located in southwest Washington, D.C. where the Potomac and Anacostia Rivers converge. It occupies approximately 108.17 acres, 7.76 of which drain to the D.C. storm sewer system. The rest drains directly into the Potomac River (83.31 acres) and the Anacostia River (17.1 acres).

The Phase II WIP process requires collaborative involvement from DDOE, Fort McNair and the U.S. Army Corps of Engineers to ensure the agreed upon pollutant load reductions as well as current and future BMP implementation levels fulfill the Federal share of the needed reductions for nitrogen, phosphorous and sediment pollutants. DDOE's direct involvement with Fort McNair and the Services played a critical role in assisting the Army with delivering accurate and timely loading and programmatic information as part of this Phase II WIP process. Going forward this Federal-state partnership example will prove to be instrumental in meeting the long term restoration plan for the Chesapeake Bay demonstrating future benchmarks for progress in 2017 and 2025.

DoD reports that funding for projects needed to reduce loading from the garrison is contingent upon authorization and appropriation of funds in accordance with appropriate statutes. This includes the U.S. Congress, Department of Defense, Department of the Army and the Army's Installation Management Command. JBM-HH will be competing for funding against all of the Army's other requirements and there is no guarantee that funding will be available. JBM-HH will make every effort to obtain necessary

funding, but changes in priorities or budget constraints would mean a project or projects may not be executed as planned. Further, they report that funding is expected to be exceptionally lean in fiscal years 2012 and 2013.

DDOE distributed its required load reductions according to CSO, MS4, and Other categories. This is not the case in other jurisdictions. Coordination with multiple Bay jurisdictions made it difficult to apply one agency approach to meeting the required load reductions.

Initially the Army was given a required load reduction by Department, then by Service. The challenge is that although the Services fall under the DoD umbrella, DoD funding streams are different. Even within the Department of Army, the Army National Guard operates differently in some ways than the Army. DDOE acknowledged this was a challenge and respectfully re-ran its model to provide required load reductions by facility. The Army expects that not all jurisdictions will operate in this same way and in fact some jurisdictions have indicated that the required load reductions will be an aggregate for all Federal agencies. Again, this would take an enormous amount of coordination, time and consequently more resources.

DDOE initially included the property known as Walter Reed Army Hospital under the "Army-owned" property. Army contacted DDOE electronically to state that this property is under the control of the Base Realignment and Closure (BRAC) Office with property transfer actions actively underway and that at this time the Army would not commit to any loadings, reductions or milestones on behalf of the new property owners. The Army further requested that the acreages assigned to the Walter Reed Army Hospital be removed from the allocations issued to the Army and DDOE accommodated their request.

Fort McNair's 2012-13 two year milestones are attached in Appendix A. The Department of the Army also submitted milestones on behalf of Fort McNair that are more programmatic in nature. These programmatic practices are long term practices that extend beyond 2013. The following are the long term programmatic milestones for Fort McNair:

- Fort McNair is working with USACE to complete an installation-wide BMP inventory and assessment for Fort McNair. USACE is developing a BMP Inventory database for reporting tracking and accountability. Fort McNair will provide a copy of the inventory to capture BMPs not already accounted for since the 2006 baseline.

- Twenty-seven trees were planted at Fort McNair in November 2011. This community effort, led by Casey Trees in partnership with the Directorate of Environmental Management, was a result of findings from the 2010 tree survey during which species names, conditions, and locations of trees lost during past storm events were identified. The event was the first of four planned phases of tree plantings to replace missing trees and help restore tree canopy in the District.

- Fort McNair is working withUSACE to conduct opportunity assessments which will identify locations where BMPs could beimplemented to meet load allocations.

- Continue to implement 2010 Army Policy for Sustainable Design and Development (SDD) and Low Impact Development (LID) under the Energy Independence and Security Act of 2007 (EISA) as a means to manage stormwater for all construction and maintenance projects.

The Department of the Army submitted the following narrative for the DC Armory for the Phase II WIP:

The DC Armory, located on a 9.79-acre site that is approximately 1600 feet from the Anacostia River in Southeast Washington, DC, stations the Joint Force Headquarters, District of Columbia mission for the DC Army National Guard. The JFHQ-DC commands and controls assigned and apportioned forces. JFHQ-DC provides trained and ready units, personnel and equipment to accomplish Federal, District and community missions. On Order of the President, the JFHQ-DC executes assigned missions and support to Federal and local authorities.

The Phase II WIP process required collaborative involvement from DDOE, D.C. Armory, and the U.S. Army Corps of Engineers to ensure pollutant load reductions, as well as current and future BMP implementation levels fulfill the Federal share of the needed reductions for nitrogen, phosphorous and sediment pollutants. In an effort to meet Phase II WIP timelines, two year milestones and critical progress milestones in 2017 and 2020, the D.C. Armory successfully conducted a comprehensive assessment of BMPs on the facility to ensure the following data was accurate and submitted to DDOE in a timely manner: Accurate latitude and longitude locations, the number of acres treated, the date of BMP installation, and the condition of each BMP.

There is considerable inconsistency across the Bay jurisdictions making it difficult to apply one DoD approach to meeting the required load reductions. DDOE distributed its required load reductions according to CSO, MS4, and "Other" categories. This is not the case in other jurisdictions. Initially the D.C. Armory was given a required load reduction by Department, then by Service. Going forward, it is critical that the D.C. Armory receive data on a facility level. Although the Services fall under a DoD umbrella, their funding streams are different. DDOE has acknowledged this as a DoD challenge and for this model run provided the D.C. Armory with load reductions by facility.

DC Armory's 2012-13 two-year milestones are attached in Appendix A. In addition to the attached milestones, the Department of the Army submitted milestones on behalf of the DC Armory that are more programmatic in nature. These programmatic practices are long term and extend beyond 2013. The following are the long term programmatic milestones for DC Armory:

- D.C. Army National Guard (ARNG) and USACE completed an installation-wide BMP inventory and assessment for the D.C. Armory. USACE is developing a BMP Inventory database for reporting tracking and accountability of loading and BMP data.
- The D.C. Armory is working with USACE to develop an OpportunityAssessment which will identify locations where BMPs could beimplemented to meet load allocations.
- The D.C. Armory will continue to implement the Army Policy for Sustainable Design and Development (SDD), October 2010 and Low Impact Development (LID) under the Energy Independence and Security Act of 2007(EISA) as a means to manage stormwater for all future construction and maintenance projects.

### *2.1.4.2 Department of the Navy*

Table 2.8 summarizes the Department of the Navy loads below.

**Table 2.8. Department of Navy Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 228 | 13 | 7.74 | 211 | 10 | 5.95 |
| **MS4** | 153 | 15 | 4.40 | 140 | 11 | 3.34 |
| **Other** | 5095 | 860 | 249.11 | 4072 | 647 | 133.47 |
| **Total** | 5477 | 889 | 261.25 | 4424 | 668 | 142.76 |

The Department of the Navy submitted facility narratives and programmatic milestones for each Navyfacility. Additional 2012-13 two year milestones are attached in Appendix A.

Naval Support Activity Washington (NSA Washington) has five Naval facilities located in the District of Columbia: 3801 Nebraska Avenue NW, US Naval Observatory, Naval Support Facility Potomac Annex, Washington Navy Yard and Joint Base Anacostia Bolling. Historic buildings are present on all sites.

The Department of the Navy submitted separate programmatic milestones for JBAB, Nebraska Avenue, Washington Navy Yard, Potomac Annex and the US Naval Observatory.

Joint Base Anacostia-Bolling (JBAB) is a 905 acre military installation, located in Southwest Washington, D.C., established on October 1, 2010 in accordance with congressional legislation implementing the recommendations of the 2005 Base Realignment and Closure Commission. The legislation ordered the consolidation of Naval Support Facility Anacostia (NSF) and Bolling Air Force Base (BAFB), which were adjoining, but separate military installations, into a single joint base – one of 12 joint bases formed in the country as a result of the law. JBAB is situated partly in a floodplain adjacent to the Potomac and Anacostia Rivers. This naval facility is primarily administrative; however, tenants representing various Federal agencies also occupy buildings at this facility. JBAB also hosts the Naval Imaging Command, White House Communications Facility, Secret Service, the Marine Corps Presidential Helicopter Squadron and is home to the Airforce Honor Guard and the Airforce Band.

Joint Base Anacostia Bolling:

- JBABwill complete an installation-wide BMP inventory and assessment including an improvement plan for stormwater management. JBAB will provide a copy of the inventory to capture BMPs not already accounted for since the 2006 Baseline.
- Continue to implement Department of Navy Low Impact Development (LID) Policy for Storm Water Management and the Energy Independence and Security Act of 2007 (EISA) as a means to manage storm water for all construction and maintenance projects in 2012 and 2013.

- Joint Base Anacostia Bolling is working with NAVFAC/DON to develop an Opportunity Assessment.The objective of this study is to establish strategies to conduct stormwater management improvements in support of Executive Order 13508 within Naval District Washington. The study will focus on: Establishment of short-term and long-term performance objectives based on installation water quality control needs, current program and/or regulatory objectives, and anticipated future requirements affecting Federal properties within the Chesapeake Bay watershed; Establishment of a Stormwater Improvement Plan through 2025; Identification of funding required to implement the Stormwater Improvement Plan; and Recommendations for future actions.

- Continue with Urban Nutrient Management practices on 450 acres

3801 Nebraska Avenue NW is a parcel of land approximately an acre in size in NW DC containing a Naval residential housing unit near American University.

Nebraska Avenue Complex:

- Nebraska Avenue Complex will complete an installation-wide BMP inventory and assessment including an improvement plan for stormwater management. Nebraska Avenue Complex will provide a copy of the inventory to capture BMPs not already accounted for since the 2006 Baseline.

- Nebraska Avenue Complex is working with NAVFAC/DON to develop an Opportunity Assessment.The objective of this study is to establish strategies to conduct stormwater management improvements in support of Executive Order 13508 within Naval District Washington.

- Continue to implement Dept of Navy Low Impact Development (LID) Policy for Storm Water Management and the Energy Independence and Security Act of 2007 (EISA) as a means to manage stormwater for all construction and maintenance projects in 2012 and 2013.

- Continue with Urban Nutrient Management practices on 1 acre.

The Washington Navy Yard (WNY) is a 75 acre facility located north of the Anacostia River in southeastern District of Columbia and is the Navy's longest continuously operated Federal facility in the United States. The facility was constructed in the late 1700s and expanded southward through the mid 1900s. WNY's original mission was industrial, primarily shipbuilding and ship repair, until this was shifted to ordnance research and production in the late 1800s. Activities changed solely to administration in the 1960s. Due to past industrial activity, several Installation Restoration (IR) sites exist at the WNY, but all sites are being addressed through the IR program. The WNY is currently comprised of administrative buildings, loading/unloading areas, storage facilities and services such as restaurants, public works, fire and police departments, dispensary and recreational centers. The site is located in a historic district, with very little green space remaining and a high water table thus presenting a unique stormwater management challenge for the Navy.

Washington Navy Yard:

- Washington Navy Yard will complete an installation-wide BMP inventory and assessment including an improvement plan for stormwater management. Washington Navy Yard will provide a copy of the inventory to capture BMPs not already accounted for since the 2006 Baseline.

- Washington Navy Yard is working with NAVFAC/DON to develop an Opportunity Assessment.The objective of this study is to establish strategies to conduct stormwater management improvements in support of Executive Order 13508 within Naval District Washington.

- Continue to implement Dept of Navy Low Impact Development (LID) Policy for Storm Water Management and the Energy Independence and Security Act of 2007 (EISA) as a means to manage stormwater for all construction and maintenance projects in 2012 and 2013.

- Continue with Urban Nutrient Management practices on 12 acres

Naval Support Facility (NSF) Potomac Annex is a 16 acre administrative facility located at the corner of E and 23rd Streets in downtown District of Columbia, situated atop a hill overlooking the Potomac River. NSF Potomac Annex houses the Bureau of Medicine and Surgery and has been in continuous use as a Naval facility since its inception in the 1800s. The site originally housed the U.S. Naval Observatory, which relocated to the Massachusetts Avenue location in the late 19$^{th}$ century. NSF Potomac Annex is served by a combined sewer system which discharges to the DC sewer system.

Potomac Annex:

- Potomac Annex will complete an installation-wide BMP inventory and assessment including an improvement plan for stormwater management. Potomac Annexwill provide a copy of the inventory to capture BMPs not already accounted for since the 2006 Baseline.

- Potomac Annex is working with NAVFAC/DON to develop an Opportunity Assessment.The objective of this study is to establish strategies to conduct stormwater management improvements in support of Executive Order 13508 within Naval District Washington.

- Continue to implement Dept of Navy Low Impact Development (LID) Policy for Storm Water Management and the Energy Independence and Security Act of 2007 (EISA) as a means to manage storm water for all construction and maintenance projects in 2012 and 2013.

- Continue with Urban Nutrient Management practices on 7 acres.

United States Naval Observatory (USNO) was established by the US Navy in 1830 as the Depot of Charts and Instruments to provide navigational charts and chronometers. In 1880 the location was officially selected as the USNO. It lies on a 72-acre tract of land on Massachusetts Avenue, in the northwest area of the District of Columbia. USNO is composed of residential and administrative office buildings. There are no industrial activities at the facility. With 14 acres of impervious surface, USNO remains largely as forest and turf. USNO is currently the location of the Master Clock, which provides the National

Standard of Time for the United States. Precise celestial reference points for navigation and satellite positioning are determined there.

US Naval Observatory:

- US Naval Observatory will complete an installation-wide BMP inventory and assessment including an improvement plan for stormwater management. US Naval Observatory will provide a copy of the inventory to capture BMPs not already accounted for since the 2006 Baseline
- US Naval Observatory is working with NAVFAC/DON to develop an Opportunity Assessment.The objective of this study is to establish strategies to conduct stormwater management improvements in support of Executive Order 13508 within Naval District Washington.
- Continue to implement Dept of Navy Low Impact Development (LID) Policy for Storm Water Management and the Energy Independence and Security Act of 2007 (EISA) as a means to manage stormwater for all construction and maintenance projects in 2012 and 2013.
- Continue with Urban Nutrient Management practices on 55 acres

#### *2.1.4.2.1 United States Marine Corps*

Table 2.9 summarizes Marine Corps loads below.

**Table 2.9. United States Marine Corps Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 56 | 6 | 1.98 | 51 | 5 | 1.47 |
| **MS4** | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| **Other** | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| **Total** | 56 | 6 | 1.98 | 51 | 5 | 1.47 |

### 2.1.5 Federal Railroad Administration

Table 2.10 summarizes FRA loads below.

**Table 2.10. Federal Railroad Administration Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 205 | 23 | 7.26 | 187 | 18 | 5.37 |
| **MS4** | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| **Other** | 0 | 0 | 0.00 | 0 | 0 | 0.00 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Total** | 205 | 23 | 7.26 | 187 | 18 | 5.37 |

The Federal Railroad Administration (FRA) contributes a small amount of loading associated with the CSO drainage area at Union Station. Union Station is managed by a corporation and then leased to a private developer. Amtrak serves as a board member of the corporation and therefore has a limited role in managing the property. Columbus Circle and Columbus Plaza are located to the south of Union Station and are being rehabilitated in the coming years. This rehabilitation will include multiple BMPs and create additional pervious surface.

### 2.1.6 General Services Administration

Table 2.11 summarizes GSA loads below.

**Table 2.11. General Services Administration Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 1374 | 157 | 48.22 | 1250 | 119 | 35.65 |
| **MS4** | 1569 | 221 | 34.13 | 1394 | 161 | 24.31 |
| **Other** | 119 | 17 | 2.78 | 93 | 9 | 1.38 |
| **Total** | 3062 | 395 | 85.13 | 2737 | 290 | 61.34 |

General Services Administration (GSA) submitted the following narrative for the District's Phase II WIP:

US GSA National Capital Region complies with the *Facilities Standards for the GSA Public Buildings Service* (P100) which establishes design standards and criteria for building-related projects for owned buildings and for lease construction where there is a government option to purchase the building. The P100 includes the following criteria relating to stormwater management:

- Local regulations must be followed without exception in the design of systems that have a direct impact on off-site terrain or utility systems including stormwater runoff, erosion control, sanitary sewers and storm sewers.

GSA complies with NEPA for every project. Depending on the project, GSA will either determine it to be a Categorical Exclusion, or prepare either an environmental assessment (EA) or environmental impact statement (EIS). For those projects requiring an EA or EIS, a decision document will be completed for each project and finding of no significant impact (FONSI) or record of decision (ROD). The FONSI or ROD will include measures or restrictions on the design and construction of the project to mitigate the project's impact on the environment.

Compliance with EISA 2007 Section 438 is required and development or redevelopment projects that exceed a 5,000 sq ft footprint must use site planning, design, construction, and maintenance strategies for the property to maintain or restore predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow.

The architect/engineer must comply with local and state requirements for stormwater management and obtain required local approvals for the stormwater management plan. Site plans must meet local and state requirements for controlling sediment and erosion during construction and the A/E must obtain any required regulatory approvals of the sediment and erosion control plan.

Included in Appendix A are the practices submitted by GSA for the 2012-13 two year milestones. In addition to the milestones in Appendix A, GSA is also performing Nutrient Management on many of their properties.

### 2.1.7 National Park Service

National Park Service (NPS) loads are summarized in Table 2.12 below.

**Table 2.12. National Park Service Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 1922 | 209 | 66.48 | 1750 | 158 | 49.32 |
| **MS4** | 9759 | 1060 | 268.91 | 8786 | 775 | 200.56 |
| **Other** | 14480 | 1285 | 484.42 | 11542 | 13916 | 255.72 |
| **Total** | 26160 | 2554 | 819.81 | 22078 | 14850 | 505.60 |

The following narrative was submitted to DDOE by the National Park Service for the Phase II WIP:

The parks of the National Capital Region (NCR) of National Park Service (NPS) include Rock Creek Park, National Capital Parks – East, National Mall and Memorial Parks, Chesapeake and Ohio Canal National Historical Park, Ford's Theatre and a small portion of George Washington Memorial Parkway. Together they consist of more than 6,800 acres or approximately 20 percent of the District of Columbia spanning all three drainage areas; CSO, MS4, and other. Since the NPS is typically the recipient of large amounts of stormwater from areas adjacent to these parks, the NPS recognizes the need to control stormwater. The NPS has already demonstrated this commitment through work coordinated with the DDOE to develop and construct a variety of stormwater management practices across the city. These practices include the installation of Regenerative Stormwater Conveyance Systems, wetland restoration, urban stream restoration projects, retrofit of parking lots and the construction of rain gardens. The NPS has partnered with the District Department of Transportation (DDOT) to install Low Impact Development strategies in Rock Creek Park as part of a transportation project that included bio-retention cells and porous paving. In addition, NPS has completed a number of bio-retention projects that include bioswales adjacent to parking lots, stormwater detention ponds, reforestation projects, installation of riparian buffers, restoration/reconstruction projects in the Anacostia watershed, installation of trash traps, installation of a green roof and the installation of more than 500 water quality inlets across the city. By the end of 2013, the NPS will have completed the installation of two 250,000-gallon cisterns on the National Mall as part of a turf rehabilitation project. This is phase 1 of a three phase project that will alleviate the intense soil compaction which in turn, will improve site drainage allowing for water to better infiltrate. In addition, the cisterns will allow for the collection of stormwater and the use of retained stormwater in irrigating the newly restored turf. The NPS is looking to partner with adjacent property

owners to install additional cisterns to allow for the collection of stormwater from areas adjacent to the National Mall.

In order to help the District meet its 2017 and 2025 goals, the NPS will continue to take advantage of opportunities to partner with District agencies and local stakeholders such as Anacostia Watershed Society, GroundWork Anacostia, the Riverkeeper and others to invest in stormwater management practices that will reduce stormwater and increase water quality for the waters in the Chesapeake Bay Watershed. The NPS will continue to work with DCWater on their Clean Rivers Project. The NPS has been working with DCWater to allow for the use of NPS lands for the installation of tunnels along the Anacostia River that are designed to capture and provide storage for combined sewer overflows (CSOs) to the Anacostia River. When completed, this project along with other CSO control projects will reduce the number of CSOs to the Anacostia River by about 98 percent.

The NPS, as a bureau of the Department of the Interior is leading the Urban Waters Partnership for the Anacostia River pilot. This partnership will reconnect urban communities, particularly those that are overburdened or economically distressed, with their waterways by improving coordination among Federal agencies and collaborating with community-led revitalization efforts to improve the Nation's water systems and promote their economic, environmental and social benefits. Specifically, the Urban Waters Federal Partnership will: break down Federal program silos to promote more efficient and effective use of Federal resources through better coordination and targeting of Federal investments, recognize and build on local efforts and leadership, by engaging and serving community partners, work with local officials and effective community-based organizations to leverage area resources and stimulate local economies to create local jobs, and learn from early and visible victories to fuel long-term action.

In addition to BMP's submitted to DDOE in 2012-13 two year milestones, NPS has established a number of programmatic practices that will assist the District in meeting their Chesapeake Bay water quality goals. These practices include but are not limited to; weekly street cleaning, periodic cleaning of water quality inlets, reduced mowing practices, tree plantings, use of erosion/sediment controls during construction projects, and regular inspection and maintenance of all BMPs to ensure they are properly functioning. The NPS has inserted EISA Section 438 requirements into both regional and service center work flows to ensure that all new construction, major renovation, or repair and alteration of Federal buildings comply with the requirements.

The NPS's 2012-13 two year milestones are included in Appendix A. Some practices do not lend themselves to nutrient reductions through the Bay Watershed Model and are therefore considered programmatic practices. These programmatic milestones extend beyond 2013. Table 2.13 summarizes the long term programmatic milestones for the NPS facilities within the District:

**Table 2.13. National Park Service Programmatic Practices**

| Park | Description | BMP | length (miles) | Area (acres) |
|---|---|---|---|---|
| NACE | Reforestation allowed via natural forest succession processes between CSX tracks and East Capitol St. Bridge to develop | Forest buffer | | 15 |
| NACE | Fort Dupont reforestation allowed via natural forest succession | Forest buffer | | 10 |
| NACE | Fort Davis reforestation allowed via natural forest succession | Forest buffer | | 0.25 |
| NACE | Naylor Road reforestation allowed via natural forest succession | Forest buffer | | 0.5 |
| NACE | Expanded forest line via plantings and natural succession at Fort Ricketts | Forest buffer | | 0.5 |
| NACE | DC Oxon Cove shore reforestation allowed via natural forest succession Oxon Run Parkway managed | Forest buffer | | 55 |
| CHOH | Capitol Crescent Trail - Stormwater collection improved in tow locations. From 3700 Water St. to the western District Line. Maintain grass buffer - erosion sediment control, maintain forest buffer | Forest buffer | 2 | |
| NACE | Section C river buffer | Riparian buffer | 0.8523 | 0.1 |
| NACE | Section C managed meadow | Riparian buffer | 0.8523 | 4 |
| NACE | Section C managed meadows HQ and Howard Road | Riparian buffer | | 4 |
| NACE | Managed meadow near Kenilworth Maintenance Yard | Riparian buffer | | 3 |
| NACE | Kenilworth meadow perimeter | Riparian buffer | | 7 |
| NACE | Kenilworth Arboretum side edge | Riparian buffer | 0.3788 | 0.1 |
| NACE | Langston riparian areas | Riparian buffer | 0.0568 | 1 |
| NACE | Kingman riparian areas | Riparian buffer | 0.7576 | 0.2 |
| CHOH | Along edge of Potomac River from 3700 Water St. to the western District Line - approximately 3.5 miles of river shoreline are protected -maintained Riparian Buffer. Maintained natural riparian buffer (located within flood plain). | Riparian buffer | 3.5 | |
| ROCR | Maintained approx.78 miles of no mow riparian buffer in addition to approximately 44 miles of existing no mow buffered stream banks. Park is developing plans to potentially increase the amount of no mow riparian buffer by approximately 500’ | Riparian buffer | 0.78 | |
| NAMA | Unmowed areas located adjacent to the Potomac, along Ohio Drive | Riparian buffer | 0.5 | |
| NACE | Bandalong Floating trash trap on Watts Branch | Trash Trap | | |
| NACE | Floating Trash trap on Nash Run | Trash Trap | | |

| Park | Description | BMP | length (miles) | Area (acres) |
|---|---|---|---|---|
| NACE | Anacostia Drive Stormceptors (8) | Water Quality Inlet | | |
| NACE | Anacostia Drive Bioretention cells (8) | Water Quality Inlet | | |
| NACE | RFK Stadium Baysavers (8) | Water Quality Inlet | | |
| NACE | RFK Stadium Aquafilters (8) | Water Quality Inlet | | |
| ROCR | Replacement of 62 of the stormwater catch basins/inlets with Type 6A modified-double type 6A-6 inlets to improve stormwater runoff quality | Water Quality Inlet | | |
| ROCR | Maintenance of Aquashield in maintenance yard and maintenance of four Filterra Units in maintenance yard parking lot and one at the Grove 1 parking lot | Water Quality Inlet | | |
| ROCR | Continuation of catch basin cleaning, street sweeping, and maintenance of stormwater catch basins, Aquashield, and Filterra units | Water Quality Inlet | | |
| NAMA | 2 Baysavers at MLK Memorial | Water Quality Inlet | | |
| NAMA | 7 new sand/oil separators taking street runoff at MLK | Water Quality Inlet | | |
| NAMA | 2 dynamic separators draining the area of the Elm walks between Lincoln and WWII monuments | Water Quality Inlet | | |
| ROCR | Catch basin (404) cleaning on park roads 2x/year (spring and fall), under contract | Water Quality Inlet | | |
| NAMA | 313 Triple Water Quality Inlets | Water Quality Inlet | | |
| NAMA | 187 Double Water Quality Inlets | Water Quality Inlet | | |
| NAMA | 125 Single Water Quality Inlets | Water Quality Inlet | | |
| ROCR | 119 Double Water Quality Inlets | Water Quality Inlet | | |
| NAMA | 3 Oil - Water separators (parking lot A, parking lot B, 17th Street & Independence | Water Quality Inlet | | |

### 2.1.8 Smithsonian Institution

The Smithsonian Institution loads are given in Table 2.14 below.

**Table 2.14. Smithsonian Institution Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | **TN (lb)** | **TP (lb)** | **TSS (tons)** | **TN (lb)** | **TP (lb)** | **TSS (tons)** |
| **CSO** | 576 | 23 | 21.47 | 537 | 18 | 16.62 |
| **MS4** | 273 | 42 | 6.68 | 243 | 31 | 4.78 |
| **Other** | 107 | 6 | 3.95 | 86 | 3 | 2.15 |
| **Total** | 955 | 71 | 32.10 | 866 | 52 | 23.55 |

The Smithsonian Institution submitted the following narrative for the Phase II WIP:

Although not a Federal agency, the Smithsonian is committed to working collaboratively with their government colleagues to demonstrate leadership in reducing pollutants in the Chesapeake Bay by implementing best management stormwater projects to reduce nitrogen, phosphorus and sediment pollutant loads in accordance with the specific target reductions for their facilities established by the DDOE and to contribute to overall reduction of these pollutants at their facilities in Maryland and Virginia. They will work with all of these jurisdictions to achieve 60 percent of reductions by 2017 and 100 percent of reductions by 2025 when they have the results from the Assessment Scenario Tool on the impacts of projects currently in their capital plan. They have not received specific targets for pollutant reductions from Virginia and Maryland and look forward to receiving additional guidance.

The Smithsonian especially welcomes the opportunity to demonstrate the more visible of theirBMPs to their visitors, particularly at the larger outdoor facilities like the National Zoological Park in the District and the Smithsonian Environmental Research Center in Maryland.

The Smithsonian's 2012-13 two year milestonesare attached. The Smithsonian performed a Comprehensive Facilities Master Plan for the National Air and Space Museum (NASM) and the National Museum of Natural History (NMNH). A comprehensive facility development plan and a cultural landscape report were also developed for NMNH. These plans and reports provided overall and specific stormwater management strategies and recommendations which include green roofs and storm water cisterns.

### 2.1.9 United States Department of Agriculture

USDA loads are given in Table 2.15 below.

**Table 2.15. USDA Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 56 | 7 | 1.57 | 51 | 5 | 1.14 |
| **MS4** | 259 | 37 | 4.70 | 228 | 27 | 2.79 |
| **Other** | 1347 | 195 | 23.55 | 1044 | 103 | 10.93 |
| **Total** | 1662 | 239 | 29.82 | 1323 | 135 | 14.87 |

The U.S. National Arboretum (Arboretum) is a U.S. Department of Agriculture (USDA) research facility and living museum. The Arboretum was established in 1927 by an act of Congress and opened to the public in 1959. The Arboretum's 2012-13two year milestones are included in Appendix A.The Arboretum also submitted the following milestones which are more programmatic in nature:

- A state of the art stormwater interceptor consisting of a Terre Kleen™ unit and two floatable trash and sediment collectors have been installed in the Hickey Run stream channel at the outfall just below New York Avenue, Northeast, to intercept sediment, floatable debris, debris and other

pollutant-causing items. This pollution abatement structure should substantially eliminate existing trash and hydrocarbon pollution issues associated with Hickey Run.

- The Arboretum utilizes the principles of nutrient management in the management of turf, gardens, plant research plots, and collections. No fertilizer is applied to turf areas or garden beds. Fertilizer use is limited to container gardens, plants growing in the closed system of the aquatic garden, and in the greenhouse and nursery areas. Compost is utilized as a soil amendment and as a mulch to protect the soil form erosion and to increase its nutrient holding capacity.

- Large areas near the Capitol Columns and the Conifer Collections are managed as meadows instead of vast expanses of turf. These areas are now mowed only twice yearly to combat woody weeds and are allowed to grow naturally at other times of the year.Meadows now cover nearly 100 acres of the Arboretum campus. Compaction of the soil from years of routine mowing is gradually being alleviated and the meadows now allow better infiltration and slow runoff of rainwater.

- Permeable paths and surfaces linking existing gardens and collections with pedestrian pathways have been designed and constructed.

- USNA uses Integrated Pest Management to manage all of its gardens and collections.

- The Stormwater Committee has the mission of considering both point source and nonpoint source stormwater discharges and strategizing and developing management controls and techniques protecting and restoring the watershed.

### 2.1.10 Veterans Affairs

VAMC loads are given in Table 2.16 below.

**Table 2.16. Veterans Affairs Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 142 | 16 | 5.03 | 130 | 12 | 3.72 |
| **MS4** | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| **Other** | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| **Total** | 142 | 16 | 5.03 | 130 | 12 | 3.72 |

The Department of Veterans Affairs (VA) 2012-13 two year milestones are included in Appendix A, included in their submission was the following narrative:

The Washington DC VA Medical Center (VAMC) is a 34.6 acre site that is part of a larger medical center complex which includes: Washington Medical Center, Children's National Medical Center, and the National Rehabilitation Medical Center. The Washington DC VAMC is located within the CSO drainage area that drains to the Blue Plains Advanced Wastewater Treatment Plant.

The medical center's staff of 1,700 provides care to veterans residing in the District and portions of Virginia and Maryland. The medical center treats over 50,000 veterans and has over 500,000 outpatient visits each year.

The VAMC identified an additional project that is scheduled to take place in the 2014-15 two year milestone period:

- Removal of surface parking lots and construction of multi-story parking structures to allow for additional parking and increased population but minimize the impact of stormwater runoff. Pervious surface is expected to increase by 7.5 percent (approximately 2.6 acres)

### 2.1.11 Walter Reed

Loads estimates for the Walter Reed site are given in Table 2.17 below.

**Table 2.17. Walter Reed Loading**

| | 2009 Loading | | | 2025 Target Loading | | |
|---|---|---|---|---|---|---|
| | TN (lbs) | TP (lbs) | TSS (tons) | TN (lbs) | TP (lbs) | TSS (tons) |
| **CSO** | 0 | 0 | 0 | 0 | 0 | 0 |
| **MS4** | 451 | 46 | 16.65 | 423 | 36 | 13.05 |
| **Other** | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 451 | 46 | 16.65 | 423 | 36 | 13.05 |

The Walter Reed site in Northwestern DC was previously under Army ownership but has been closed by the Army as of September 15th, 2011 and is now in transition. Future ownership and management of the site is currently unknown. Therefore DDOE has separated out the acreage and loadings for Walter Reed as its own entity at this time. Once ownership of the site has been transferred, the loadings associated with the site will be allocated to the Agency or Agencies who acquire ownership.

## 2.2 DDOE Partnerships

DDOE has a long standing relationship of working with local watershed organizations, nonprofits and stakeholder groups to accomplish DDOE program initiatives. Often these partnerships are financed through grant funding received by DDOE and then, in turn, granted to local organizations. DDOE utilizes numerous local watershed and nonprofit organizations to accomplish environmental goals throughout the District. Many of the local organizations that are currently working on DDOE projects through grant funding sources are detailed in this section.

Funds are awarded through DDOE's RiverSmart Programs to local nonprofit organizations who then, perform the outreach, education, contracting and data collection that enables Low Impact Development Green Infrastructure (LID-GI) to be retrofitted or built on private properties in the District. The

organizations currently working on these projects include: Alliance for the Chesapeake Bay, Anacostia Watershed Society, DC Greenworks, DC Environmental and Education Consortium, and Casey Trees.

DDOE's Watershed Protection Division engages in environmental education efforts that are aimed at District residents, with a special focus on public school teachers and youth. Living Classrooms-National Capital Region provides a Meaningful Watershed Education Experience, with training in the classroom and in the field, for 3rd, 4th and 5th grade public school students. Alice Ferguson Foundation also provides two different Meaningful Watershed Education Experiences for 3rd, 4th and 5th grade public school students: one that includes a service project and science study related to trash; and another that allows students to spend the night on a working farm that borders an estuary on the Potomac River. Anacostia Watershed Society works with schools that have installed or are installing RiverSmart Schools landscaping for stormwater treatment and retention to gather a functional maintenance crew from a pool of students, teachers and community members, and trains them on proper care of these features. Anacostia Watershed Society also teaches watershed stewardship to adult District residents and conducts extensive outreach to District residents.

The Center for Watershed Protection is the local nonprofit organization which is awarded funds to assist DDOE in updating DDOE's stormwater regulations; train DDOE plan reviewer and inspection and enforcement staff in the application of these new regulations; and create a public market in stormwater credit trading.

DDOE Watershed Protection Division awards funds to local organizations to perform habitat and water quality monitoring. Currently funds have been awarded to the Metropolitan Washington Council of Governments to perform pre and post monitoring of the recently completed Watts Branch stream restoration project.

To address our trash TMDL, DDOE is working with local organizations to capture trash as it flows from stormwater outfalls into District waters, collect data on the amount and type of trash captured, and dispose of it appropriately as garbage or recycling. Anacostia RiverKeeper, Anacostia Watershed Society and Groundworks Anacostia River DC have been awarded funds for these multi-year projects.

Empowerhouse Collective, which includes local partners from DC Habitat for Humanity and GroundWorks Anacostia River DC, is building two single-family homes that have designs to keep and use all stormwater on-site. Golden Triangle Business Improvement District is retrofitting a triangle park to accept, filter and detain stormwater runoff from the surrounding streets. William Penn House is building a green roof. Common Good City Farm is demonstrating use of a high-volume cistern for rainwater capture and reuse on a community garden; and Anacostia Riverkeeper is working with Groundworks Anacostia River DC to demonstrate use of a high-volume cistern for rainwater capture and reuse on a church property.

# 3 Point Source Updates

## 3.1 Municipal Separate Storm Sewer System (MS4) Permit

### 3.1.1 District of Columbia MS4 Permit Challenge Status

The October 7, 2011 District of Columbia MS4 Permit (Permit) as issued from EPA, Region III is undergoing the process of appeal by various groups. The outcome of this appeal is unknown, but will likely involve a protracted process. DDOE has been in direct contact with the EPA Environmental Appeals Board via a process called Alternative Dispute Resolution (ADR) sessions. At this time (March 2012) the District has a letter from EPA indicating what parts of the permit are 'stayed' as of January 22, 2012. DDOE is trying to make the ADR work as best it can, but it is hard to say what the outcome or timing of the appeals will be. These ADR sessions have been administered by EPA's Environmental Appeals Board (EAB), and are attempting to reach a resolution to the permit appeals that is acceptable to DDOE, DC Water, and the appealing environmental organizations. We have been ordered to ADR by the EAB and the details of the process remains confidential. In spite of this process, DDOE moves forward to implement both the Bay TMDL and the MS4 Permit with full force and good faith. The timeframe for resolving the remaining appeal is unknown – it could be months or even years before a final resolution is reached. In order to move forward with developing this Final Phase II WIP, DDOE will remain guided by the January 22, 2012 version of the Permit. However, if major changes to the Permit occur as a result of the challenges, then some of the projected stormwater initiatives may be revised to reflect the Permit appeal outcome(s).

### 3.1.2 About DDOE's MS4 Program

EPA issues the District its MS4 Permits, as it is not a delegated jurisdiction. EPA issued a final permit on October 7, 2011, but it is undergoing the process of appeal (by several parties) through EPA's Environmental Appeals Board. DDOE will utilize the January 22, 2012 version until such time as the appeal changes the terms of the permit, or if the Appeals Board or EPA instructs DDOE differently. In addition to the 2011 permit, DDOE is also guided by an Upgraded Stormwater Management Plan, February 2009, which outlines its efforts.

The 2011 Permit contains significant changes (from the previous 2004 permit) intended to move the water quality improvement/protection efforts from planning stages into more practical and achievable implementation. One of the most significant changes is the requirement to modify the District's stormwater regulations to include a 1.2 inch retention standard, which is a paradigm shift from the current regulations that require treatment and extended detention. Further, the District plans to maximize its use of innovative green infrastructure practices, and it is headed in that direction with the use of incentive programs, such as RiverSmart Programs (Homes, Schools, ). This is not new and began with the 2007 Letter of Agreement as mentioned in a previous section.

For the District, compliance with the best management practices (BMPs) contained in the Permit will constitute compliance with the DC Water Quality Standards (DCWQS), and this will contribute to meeting its allocations as determined by the Chesapeake Bay Phase 5.3 Model. The District's pending

Stormwater Regulation and the new 2011 Permit require the design, construction and maintenance of stormwater controls to achieve retention of the volume generated on a site by a 1.2 inch, 24- hour storm for all new development and re-development greater than 5,000 square feet in the District. The District may allow a portion of the 1.2 inch volume to be compensated through an off-site mitigation and/or fee-in lieu program. Any allowance for adjustments to the retention standard will be defined in the forthcoming Stormwater and Erosion Control regulations and shall include a minimum baseline on-site retention standard. There will be strict terms outlined to document environmental benefits prior to allowing for any adjustments. Additionally, the District's new stormwater regulations will require substantial renovation projects to include stormwater retention practices.

The District plans to aggressively manage runoff from millions of square feet of impervious surfaces over the term of the Permit (5 years), with approximately 1,500,000 square feet of impervious surface to be created specifically in transportation rights-of-way. The District will continue with our vigorous Tree Canopy goal, increasing the tree canopy coverage within the District from 35 percent to 40 percent over twenty five years. Another element calls for installing at least 350,000 square feet of green roofs over the Permit cycle on properties within the District during the term of the Permit (including schools and school administration buildings). The District is working proactively with our District and Federal and sister agencies to promote LID wherever structurally and fiscally feasible. To better track these efforts, DDOE will document the square footage of green roof coverage in the District, whether publicly or privately owned, report on the benefit of incentive programs implemented during the Permit term, and estimate the volume of stormwater that is being removed from the MS4 system (and combined system, as relevant) in a typical year of rainfall as a result of the combined total green roof facilities in the District.

The District will implement the Permit by requiring the use of retention and harvest/reuse practices to reduce stormwater runoff from new development and redevelopment. Although not outlined in the Permit, the District projects that a1.2 million square feet ($ft^2$) of green roofs will be constructed by 2015, as follows:

- 450,000 $ft^2$ on District Property;
- 408,000 $ft^2$on Federal;
- 430,000 $ft^2$ on Private;
- RiverSmart Green Roof subsidy program is:
  - \$7 per $ft^2$ subsidy for large (> 4,000 $ft^2$) retrofit projects;
  - \$5 per $ft^2$ subsidy open to any applicant for new or retrofit, public or private; and
- Green roof locations throughout the District as of June 2011, current estimates put installations at 1,300,000 $ft^2$. This is counted towards the 1.2 million $ft^2$ by 2015 goal.

Other Permit highlights that will better equip the District to achieve its stormwater and TMDL goals (to reduce N, P, TSS) include (but not limited to) the following measures or categories:

- Off-site mitigation, and/or fee-in-lieu and trading program;
- Retrofit program for existing discharges;
- Tree canopy & green roof projects ;
- Operation & maintenance of retention practices (both District owned and non-District owned);
- Management of District government areas;
  - Spill prevention response;

    - Public construction activities management;
    - Pesticide, herbicide, fertilizer and landscape irrigation at recreation facilities;
    - Storm drain system operation and management of solids and floatables reduction;
    - Street sweeping; and
    - Municipal officials training;
- Spill prevention;
- Public Education, participation, and outreach;
- Management of illicit discharges & improper disposal;
- Revised monitoring program; and
- Inventory & inspection of critical sources and controls.

As required by October 2011 Permit Section (4.1.5.3), for each retrofit project DDOE will estimate pollutant loads and volume reductions achieved for each major waterbody for: N, P, TSS (and more). Permit section (4.1.5.2) calls on the District to work with Federal agencies (such as GSA, DOD, etc.) with EPA's facilitation to identify retrofit opportunities, document Federal commitments, and track pollutant reductions from relevant Federal actions. Further, Permit Section 4.1.4. charges DDOE to develop an incentive program to increase the quantity and quality of planted areas using such methods as permeable paving, green roofs, vegetated walls, preservation of existing trees, layering of vegetation along streets and other areas. Section 2.3.3. states that "*within 180 days of permit issuance, the permittee shall complete an assessment of additional governmental agencies and departments…to partner with to administer required elements of the permit. Additional government organizations and programs to consider include: federal departments and agencies, including but not limited to: NPS, DOA, DOD, GSA, responsible for facilities in the District."*

Lastly the Permit still requires DDOE to develop a TMDL Implementation Plan, but the deadlines and details of what that plan will include are still pending resolution of the MS4 Permit appeal. Whenever that happens, the TMDL Implementation Plan will include the Chesapeake Bay TMDL (N, P, TSS). This consolidated plan will include a specific schedule for compliance (with each TMDL), interim numeric milestones where more than one permit cycle is required, and indicate whether a specific existing TMDL needs to be updated or changed.

In short, these and many more terms contained in the October 7, 2011 Permit lend themselves appropriately to better equip the District to be in compliance with the Chesapeake Bay TMDL, by reducing greater amounts of nitrogen, phosphorous and sediment resulting from stormwater runoff throughout the District.

Beyond the Permit, EPA reminds DDOE that the Energy Independence and Security Act Section 438 (and EPA Guidance) calls for Federal facilities to comply with 1.7 inch on-site retention. Per the Fact Sheet that EPA released with the Permit, the 2011 Permit was informed by Executive Order 13508 (section 501) which directs Federal agencies to implement controls on their own properties. Additionally, the Fact Sheet references Executive Order 13514, which reiterates that the Federal agencies implementing new or re-development projects will achieve a 1.7 inch on-site stormwater retention standard. Even though these three measures are not explicitly included in the 2011 Permit, these executive orders direct Federal agencies to 'lead by example' when it comes to stormwater management.

EPA and DDOE stormwater managers and staff met with Federal agencies in February and March 2012 to work out/initiate a possible MOU (memorandum of understanding). Several Federal agencies (DoD, GSA, DOI (NPS), Smithsonian Institution, AOC, USDA, and EPA) *might* sign a MOU in order to outline their willingness to cooperate and implement EISA, and terms of the District's MS4 Permit and thisChesapeake Bay WIP. The DDOE-developed WIP includes nine agencies and relies upon their separate and combined committed actions and BMPs to make it more implementable. Because the District lacks authority over the Federal partners, an additional MOU-type mechanism is being pursued to maximize the WIP's and the MS4 Permit's implement ability. At the second such meeting the policy group of agencies did not reach a full agreement on exact MOU language or terms; instead starter language was drafted as a basis for moving forward. EPA is leading the MOU efforts as a way to strengthen their issued MS4 Permit and Chesapeake Bay TMDL. Even if a MOU is not fully developed, the District is hoping for a similar type of agreement which will significantly enhance this WIP's administrative feasibility.

### 3.1.3 2007 Letter of Agreement Sets the Tone

As reported in the Phase I WIP, the original 2004 MS4 NPDES permit was challenged by environmental groups and DC WASA. The District and EPA reached an agreement on a series of enhancements to the 2004 MS4 Permit. These enhancements were described in a November 27, 2007 Letter of Agreement, which was later amended August 1, 2008. The November 27, 2007 Agreement Letter provided a strategy and enhancements to upgrade the District's Stormwater Management Plan/MS4 Program leading up to 2011. The Letter of Agreement defined a set of deliverables, commitments and deadlines to improve the management of stormwater and water quality. All of the categories of commitments in that document are carried over into the new 2011 MS4 Permit in one form or another, such as: commitment to LID, rain gardens/barrels, tree planting, and much more. In fact the new 2011 Permit is much more stringent for each of the 2007 items, and holds the District to a rigid set of practices across the board for stormwater management/retention, but the 2007 categories remain largely in place.

### 3.1.4 Existing Stormwater Regulations

DDOE is in the process of revising its Stormwater Management (SWM) regulations, as required by the final MS4 permit issued October 7, 2011. In addition to the channel protection and flood control provisions in the existing regulations, the revised regulations will require development that disturbs 5,000 square feet or more of soil to retain the stormwater volume from a 1.2 inch storm. A new trigger will also be added for "substantial improvement" projects on buildings with a footprint of 5,000 square feet or greater (interior renovations with a cost of greater than 50 percent of the property), though the MS4 permit allows a retention standard for these properties of less than 1.2 inches.

Under these planned regulations, which the MS4 permit requires to be in effect by July 22, 2013, a regulated site would have the option of meeting a portion of its required stormwater retention volume (SWRV) off site, after retaining a minimum amount on site. The two options for off-site retention are use of Stormwater Retention Credits (SRCs), traded on the private market, or payment of an in-lieu fee to the District. The MS4 permit requires the District to develop off-site options such as these.

This program will help regulated sites and the District comply with the 1.2 inch retention standard as specified in the 2011 MS4 Permit. The District's off-site program is not designed to interact with other jurisdictions, states or watershed programs outside of the District. The only NPDES permit which will be affected by this program will be the District's MS4 Permit.

DDOE has presented its plan for the program to EPA, and will provide the proposed rulemaking with provisions for the program to EPA for review and comment, as mandated in the Permit.

DDOE commits to continue to work with EPA to address the recommendations that EPA has provided from its assessment of the District's offset and/or trading program by the end of CY 2013. The District also commits to work with EPA during CY 2012 in the demonstration that there are no new loads being generated in the District.

## 3.2 DC Water

This section adopts and incorporates by reference, **EPA Actions** in the *EPA Evaluation of the District of Columbia Final Phase I Watershed Implementation Plan of December 23, 2010*. Additional information on DC Water's load concerns is available in Appendix B.

## 3.3 Non Significant Facilities

This section presents information aboutfacilities where changes have occurred sincethe Phase I WIP. At this time all insignificant facilities with an active NPDES permit will be given a loading in the input deck. In the event the permits are not renewed, their associated loading will be considered reserve until the Phase 3 WIP in 2017.

### 3.3.1 GenOn Potomac River Generating Station

On December 3, 2010 the Mirant plant (in Alexandria, VA) whose outfall discharges to the District's portion of the Potomac River, completed a merger and changed their name to GenOn. An agreement was signed between GenOn and the City of Alexandria on August 29, 2011 that will deactivate and retire the coal fired power plant by October 1, 2012.

Although the facility is scheduled to cease operations by October 1, 2012, a formal permit termination request has not been submitted.The facility is currently operating on an extended permit.

### 3.3.2 General Services Administration – West Heating Plant

This facility is no longer operational.

### 3.3.3 Super Concrete Corporation

This facility is transitioning to 100 percent recycling of process water and surface runoff within the facility. As such, no discharges are expected in the foreseeable future.

### 3.3.4 Washington Aqueduct

As of January 2, 2012, Washington Aqueduct ceased discharges of water treatment residuals to the Potomac River from both the sedimentation basins at Georgetown and Dalecarlia Water Treatment Plant. The period of the Federal Facilities Compliance Agreement that allowed a deviation from the NPDES permit limits expired on February 14, 2012. No further discharges outside the NPDES permit limits will be routed to the Potomac River. All the water treatment residuals from the sedimentation basins at Georgetown and Dalecarlia will be dewatered and trucked off site.

### 3.3.5 Walter Reed

Before closing Walter Reed Hospital on September 15, 2011, the Department of the Army had applied to EPA to terminate the hospital's NPDES permit to discharge from the facility into storm sewer system. The termination process is expected to be finalized soon.

# Appendix A

# Federal 2012-13 Two Year Milestone Submissions

| Agency | Location/description | BMP | total acreage treated | pervious acreage | impervious acreage | drainage area |
|---|---|---|---|---|---|---|
| NPS - NACE | Jay Street Biocells | Bioretention | 0.5 | | 0.5 | Other |
| NPS - NACE | Kenilworth Section of Riverwalk | Bioretention | 1 | | 1 | Other |
| NPS - NACE | road project at Fort Dupont | Bioretention | 3 | | 3 | MS4 |
| NPS - NACE | DC ROW (mass & Alabama Ave, Fort Davis Drive & Ridge Road) | Bioretention | 2 | | 2 | MS4 |
| NPS - NACE | Anacostia Pavilion Parking lot | Bioretention | 1.5 | | 1.5 | Other |
| NPS - NACE | DDOE ARC parking lot | Bioretention | 1 | | 1 | Other |
| NPS - NACE | USPP Anacostia Operations Facility | Bioretention | 0.25 | | 0.25 | Other |
| NPS - NACE | Kenilworth Maintenance Yard | Bioretention | 2 | | 2 | Other |
| NPS - NACE | RFK Stadium | Bioretention | 1.5 | | 1.5 | MS4 |
| NPS-NAMA | 250,000-gallon cisterns (2) | Bioretention | 22.25 | 17.02 | 5.23 | MS4 |
| NPS-ROCR | East Beach Dr. LID's | Bioretention | 45.3 | | 45.3 | MS4 |
| NPS-CHOH | Washington Canoe Club | Bioswale | 0.25 | | 0.25 | Other |
| NPS-CHOH | Fletcher's Cove | Bioswale | 0.5 | | 0.5 | Other |
| NPS-NACE | Anacostia Dr pond | Detention Pond | 2 | 1 | 1 | Other |
| NPS-ROCR | Center for Urban Ecology | Green Roof | 0.16 | | 0.16 | MS4 |
| NPS - NACE | Anacostia boat ramp | Infiltration Practices w/sand | 0.25 | | 0.25 | Other |
| NPS-CHOH | Abner Cloud House | Infiltration Practices w/sand | 0.5 | | 0.5 | Other |
| NPS-CHOH | Georgetown Visitor Center, | Infiltration Practices w/o sand | 0.25 | | 0.25 | CSO |
| NPS - NACE | NACE HQ parking lot | Rain Garden | 240 sq ft | | 240 sq ft | MS4 |
| NPS - NACE | Fort Dupont Activity Center (2) | Rain Garden | 400 sq ft | | 400 sq ft | MS4 |
| NPS – NACE | Ice Arena Parking Lot (3) | Rain Garden | 600 sq ft | | 600 sq ft | MS4 |

| Agency | Location/description | BMP | total acreage treated | pervious acreage | impervious acreage | drainage area |
|---|---|---|---|---|---|---|
| NPS - NACE | Ridge Road (3) | Rain Garden | 400 sq ft | | 400 sq ft | MS4 |
| NPS - NACE | F Street | Rain Garden | 350 sq ft | | 350 sq ft | MS4 |
| NPS-ROCR | Bingham Run and Milkhouse Ford | Regenerative Stormwater Conveyance | 1750 linear ft | | 1750 linear ft | Other |
| NPS-ROCR | Weekly Street Sweeping | Street Sweeping | 19.7 miles | | 61 | Other |
| NPS-NAMA | Weekly Street Sweeping | Street Sweeping | 47 miles | | | Other & MS4 |
| NPS-ROCR | Trees were planted under Rock Creek Park's jurisdiction | Tree Planting | 566 trees | | | MS4 |
| NPS-ROCR | 30 trees planted on parkland by George Washington students | Tree Planting | 30 trees | | | Other |
| NPS-NAMA | Tree planting | Tree Planting | 300 trees | | | MS4 |
| NPS-ROCR | Broad Branch Day lighting | Urban Stream Restoration | 400 linear ft | | | MS4 |
| NPS-ROCR | Klingle stream | Urban Stream Restoration | .33 miles | 10 | 117 | Other |
| NPS - NACE | "Pocket" wetland expansions just north of 11th St Bridge & Nicholson street (2) | Wet Ponds and Wetlands | 0.75 | 0.75 | | Other |
| NPS - NACE | Kenilworth Tidal Marsh Restoration/Reconstruction | Wet Ponds and Wetlands | 32 | 32 | | Other |
| NPS - NACE | PEPCO inlet/fringe wetland reconstruction | Wet Ponds and Wetlands | 0.5 | 0.5 | | Other |
| NPS - NACE | Upper Kingman Lake Tidal Marsh Restoration/Reconstruction | Wet Ponds and Wetlands | 40 | 40 | | Other |
| NPS - NACE | Lower Kingman Lake Tidal Marsh Restoration/Reconstruction | Wet Ponds and Wetlands | 5 | 5 | | Other |
| NPS - NACE | Fringe Wetland A Tidal Marsh Restoration/Reconstruction | Wet Ponds and Wetlands | 0.6 | 0.6 | | Other |
| NPS - NACE | Fringe Wetland B Tidal Marsh | Wet Ponds and Wetlands | 15.4 | 15.4 | | Other |
| NPS - NACE | Langston vernal Pool with meadow perimeter | Wet Ponds and Wetlands | 0.25 | 0.25 | | Other |
| Smithsonian -Quad | Quad Ripley Center Leak Mitigation | Green Roof | 4.2 | | 4.2 | CSO |
| VA | Fisher House | Tree Planting | 10 trees | | | CSO |
| VA | Fisher House | Impervious Surface Reduction | 20000 sq ft | 20000 sq ft | 0 | CSO |

| Agency | Location/description | BMP | total acreage treated | pervious acreage | impervious acreage | drainage area |
|---|---|---|---|---|---|---|
| VA | Fisher House - Stormwater Retention Pond | Bioretention? | 14000 sq ft | 0 | 14000 sq ft | CSO |
| National Arboretum | Springhouse Run | Urban Stream Restoration | 1800 ft | 1800 ft | 0 | Other |
| National Arboretum | R Street Parking lot (4) | Rain Garden | 0.3 | 0 | 0.3 | Other |
| National Arboretum | Floweing Tree Walk & Retention Ponds, 1 pond=CSO | Bioretention | 61 | 61 | | other |
| AOC | US Botanic Garden&Bartholdi Fountain Park | Rain Garden | 4.5 | 1 | 3.5 | CSO |
| AOC | Cannon & Dirksen Buildings | Green Roof | 0.25 | | 0.25 | CSO |
| AOC | Capitol Complex | Street Sweeping | 40 | | 40 | CSO |
| AOC | Storm Sewer filtration demo project | | 2 | | 2 | CSO |
| AFRH | New commons & health care center | Green Roof | 67,492 sq ft | | | |
| AFRH | 30,000 gallon cistern | Cistern | 1.49 | 0.4 | 1.09 | |
| AFRH | New commons & health care center | Bioretention pond | 2.96 | 2.13 | 0.83 | |
| DoD - ARNG | DC Armory Baysaver | Hydrodynamic Structure | 1.61 | 0 | 1.61 | CSO |
| DoD - Army | Fort McNair | Bioretention | 3 | 0.1 | 2.9 | Other |
| DoD - Army | Fort McNair | Vegetated Buffer | 0.77 | 0.9 | 0.68 | Other |
| DoD - Army | Fort McNair - Baysaver (4) | Hydrodynamic Structure | 5.81 | 0 | 5.81 | Other |
| DoD - Army | Fort McNair | Grass Swale | 3 | 0.25 | 2.75 | Other |
| DoD - Army | Fort McNair | Extended Detention | 3 | 0.25 | 2.75 | Other |
| DoD - Army | Fort McNair - Baysaver | Hydrodynamic Structure | 6.59 | | | MS4 |
| DoD - Army | Fort McNair | Tree Planting | 27 | | | |
| GSA | ATF Headquarters | Green Roof (3) | 0.41 | 0.41 | | CSO |
| GSA | US Tax Courts | Green Roof (2) | 0.12 | 0.12 | | CSO |
| GSA | Ariel Rios | Rain Barrels | 1 | 0.35 | 0.65 | CSO |
| GSA | EPA East-West | Rain Barrel/Cisterns (6) | 0.23 | 0 | 0.23 | CSO |
| GSA | ATF Headquarters | Hydrodynamic Structure | 0.5 | | 0.5 | CSO |
| GSA | DOI, main building | Filter, other media | 4.12 | 3.42 | 0.7 | CSO |
| GSA | National Building Museum | bioretention cell, curb cut | 1 | | 1 | CSO |
| GSA - St Eliz's | Facility 1ZZ | Stormfilter w/ Perlite Cartridges | 0.26 | 0.06 | 0.2 | MS4 |
| GSA - St Eliz's | Facility 2L | Stormfilter w/ Perlite Cartridges | 0.14 | 0 | 0.14 | MS4 |

| Agency | Location/description | BMP | total acreage treated | pervious acreage | impervious acreage | drainage area |
|---|---|---|---|---|---|---|
| GSA - St Eliz's | Facility 1Y | Bioretention | 0.58 | 0 | 0.58 | MS4 |
| GSA - St Eliz's | Facility 1Z-A | Bioretention | 0.43 | 0.15 | 0.28 | MS4 |
| GSA - St Eliz's | Facility 1Z-B | Bioretention | 5.06 | 2.48 | 2.58 | MS4 |
| GSA - St Eliz's | Facility 2F | Bioretention | 0.25 | 0 | 0.23 | MS4 |
| GSA - St Eliz's | Facility 1N | Infiltration | 1.39 | 0.17 | 1.22 | MS4 |
| GSA - St Eliz's | Facility 2A | Rain Garden | 3.38 | 2.91 | 0.47 | MS4 |
| GSA - St Eliz's | Facility 2B | Rain Garden | 0.39 | 0.11 | 0.28 | MS4 |
| GSA - St Eliz's | Facility 2M | Stormfilter w/ Perlite Cartridges | 0.61 | 0.12 | 0.49 | MS4 |
| GSA - St Eliz's | Facility 1O | Infiltration | 9.05 | 6.15 | 2.9 | MS4 |
| GSA - St Eliz's | Facility 1F | Green Roof | 12.64 | 0 | 12.64 | MS4 |
| GSA - St Eliz's | Facility IJ | Wet Pond | 97.21 | 94.29 | 2.92 | MS4 |
| GSA - St Eliz's | B01-B39 | Bioretention | 1.81 | 0.4 | 1.4 | MS4 |
| GSA - St Eliz's | 2B | Stormfilter | 0.41 | 0.08 | 0.33 | MS4 |
| GSA - St Eliz's | 27 | Stormfilter | 0.51 | 0.12 | 0.39 | MS4 |
| GSA - St Eliz's | 25 | Stormfilter | 0.6 | 0.07 | 0.53 | MS4 |
| GSA - St Eliz's | 36 | Stormfilter | 0.4 | 0.06 | 0.34 | MS4 |
| GSA - St Eliz's | 38 | Stormfilter | 0.52 | 0.03 | 0.49 | MS4 |
| GSA - St Eliz's | 39 | Stormfilter | 0.46 | 0.09 | 0.37 | MS4 |
| GSA - St | 40 | Stormfilter | 0.29 | 0.02 | 0.27 | MS4 |

| Eliz's | | | | | | |
|---|---|---|---|---|---|---|
| Agency | Location/description | BMP | total acreage treated | pervious acreage | impervious acreage | drainage area |
| GSA | Lafayette Building | Green Roof | 1.15 | | 1.15 | CSO |
| GSA | DOI - C St NW | Green Roof | 1.49 | | 1.49 | CSO |
| GSA | Mary Switzer Bldg | Green Roof | 0.21 | | 0.21 | CSO |
| GSA | Mary Switzer Bldg | Cistern 40,000 gallons | 1.58 | | 1.58 | CSO |
| GSA | Markey National Courts | Green Roof (2) | 0.12 | 0.12 | | CSO |
| GSA | St. Elizabeth USCG Project | Green Roof | 9.18 | | 9.18 | MS4 |
| GSA | GSA Headquarters | Green Roof | 0.12 | | 0.12 | CSO |
| GSA | DOT SEFC | Green Roof | 1.56 | | 1.56 | CSO |
| GSA | Ronald Reagan Building/International Trade Center | Sand Filter | 9.9 | | 9.9 | CSO |
| GSA | Veterans Administration | Green Roof | 0.75 | 0.75 | | CSO |
| DoD - Navy | Washington Navy Yard (WNY) | Permeable Pavement w/o sand, C/D soils, underdrain | 1.68 | | 1.68 | other |
| DoD - Navy | Washington Navy Yard (WNY) | Bioretention, C/D soils, underdrain | 1.56 | | 1.56 | other |
| DoD - Navy | Washington Navy Yard (WNY) | Bioretention, C/D soils, underdrain | 0.77 | | 0.77 | css |
| DoD - Navy | Washington Navy Yard (WNY) | Filtering Practices | 8.35 | | 8.35 | other |
| DoD - Navy | Washington Navy Yard (WNY) | Filtering Practices | 1.23 | | 1.23 | ms4 |
| DoD - Navy | Washington Navy Yard (WNY) | Rain Barrels | 0.25 | | 0.25 | other |
| DoD - Navy | Washington Navy Yard (WNY) | Rain Barrels | 0.03 | | 0.03 | css |
| DoD - Navy | Washington Navy Yard (WNY) | Hydrodynamic Structures | 1.13 | | 1.13 | other |
| DoD – Navy | Washington Navy Yard (WNY) | Bioretention, underdrain | 0.9 | | | |
| DoD – Navy | Washington Navy Yard (WNY) | Hydrodynamic Structures | 5.9 | | | |
| DoD - Navy | Joint Base Anacostia Bolling (JBAB) | Green Roof | 0.69 | | 0.69 | other |
| DoD - Navy | Joint Base Anacostia Bolling (JBAB) | Bioretention, C/D soils | 7.12 | | 7.12 | other |
| DoD – Navy | Joint Base Anacostia Bolling (JBAB) | Bioretention, underdrain | 3.0 | | 3.0 | |
| DoD - Navy | JBAB - 2009 | Tree Planting | 113 trees | | | |
| DoD - Navy | JBAB - 2011 | Tree Planting | 655 trees | | | |
| DoD - Navy | WNY - 2009 | Tree Planting | 12 trees | | | |

# Appendix B

# DC Water Communications

# B1. December 12, 2011 email from DC Water to DDOE

## B.1.1 Design Flow for Calculating WLAs for Blue Plains

The District and suburban Maryland and Virginia jurisdictions have Dry Weather Flow (DWF) allocations in Blue Plains (BP) for Outfall 002, for Complete Treatment under the Intermunicipal Agreement (IMA). The District also requires Complete Treatment capacity for captured combined flow conveyed to Blue Plains during wet weather conditions. EPA guidance requires CSO communities (like DC) to submit allocations for outfalls discharging DWF and captured combined flow based on a design flow that is the sum of DWF and captured combined flow. Development of the design flow for Blue Plains, Outfall 002 (Complete Treatment) and a comparison with the Blue Plains flow apparently used by EPA in the December 2010 TMDL (EPA TMDL or TMDLs) is summarized in Table b1 as follows:

**Table b1. Design Flows for Blue Plains, Outfall 002, Complete Treatment, for Chesapeake Bay TMDLs**

| JURISDICTION | Annual Average Flows – MGD | | |
|---|---|---|---|
| | IMA DFW | BP DESIGN FLOW | EPA TMDL BP FLOW |
| A. DISTRICT | | | |
| 1. IMA Base Flow | 148.0 | 148.0 | 148.0 |
| 2. DC Potomac Intr. Reserve | 4.5 | 4.5 | 4.5 |
| 3. Captured Combined Flow | 0 | 17.0 (1) | 0 |
| Total, District | 152.5 | 169.5 | 152.5 |
| B. SUBURBS | | | |
| 1. Maryland | 169.7 | 163.7 (2) | 163.7 (2) |
| 2. Virginia | 47.8 | 47.8 | 47.8 |
| Total, Suburbs | 217.5 | 211.5 | 211.5 |
| C. BLUE PLAINS (Outfall 002) | | | |
| 1. District | 152.5 | 169.5 | 152.5 |
| 2. Suburbs | 217.5 | 211.5 | 211.5 |
| Total, Blue Plains | 370.0 | 381.0 | 364.0 |

Notes:

(1) Calculated by DC Water (DCW) from LTCP Model

(2) The annual average design flow for MD (WSSC + other) to Blue Plains comprises 169.7 mgd (IMA DWF allocation) less 6.0 mgd transferred to Seneca WWTP or 163.7 mgd and the MD allocations for TN, TP and TSS have been based on 163.7 mgd. IF WSSC wishes to utilize the IMA allocation of 169.7 mgd in Blue Plains, it will have to provide accompanying allocations of TN, TP and TSS. This arrangement to be formalized in a new IMA.

As shown in the above table, EPA has not included 17.0 mgd captured combined flow in the Blue Plains flow assigned to the District. The absence of captured combined flow as a component of design flow is one of the reasons for the EPA TMDLs not being adequate to accommodate the Districts needs.

### B.1.2 Concentrations and WLAs for Blue Plains

Total nitrogen (TN) allocations were developed for Blue Plains as part of the 2005 Tributary Strategy for the Bay. No allocations for total phosphorus (TP) or total sediment (as TSS) were established under the Tributary Strategy. Also, the Tributary Strategy had no real scientific bases and the allocations made were not verified science.

The Blue Plain TN allocations from the Tributary Strategy were incorporated into the Blue Plains NPDES permit and are summarized in Table b2 as follows:

**Table b2 Blue Plains Tributary Strategy TN Allocations**

| Jurisdiction | 2005 Tributary Strategy TN Allocation to BP – lbs/year |
|---|---|
| District | 2,114,542 |
| Maryland | 1,993,000 |
| Virginia | 581,458 |
| Total, Blue Plains | 4,689,000 |

The TN allocation of 4,689,000 lbs/year was distributed in the reissued NPDES permit for Blue Plains to Outfall 002 (Complete Treatment) and Outfall 001 (CSO or Excess Flow). That distribution assigned 311,420 lbs/year of TN to Outfall 001 and was selected by EPA using preliminary modeling predictions by DC Water showing that value to be the maximum quantity discharged in the Long Term Control Plan (LTCP) climate years of 1988, 1989 and 1990.

However, the science-supported Chesapeake Bay Program (CBP) model for the EPA TMDLs shows that EPA selected a contiguous 10-year hydrologic period to develop the allowable loadings in the TMDLs. The hydrologic period selected uses the years 1991 through 2000 and the TMDL allocations are expressed as an average annual load over the 10 year period.

The above being the case, the record does not support a continued use of the 2005 Tributary Strategy approach. Therefore, the WLAs for Blue Plains and the CSOs should be based on the science-supported EPA CBP model.

One element of the Tributary Strategy is, however, appropriate for use within the EPA Bay model. That element is the concentration applied to discharges from wastewater treatment plants with combined sewer systems (CSS) and, which employ high performance technology for nitrogen removal. The TN effluent concentration derived from those technically achievable considerations is 4.00 mg/l. It is

appropriate, therefore, to continue to use this TN concentration in developing WLAs under the EPA TMDLs for wastewater treatment plant effluents. In fact, 4.0 mg/l is the TN concentration provided by Maryland and Virginia to establish WLAs for their flows treated in Blue Plains.

Since the EPA TMDLs supersede the 2005 Tributary Strategy, the District is proposing concentrations for discharges from Blue Plains Outfall 002 that are consistent with the suburban values, conform to EPA guidance and, are consistent with local water quality and the NPDES permit. Those concentrations for TN, TP and TSS are summarized in Table b3 as follows:

**Table b3. Concentrations Proposed for Blue Plains Outfall 2-**

| Concentrations Listed are for a District Design Flow of 169.5 mgd | Concentrations for Blue Plains Outfall 002 for DC and Suburbs | | |
|---|---|---|---|
| | TN | TP | TSS |
| For BP DWF WLAs[(1)] | 4.00 | 0.18 | 7.00 |

(1) These concentrations are also those included for the design flows for the suburban MD and VA users of Blue Plains

### B.1.3 WLAs for Blue Plains Outfall 002

District and suburban WLAs required for Blue Plains Outfall 002 (Complete Treatment), to conform to the above concentrations are summarized in Table b4 as follows:

**Table b4. WLAs Proposed for Blue Plains Outfall 002**

| JURISDICTION | Design Flows for WLAs - mgd | WLAs, Blue Plains, Outfall 002 for District and Suburban Users – lbs/year | | |
|---|---|---|---|---|
| | | TN | TP | TSS |
| Concentration – mg/l | -- | 4.00 | 0.18 | 7.00 |
| District | 169.5 | 2,064,750 | 92,875 | 3,611,835 |
| Maryland | 163.7 | 1,993,000 | 89,695 | 3,488,234 |
| Virginia | 47.8 | 581,458 | 26,166 | 1,018,556 |
| Totals, Blue Plains | 381.0 | 4,639,208 | 208,736 | 8,118,615 |

Additionally, as required by the NPDES permit, plant effluent during wet years will have to meet the above WLAs. Wet year flows have been found to be driven by sustained ground water conditions rather than just a higher than normal rainfall year. Studies of past experience of Complete Treatment discharges from Outfall 002 show that in a wet year the flow rate may be expected to average 435 mgd. Therefore, in order to comply with annual WLAs (lbs/year), the effluent from Outfall 002 will have to average 3.50 mg/l TN, 0.16 mg/l TP and 6.13 mg/l TSS. Meeting these effluent concentrations for sustained high groundwater conditions, under wet year conditions, will require performance at or near

limit of technology (LOT) and, therefore, there should not be any consideration given to reducing the WLAs for Blue Plains

### B.1.4 WLAs for Combined Sewer System (CSS) Outfalls

For the District's CSS, these outfalls comprise Outfall 001 at Blue Plains and others on the collection system. There will continue to be discharges from these outfalls after completion of the LTCP and the conditions and criteria related to those discharges are included in the NPDES permit.

WLAs for Outfall 001 and others on the collections system were developed from DC Water's LTCP CSS wet weather model. This model is the only source available to provide verified and reliable information on discharges from the District's CSS. DC Water conducted studies to provide CSS discharge information for the Bay TMDL program, which uses the TMDLs' 10-year hydrologic period and the average loads from that period to establish WLAs for wet weather discharges. The WLAs for the CSS Outfalls are based on the capacity of the LTCP to capture and convey combined sewer flow and the treatment that will be provided for discharges from Outfall 001. Using the Bay model 10-year hydrologic period, the WLAs, based on the predictions from the LTCP CSS wet weather model for the CSS outfalls are summarized in Table b5 as follows:

**Table b5 . District WLAs Required for CSS Outfalls**

| | District WLAs Required for CSS Outfalls lbs/per year[(1)] | | |
|---|---|---|---|
| CSS Outfall | TN | TP | TSS |
| Outfall 001 | 134,073 | 4304 | 438,634 |
| Collection System Outfalls | 3809 | 810 | 105,350 |
| Total, CSS Outfalls | 137,882 | 5114 | 543,984 |

(1) Average loads using predictions from CSS model for Bay model 10-year hydrologic period

Clear language to be used to issue permits for Blue Plains and the CSS should be included in the TMDLs stating that the WLAs for wet weather sources are based on the average of the 10-year hydrologic period. The Blue Plains permit already includes technology based requirements for discharges from the CSS during wet weather events. These technology based requirements include minimum diversion rates and capture volumes along with limitations on discharges from Outfall 001 that are designed to limit loads to those WLAs listed above and, which were derived from the average of the 10-year hydrologic period. However, a statement in the TMDL is necessary to provide clear language to permit writers and to avoid any suggestion that the WLAs for the CSS can be complied with under all rainfall conditions.

The above WLA development and permitting approach is consistent with the provisions being applied to wet weather discharges established for Virginia CSS communities.

DDOE proposes the following narrative statement for the EPA TMDLs that makes clear the application of the TMDLs to permits and assures that the District obtains the same wet weather provisions as approved by EPA for Virginia:

*"Compliance with WLAs for the District's combined sewer system, which include discharges from Outfall 001 and other CSOs remaining after completion of the LTCP, shall be based on the arithmetic average of LTCP model predictions for the wet weather (storm events) conditions for the years 1991 through 2000 using post construction monitoring model inputs and rainfall for those years as recorded at Reagan National Airport."*

### B.1.5. Summary of WLAs for Distrct Needs Compared to EPA TMDLs

The above discussion shows the need for the EPA TMDLs to provide for District needs based on principal considerations as follows:

- Treatment capacity in Blue Plains to provide for allocations that accommodate Dry Weather Flow for District residents and business under the IMA;
- Treatment capacity in Blue Plains for Complete Treatment of captured combined flow from the District as required by the NPDES permit and;
- Provisions for discharges from remaining CSO outfalls including Outfall 001, that will remain after completion of the LTCP and as required by the NPDES permit.

Additionally, DC Water has spent much effort and many years in treatment process and facility planning and developing financing to provide nutrient treatment and CSO control for Blue Plains and the District's CSS. EPA has approved these plans and it is critical, therefore, for the District to obtain adequate TMDLs to support the designs and construction now underway. Otherwise, these investments will be jeopardized because the results will be inadequate treatment capacity in Blue Plains for District flows and, DC Water will be unable to comply with the limits on the remaining discharges from the CSS after completion of the LTCP.

A comparison of District needs for TMDLs compared to those in the EPA TMDLs is summarized in Table b6 as follows:

**Table b6 Comparison of WLAs. District Needs Compared to EPA TMDLs**

| DISTRICT NEED SOURCE | Design Flow mgd | TN- lbs/year | | | TP – lbs/year | | | TSS – lbs/year | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DC NEEDS | EPA TMDL | DIFF DC-EPA | DC NEEDS | EPA TMDL | DIFF DC-EPA | DC NEEDS | EPA TMDL | DIFF DC-EPA |
| Blue Plains[1] | 169.5 | 2,064,750 | 2,114,542 [2] | (49,792) | 92,875 | 87,994 [2] | 4881 | 3,611,825 | 3,693,000 [2] | (81,175) |
| Outfall 001 | - | 134,073 | | 134,073 | 4304 | | 4304 | 438,634 | | 438,634 |
| Other CSOs | - | 3809 | 3496 | 313 | 810 | 743 | 67 | 105,350 | 96710 | 8640 |
| Totals and Net Difference | - | 2,202,632 | 2,113,038 | 84,594 | 97,989 | 88,797 | 9252 | 4,155,809 | 3,789,710 | 366,099 |

(1) Outfall 002, Complete Treatment
(2) The EPA TMDLs do not include WLAs for Outfall 001

Based on the comparisons shown in Table b6, the salient points related to District needs are as follows:

a. The EPA WLAs for District flows to Blue Plains (Outfall 002) are: (1) for TN, greater than needed to satisfy the concentration from the 2005 Tributary Strategy; (2) for TP, less than the concentration provided by the existing NPDES permit; and, (3) for TSS, greater than needed to satisfy the concentration from the existing NPDES permit.

   The differences are however not substantial and should be easily modified to be consistent with the suburban WLAs which are based on the 2005 Tributary Strategy concentrations and the existing NPDES permit.

b. The EPA TMDLs do not identify a design flow for the District and a design flow is required to establish clear and consistent WLAs for Outfall 002. The design flow developed by DC Water to recognize captured combined flow should be used since it is based on the nutrient removal and CSO controls now under design and construction for Blue Plains and the CSS.

c. The EPA TMDLs do not identify WLAs for Outfall 001 but do assign WLAs to the other CSOs. Outfall 001 requires WLAs because it is an integral component of the LTCP and nutrient removal programs and, discharges will occur under wet weather conditions. While there are WLAs assigned to the other CSOs under the EPA TMDLs, they are different (less) than those DC Water has calculated using the LTCP model. Since the LTCP model is the only validated source for providing discharge information from Outfall 001 and the remaining CSOs, there is no reason not to provide WLAs for Outfall 001 or to deviate from the LTCP model predictions.

d. The total TN WLA assigned to Blue Plains Outfall 002 under the EPA TMDLs (as calculated by DC Water), is the same value as included in the existing NPDES permit fact sheet for Blue Plains before any distribution to Outfall 001. However, the existing NPDES permit derivations are now superseded by the EPA TMDLs and new WLAs, as needed by the District, should replace them.

Furthermore, as the EPA TMDLs do not provide WLAs for Outfall 001 for TP and TSS, the WLAs calculated by DC Water, which are based on the Bay model, should be used.

In Summary, the WLAs needed by the District should be included in the Bay TMDLs because they are consistent with and support the regulatory agency approved designs and construction now underway for nutrient removal and CSO control, as well as being consistent with the WLAs assigned to the suburban Blue Plains users. As stated previously, if the District does not obtain the TMDLs and wet weather compliance provisions developed in this Phase 2 WIP, the District is likely to be faced with:

a. A restriction in its IMA flow rate (similar to WSSC) due to lack of adequate allocations at design flow for TN, TP and TSS;

b. A lack of LTCP capacity if the CSS WLAs are not based on the average for the 10-year hydrologic period (1991-2000) in the EPA TMDLs and;

c. Noncompliance with remaining discharges from the CSS after completion of the LTCP if compliance is not based on the conditions approved by EPA for Virginia and the narrative statement in Subsection 3.2.4 of this letter.

water is life

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

November 16, 2011

Hamid Karimi, Deputy Director
District Department of the Environment
1800 First Street NE, 5th Floor
Washington, DC 20002

Subject: District Needs in Phase 2 WIP for Chesapeake Bay TMDLs

Dear Dr. Karimi:

This letter is a follow-up to DC Water's (DCW) letter of July 28, 2011, to DDOE Director Tulou and the meeting between DCW and DDOE staff held on September 22, 2011. During the meeting, DCW summarized information included in the July 28, 2011 letter and pointed out that the Wasteload Allocations (WLAs) for total nitrogen (TN), total phosphorus (TP) and total sediment (as TSS) included in EPAs December, 2010 TMDL (EPA TMDLs or TMDLs) for District (DC) sources are not adequate to accommodate DC's needs for: (1) treatment capacity in Blue Plains, under the Intermunicipal Agreement (IMA); (2) treatment capacity in Blue Plains (BP) for Complete Treatment of captured combined sewer flow (captured combined flow) under the NPDES permit; and, (3) discharges of remaining combined sewer overflows (CSOs) after completion of the Long Term Control Plan (LTCP), also under the NPDES permit. Additionally, the EPA TMDLs do not provide guidance for assessing compliance with the TMDLs for remaining overflows from the combined sewer system after completion of the LTCP.

The apparent differences that create the inadequacies in the WLAs needed for District sources compared the to WLAs in the EPA TMDLs are summarized in the following paragraphs:

1. DESIGN FLOW FOR CALCULATING WLAs FOR BLUE PLAINS

The District and suburban Maryland and Virginia jurisdictions have Dry Weather Flow (DWF) allocations in Blue Plains for Outfall 002, for Complete Treatment under the IMA. The District also requires Complete Treatment capacity for captured combined flow conveyed to Blue Plains during wet weather conditions. As described in EXHIBIT No. 1, EPA guidance requires CSO communities (like DC) to submit allocations for outfalls discharging DWF and captured combined flow based on a design flow that is the sum of DWF and captured combined flow. Development of the design flow for Blue Plains, Outfall 002 (Complete Treatment) and a comparison with the Blue Plains flow apparently used by EPA in the TMDLs is summarized in Table 1 (attached) and as follows:

| Jurisdiction | Annual Average Flows - MGD | | |
|---|---|---|---|
| | IMA DWF | BP DESIGN FLOW | EPA TMDL BP FLOW |
| District | 152.5[2] | 169.5[1] | 152.5[2] |
| Suburbs | 217.5[2] | 211.5[4] | 211.5[4] |
| Blue Plains (Outfall 002) | 370.0 | 381.0 | 364.0 |

(1) See Table 1 (attached). Includes 148.0 mgd IMA Base DWF plus 4.5 mgd IMA Potomac Interceptor Reserve or 152.5 mgd DWF, plus 17.0 mgd Captured Combined Flow, calculated by DCW from LTCP model.

(2) EPA TMDL flow does not include 17.0 mgd Captured Combined Flow

(3) See Table 1(attached). Includes 169.7 mgd Maryland and 47.8 mgd Virginia IMA DWFs. These are the design flows for the suburbs.

(4) The annual average design flow for MD (WSSC + other) to Blue Plains comprises 169.7 mgd (IMA DWF allocation) less 6.0 mgd transferred to the Seneca WWTP or 163.7 mgd and the MD allocations for TN, TP, and TSS have been based on 163.7 mgd. If WSSC wishes to utilize the IMA allocation of 169.7 mgd in Blue Plains, it will have to provide accompanying allocations of TN, TP and TSS. This arrangement is to be formalized in a new IMA.

As shown in the above table, EPA has not included 17.0 mgd captured combined flow in the Blue Plains flow assigned to the District. The absence of captured combined flow as a component of design flow is one of the reasons for the EPA TMDLs not being adequate to accommodate the Districts needs.

2. CONCENTRATIONS AND WLAs FOR BLUE PLAINS

Total nitrogen (TN) allocations were developed for Blue Plains as part of the old Tributary Strategy for the Bay. No allocations for total phosphorus (TP) or total sediment (as TSS) were established under the old Tributary Strategy. Also, the old Tributary Strategy had no real scientific bases and the allocations made were established by bargain and not verified science.

The Blue Plain TN allocations from the old Tributary Strategy were incorporated into the Blue Plains NPDES permit as follows:

| Jurisdiction | Old Tributary Strategy TN Allocation to BP – lbs/year |
|---|---|
| District | 2,114,542 |
| Maryland | 1,993,000 |
| Virginia | 581,458 |
| Total, Blue Plains | 4,689,000 |

The TN allocation of 4,689,000 lbs/year was distributed in the reissued NPDES permit for Blue Plains to Outfall 002 (Complete Treatment) and Outfall 001 (CSO or Excess Flow). That distribution assigned 311,420 lbs/year of TN to Outfall 001 and was selected by EPA using preliminary modeling predictions by DCW showing that value to be the maximum quantity discharged in the LTCP climate years of 1988, 1989 and 1990.

However, the science supported Chesapeake Bay Program (CBP) model for the EPA TMDLs shows that EPA selected a contiguous 10-year hydrologic period to develop the allowable loadings in the TMDLs. The hydrologic period selected uses the years 1991 through 2000 and the TMDL allocations are expressed as an average annual load over the 10 year period.

The above being the case, the record does not support a continued use of the Old Tributary Strategy bargain approach. Therefore, the WLAs for Blue Plains and the CSOs should be based on the science supported EPA CBP model.

One element of the old Trib Strategy is, however, appropriate for use within the EPA Bay model. That element is the concentration applied to discharges from wastewater treatment plants with combined sewer systems (CSS) and, which employ high performance technology for nitrogen removal. The TN effluent concentration derived from those technically achievable considerations is 4.00 mg/l. It is appropriate, therefore, to continue to use this TN concentration in developing WLAs under the EPA TMDLs for wastewater treatment plant effluents. In fact, 4.0 mg/l is the TN concentration provided by Maryland and Virginia to establish WLAs for their flows treated in Blue Plains.

Since the EPA TMDLs clearly supersede the old Tributary Strategy, the District should request concentrations for discharges from Blue Plains Outfall 002 that are consistent with the suburban values, conform to the EPA guidance in EXHIBIT No. 1 and, are consistent with local water quality and the NPDES permit. Those concentrations for TN, TP and TSS are summarized as follows:

| Concentrations Listed are for a District Design Flow of 169.5 mgd | Concentrations for Blue Plains Outfall 002 for DC and Suburbs | | |
|---|---|---|---|
| | TN | TP | TSS |
| For BP DWF WLAs[(1)] | 4.00 | 0.18 | 7.00 |

(1) These concentrations are also those included for the design flows for the suburban MD and VA users of Blue Plains

3. WLAs FOR BLUE PLAINS OUTFALL 002

District and suburban WLAs required for Blue Plains Outfall 002 (Complete Treatment), to conform to the above concentrations are summarized as follows:

| JURISDICTION | Design Flows for WLAs - mgd | WLAs, Blue Plains, Outfall 002 for District and Suburban Users – lbs/year | | |
|---|---|---|---|---|
| | | TN | TP | TSS |
| Concentration – mg/l | -- | 4.00 | 0.18 | 7.00 |
| District | 169.5 | 2,064,750 | 92,875 | 3,611,835 |
| Maryland | 163.7 | 1,993,000 | 89,695 | 3,488,234 |
| Virginia | 47.8 | 581,458 | 26,166 | 1,018,556 |
| Totals, Blue Plains | 381.0 | 4,639,208 | 208,736 | 8,118,615 |

Additionally, as required by the NPDES permit, plant effluent during wet years will have to meet the above WLAs. Wet year flows have been found to be driven by sustained ground water conditions rather than just a higher than normal rainfall year. Studies of past experience of Complete Treatment discharges from Outfall 002 show that in a wet year the flow rate may be expected to average 435 mgd. Therefore, in order to comply with annual WLAs (lbs/year), the effluent from Outfall 002 will have to average 3.50 mg/l TN, 0.16 mg/l TP and 6.13 mg/l TSS. Meeting these effluent concentrations under wet year conditions will require performance at or near limit of technology (LOT) and, therefore, there should not be any consideration given to reducing the WLAs for Blue Plains

4. WLAs for CSS OUTFALLS

For the District's CSS, these outfalls comprise Outfall 001 at Blue Plains and others on the collection system. There will continue to be discharges from these outfalls after completion of the LTCP and the conditions and criteria related to those discharges are included in the NPDES permit.

WLAs for Outfall 001 and others on the collections system were developed from the DCW's LTCP CSS wet weather model. This model is the only source available to provide verified and reliable information on discharges from the District's CSS. DC Water conducted studies to provide CSS discharge information for the Bay TMDL program, which uses the TMDLs' 10-year hydrologic period and the average loads from that period to establish WLAs for wet weather discharges. The WLAs for the CSS Outfalls are based on the capacity of the LTCP to capture and convey combined sewer flow and the treatment that will be provided for discharges from Outfall 001. Using the Bay model 10-year hydrologic period, the WLAs, based on the predictions from the LTCP CSS wet weather model for the CSS outfalls are summarized as follows:

| CSS Outfall | District WLAs Required for CSS Outfalls lbs/per year[1] | | |
|---|---|---|---|
| | TN | TP | TSS |
| Outfall 001 | 134,073 | 4304 | 438,634 |
| Collection System Outfalls | 3809 | 810 | 105,350 |
| Total, CSS Outfalls | 137,882 | 5114 | 543,984 |

(1) Average loads using predictions from CSS model for Bay model 10-year hydrologic period

Clear language to be used to issue permits for Blue Plains and the CSS should be included in the District's Phase 2 WIP and the TMDLs stating that the WLAs for wet weather sources are based on the average of the 10-year hydrologic period. The Blue Plains permit already includes technology based requirements for discharges from the CSS during wet weather events. These technology based requirements include minimum diversion rates and capture volumes along with limitations on discharges from Outfall 001 that are designed to limit loads to those WLAs listed above and, which were derived from the average of the 10-year hydrologic period. However, a statement in the Phase 2 WIP is necessary to provide clear language to permit writers and to avoid any suggestion that the WLAs for the CSS can be complied with under all rainfall conditions.

The above WLA development and permitting approach is consistent with the provisions being applied to wet weather discharges established for Virginia CSS communities. Those provisions in Virginia's General Permit and approved by EPA are included in the correspondence in EXHIBIT NO. 2.

We propose the following narrative statement for the District's Phase 2 WIP and the EPA TMDLs that makes clear the application of the TMDLs to permits and assures that the District obtains the same wet weather provisions as approved by EPA for Virginia:

*"Compliance with WLAs for the District's combined sewer system, which include discharges from Outfall 001 and other CSOs remaining after completion of the LTCP, shall be based on the arithmetic average of LTCP model predictions for the wet weather (storm events) conditions for the years 1991 through 2000 using post construction monitoring model inputs and rainfall for those years as recorded at Reagan National Airport."*

5. SUMMARY OF WLAs FOR DISTRICT NEEDS vs EPA TMDLs

The foregoing discussions show the need for the EPA TMDLs to provide for District needs based on principal considerations as follows:

- Treatment capacity in Blue Plains to provide for allocations that accommodate Dry Weather Flow for District residents and business under the IMA.

- Treatment capacity in Blue Plains for Complete Treatment of captured combined flow from the District as required by the NPDES permit.

- Provisions for discharges from remaining CSO outfalls including Outfall 001 that will remain after completion of the LTCP and as required by the NPDES permit.

Additionally, DC Water has spent much effort and many years in treatment process and facility planning and developing financing to provide nutrient treatment and CSO control for Blue Plains and the District's CSS. EPA has approved these plans and it is critical, therefore, for the District to obtain adequate TMDLs to support the designs and construction now underway otherwise; these investments will be jeopardized because the results will be inadequate treatment capacity in Blue Plains for District flows and, DCW will be unable to comply with the limits on the remaining discharges from the CSS after completion of the LTCP.

A comparison of District needs for TMDLs compared to those in the EPA TMDLs is summarized as follows:

COMPARISON OF WLAs, DISTRICT NEEDS vs EPA TMDLs

| DISTRICT NEED SOURCE | Design Flow mgd | TN- lbs/year | | | TP – lbs/year | | | TSS – lbs/year | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DC NEEDS | EPA TMDL | DIFF DC-EPA | DC NEEDS | EPA TMDL | DIFF DC-EPA | DC NEEDS | EPA TMDL | DIFF DC-EPA |
| Blue Plains[1] | 169.5 | 2,064,750 | 2,114,542 [2] | (49,792) | 92,875 | 87,994 [2] | 4881 | 3,611,825 | 3,693,000 [2] | (81,175) |
| Outfall 001 | - | 134,073 | | 134,073 | 4304 | | 4304 | 438,634 | | 438,634 |
| Other CSOs | - | 3809 | 3496 | 313 | 810 | 743 | 67 | 105,350 | 96710 | 8640 |
| Totals and Net Difference | - | 2,202,632 | 2,113,038 | 84,594 | 97,989 | 88,797 | 9252 | 4,155,809 | 3,789,710 | 366,099 |

(1) Outfall 002, Complete Treatment

(2) The EPA TMDLs do not include WLAs for Outfall 001

Based on the comparisons shown in the table above, the salient points related to District needs are as follows:

a. The EPA WLAs for District flows to Blue Plains (Outfall 002) are: (1) for TN, greater than needed to satisfy the concentration from the former Tributary Strategy; (2) for TP, less than the concentration provided by the existing NPDES permit; and, (3) for TSS, greater than needed to satisfy the concentration from the existing NPDES permit.

   The differences are however not substantial and should be easily modified to be consistent with the suburban WLAs which are based on the former Tributary Strategy concentrations and the existing NPDES permit.

b. The EPA TMDLs do not identify a design flow for the District and a design flow is required to establish clear and consistent WLAs for Outfall 002. The design flow developed by DC Water to recognize captured combined flow should be used since it is based on the nutrient removal and CSO controls now under design and construction for Blue Plains and the CSS.

c. The EPA TMDL do not identify WLAs for Outfall 001 but do assign WLAs to the other CSOs. Outfall 001 requires WLAs because it is an integral component of the LTCP and nutrient removal programs and, discharges will occur under wet weather conditions. While there are WLAs assigned to the other CSOs under the EPA TMDLs, they are different (less) than those DC Water has calculated using the LTCP model. Since the LTCP model is the only validated source for providing discharge information from Outfall 001 and the remaining CSOs, there is no reason not to provide WLAs for Outfall 001 or to deviate from the LTCP model predictions.

d. The total TN WLA assigned to Blue Plains Outfall 002 under the EPA TMDLs (as calculated by DC Water), is the same value as included in the existing NPDES permit fact sheet for Blue Plains before any distribution to Outfall 001. However, the existing NPDES permit derivations are now superseded by the EPA TMDLs and new WLAs, as needed by the District, should replace them.

Furthermore, as the EPA TMDLs do not provide WLAs for Outfall 001 for TP and TSS, the WLAs calculated by DC Water, which are based on the Bay model, should be used.

In Summary, the WLAs needed by the District should be included in the Phase 2 WIP because they are consistent with and support the regulatory agency approved designs and construction now underway for nutrient removal and CSO control, as well as being consistent with the WLAs assigned to the suburban Blue Plains users. As stated previously, if the District does not obtain the TMDLs and wet weather compliance provisions developed in this letter, the District is likely to be faced with:

a. A restriction in its IMA flow rate (similar to WSSC) due to lack of adequate allocations at design flow for TN, TP and TSS.

b. Lack of LTCP capacity if the CSS WLAs are not based on the average for the 10-year hydrologic period (1991-2000) in the EPA TMDLs.

c. Noncompliance with remaining discharges from the CSS after completion of the LTCP if compliance is not based on the conditions approved by EPA for Virginia and the narrative statement DC Water has provided in Paragraph 4 of this letter.

We appreciate this opportunity to submit our comments for the Phase 2 WIP and will be pleased to discuss these matters with you and develop an action plan to resolve these important issues at the earliest available date. In the meantime, after you have had the opportunity to review this letter, we suggest that we meet to address any questions or comments that you may have. Also, please feel free to contact me or Mohsin Siddique at your convenience.

Sincerely,

Leonard R. Benson
Chief Engineer

Attachments:

Table 1, Design Flows for Blue Plains

EXHIBIT NO. 1, EPA Guidance, Design Flows for CSS Communities

EXHIBIT NO. 2, Virginia DEQ Provisions for Wet Weather Discharges for CSS Communities for Bay TMDL

TABLE 1

Design Flows for Blue Plains, Outfall 002, Complete Treatment, for Chesapeake Bay TMDLs

| JURISDICTION | Annual Average Flows – MGD | | |
|---|---|---|---|
| | IMA DFW | BP DESIGN FLOW | EPA TMDL BP FLOW |
| A. DISTRICT | | | |
| 1. IMA Base Flow | 148.0 | 148.0 | 148.0 |
| 2. DC Potomac Intr. Reserve | 4.5 | 4.5 | 4.5 |
| 3. Captured Combined Flow | 0 | 17.0 [(1)] | 0 |
| Total, District | 152.5 | 169.5 | 152.5 |
| B. SUBURBS | | | |
| 1. Maryland | 169.7 | 163.7 [(2)] | 163.7 [(2)] |
| 2. Virginia | 47.8 | 47.8 | 47.8 |
| Total, Suburbs | 217.5 | 211.5 | 211.5 |
| C. BLUE PLAINS (Outfall 002) | | | |
| 1. District | 152.5 | 169.5 | 152.5 |
| 2. Suburbs | 217.5 | 211.5 | 211.5 |
| Total, Blue Plains | 370.0 | 381.0 | 364.0 |

Notes:

[(1)] Calculated by DCW from LTCP Model

[(2)] The annual average design flow for MD (WSSC + other) to Blue Plains comprises 169.7 mgd (IMA DWF allocation) less 6.0 mgd transferred to Seneca WWTP or 163.7 mgd and the MD allocations for TN, TP and TSS have been based on 163.7 mgd. IF WSSC wishes to utilize the IMA allocation of 169.7 mgd in Blue Plains, it will have to provide accompanying allocations of TN, TP and TSS. This arrangement to be formalized in a new IMA.

**EXHIBIT NO. 1**

-----Original Message-----
From: Antos.Katherine@epamail.epa.gov [mailto:Antos.Katherine@epamail.epa.gov]
Sent: Wednesday, October 27, 2010 6:29 PM
To: Smith.Mark@epamail.epa.gov; Cronin, Edward; Pat Bradley; Zhou.Ning@epamail.epa.gov; gshenk@chesapeakebay.net; Alan Pollock; Allan Brockenbrough; Day.Christopher@epamail.epa.gov; Dave Evans; Scott Hinz
Cc: Tanya Spano; Victoria Kilbert; Trulear.Brian@epamail.epa.gov
Subject: Follow Up on VA CSO Discussion

Colleagues -
Thank you for this morning's call on calculating combined sewer system WWTP loads in Virginia's Phase I WIP, the Watershed Model, and the Chesapeake Bay TMDL. As we discussed, EPA expects in the Phase I WIPs that all WWTPs submit allocations based on design flow rather than dry weather flow, average wet weather flow treated through the facility, or peak flow. Using the Richmond plant as an example, this would equate to a flow of 75 mgd. EPA will calculate the Chesapeake Bay TMDL WLA based on the flow multiplied by the concentration. This approach ensures consistency among all WWTPs and CSO communities in the watershed.

If VA is interested in pursuing alternative approaches for the Phase II WIPs such as average wet weather flow, the jurisdiction should work through the Chesapeake Bay Program Wastewater Workgroup, coordinated by Ning Zhou. Ning agreed to place this issue on the next Workgroup agenda if VA is interested in proposing alternative approaches.

Thank you, and please let us know if you have any follow up questions.
Katherine

Katherine Wallace Antos
Chesapeake Bay Program Office
U.S. Environmental Protection Agency
410 Severn Ave., Suite 112
Annapolis, MD 21403

(410) 295-1358

EXHIBIT NO. 2



**Ronald E. Bizzarri**

**From:** Evans, David E. [devans@mcguirewoods.com] **Sent:** Fri 10/28/2011 2:31 PM
**To:** Leonard Benson; Mohsin R Siddique; Carlton M. Ray; Walter Bailey; Ronald E. Bizzarri; John Cassidy
**Cc:** Gregory Hope
**Subject:** FW: Permitting Approach for CSO Communities
**Attachments:** 001.pdf(34KB)

All:

Fred Cunningham with VDEQ sent me this in response to my request for written confirmation that EPA has agreed to our proposed permitting approach for combined captured flows for the VA CSS communities . He says that the following final Watershed General Permit fact sheet language together with the attached letter from EPA reflects EPA"s approval to use concentration-based performance standards for Richmond and Lynchburg CS-C flows. He also told me that I should hear from him next week in response to our demand that the same permitting approach be used for ASA.

Please consider sending the fact sheet language and EPA approval letter to DDOE in support of the same general permitting approach for Blue Plains. I might be best to include this with the follow up letter that we promised DDOE at the conclusion of our September 22 meeting, assuming the letter hasn't already gone out.

Please let me know if you have any questions.

Dave

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**From:** Cunningham, Frederick (DEQ) [mailto:Frederick.Cunningham@deq.virginia.gov]
**Sent:** Friday, October 28, 2011 12:09 PM
**To:** Evans, David E.
**Subject:** RE: Permitting Approach for CSO Communities

Dave,

Here's the language from the Fact Sheet and the approval letter from EPA for General Permit which included their review of the fact sheet.

Fred

Fred K. Cunningham, Director

Office of Water Permits & Compliance Assistance

Virginia Department of Environmental Quality

phone: 804.698.4285

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**Permitting of Nutrient Loads from Combined Sewer Overflow Communities**

Waste load allocations (WLAs) were specified in the Chesapeake Bay TMDL for significant facilities as individual annual loads, with the exception of aggregate WLAs assigned to the wastewater dischargers in the James River. For each community with combined sewers, these loads included loads from dry weather flows (DWFs) and from combined sewer captured (CS-C) flows that are treated and discharged at the POTW. Separate WLAs were assigned to the combined sewer overflows (CSOs).

The Virginia Water Quality Management Plan (WQMP) Regulation does not address allocations for the direct CSOs or CS-C flows. The regulation does recognize the concept of CS-C flows for Richmond and Lynchburg by indicating that the WLAs are based upon the dry weather flow capacity at each facility and that technology based requirements apply during wet weather flow events. For Richmond and Lynchburg the CS-C loads are to be addressed in the individual VPDES permits for those facilities.. The loads associated with the DWFs will continue to be accounted for in the VA Watershed GP.

Because the WQMP Regulation does not recognize any wet weather flow provisions for the Alexandria Sanitation Authority, the watershed general permit will include the DWF WLA for Alexandria Sanitation Authority and the WLA will apply regardless of weather conditions. This Is consistent with how the WLA was implemented in the first cycle of the watershed general permit. Upon modification of the WQMP to address wet weather flows at Alexandria, the watershed general permit registration list and the individual VPDES permit will be modified as appropriate.

Information used to develop the WLAs are used to establish effluent limitations and to develop permits consistent with the assumptions and requirements of the Chesapeake Bay TMDL WLAs [40 CFR 122.44(d)(1)(vii)(B)].

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Ms. Melanie D. Davenport
Director, Division of Water Quality Programs
Department of Environmental Quality
629 East Main Street
Richmond, Virginia 23219

SEP 21 2011

Dear Ms. Davenport:

In accordance with 40 CFR 123 and the Memorandum of agreement between the Commonwealth of Virginia and the U.S. Environmental Protection Agency (EPA) on the National Pollutant Discharge Elimination System (NPDES) Program, the Virginia Department of Environmental Quality (VADEQ) submitted the Chesapeake Bay Watershed General Permit to the EPA for review. The submission on May 31, 2011 included the draft permit, fact sheet, and registration statements. EPA submitted comments on the proposed draft permit in a letter dated July 22, 2011 during the public comment period. VADEQ received significant input from many stakeholder groups and revised the draft permit based on the comments received. The final draft permit, fact sheet, and registration statements were submitted for EPA review on August 26, 2011.

Based on our review of the final draft permit, fact sheet, and registration statements for the General VPDES Watershed Permit for Total Nitrogen and Total Phosphorous Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9VAC25-820), this letter formally notifies VADEQ that EPA does not object to the issuance of the permit. We want to thank VA DEQ for the continuing development of this innovative permit for the protection and restoration of the Chesapeake Bay, and look forward to working with VA DEQ in its further development and use. EPA is concerned with the phase in of new delivery factors in 2016 and will discuss that feature of the permit in the evaluation of the Trading Program. EPA considers that any additions, subtractions, or modifications to the existing discharged loads in the Registrations Statements would be a major permit modification and would require EPA review. Any changes to the draft permit must be sent to EPA for review and comment prior to issuance.

If you have any questions, please do not hesitate to contact me at 215-814-2158 or contact Mr. Mark Smith, of EPA's NPDES Permits Branch, at 215-814-3205.

Sincerely,

David B. McGuigan, Ph.D.
Associate Director
Office of NPDES Permits and Enforcement
Water Protection Division