DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

Board of Directors

Meeting of the
Environmental Quality and Sewerage Services Committee

5000 Overlook Avenue, SW, Room 407
Thursday, October 16, 2014
9:30 a.m.

9:30 a.m. I. Call to Order — Dave Lake, Acting Chairperson

9:35 a.m. II. AWTP Status Updates — Walt Bailey
1. BPAWTP Performance

9:45 a.m. III. Status Updates: Potomac Interceptor Sewer — David McLaughlin
1. Odor Abatement Project

9:55 a.m. IV. Action Items – Joint Use — Teresa Scott/Len Benson
1. Contract No. WAS-12-033-AA-RE, G4S Integrated Fleet Services, LLC
2. Contract No. WAS-12-035-AA-RE, G4S Integrated Fleet Services, LLC
3. Contract No. WAS-12-056-AA-SC, Urban Services Systems Corporation
4. Contract No. WAS-10-052-AA-RE, Maryland Environmental Service
5. Contract No. DCFA # 426 - O'Brien & Gere Engineers

10:10 a.m. V. Biosolids Marketing – Status Update — Chris Peot

10:35 a.m. VI. Emergency Preparedness at Blue Plains — Jonathan Reeves

11:00 a.m. VII. Other Business/Emerging Issues

11:05 a.m. VIII. Adjournment

Dave Lake, Acting Chairperson

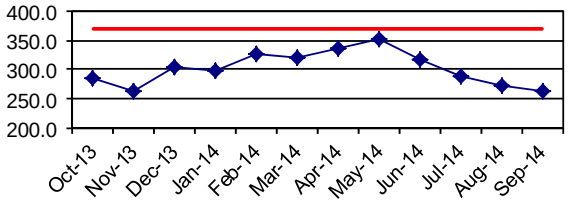
Follow-up Items from Prior Meetings:

1. Provide an update on the progress of marketing Class A biosolids and the potential for costs recovery at a future Committee meeting.
   {Scheduled for October 16, 2014 Committee Meeting}.
2. Provide a briefing on emergency preparedness and Homeland Security coordination at Blue Plains (Requested at June 2014 meeting).
   {Scheduled for October 16, 2014 Committee Meeting}.

DEPARTMENT OF WASTEWATER TREATMENT
September 2014

Average plant performance for the month was excellent with all effluent parameters well below the seven-day and monthly NPDES permit requirements. The monthly average influent flow was 263 MGD. There was 4 MG of Excess Flow during this reporting period. The following Figures compare the plant performance with the corresponding NPDES permit limits.

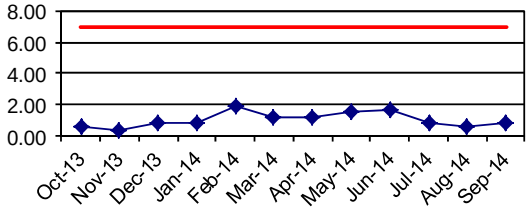
Plant Influent Flow (mgd)



Influent Flow — Average Design Capacity

This graph illustrates the monthly average influent flow to the plant. The design average flow is 370 MGD. Blue Plains has a revised 4-hour peak flow capacity of 511 MGD through complete treatment. Flows up to 336 MGD in excess of the 511 MGD peak capacity receive primary treatment, disinfection and dechlorination.

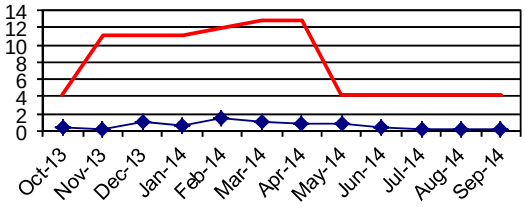
TSS (mg/l)



Effluent TSS — Permit Limit

Effluent Total Suspended Solids (TSS) is a measure of the amount of solid material that remains suspended after treatment. The effluent TSS concentration for the month averaged 0.75 mg/L, which is below the 7.0 mg/L permit limit.

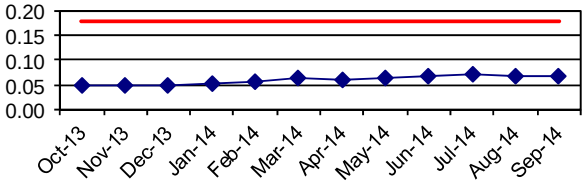
Ammonia (mg/l)



Effluent NH3 — Permit Limit

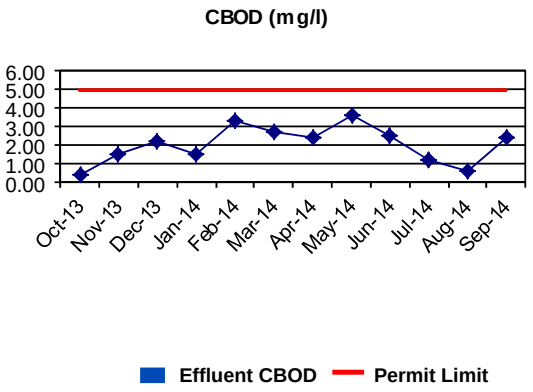
The Ammonia Nitrogen (NH3-N) is a measure of the nitrogen found in ammonia. For the month, effluent NH3-N concentration averaged 0.21 mg/L and is below the average 4.2 mg/L limit.

Total Phosphorus Annual Average (mg/l)

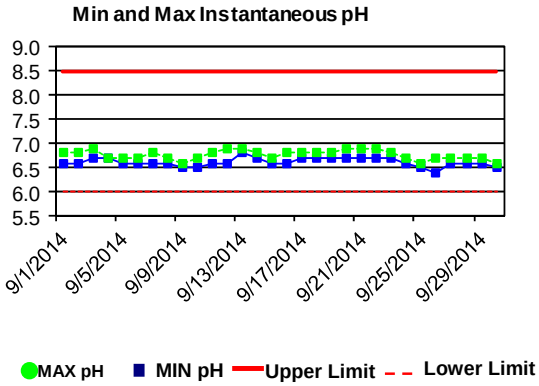


Effluent TP — Permit Limit

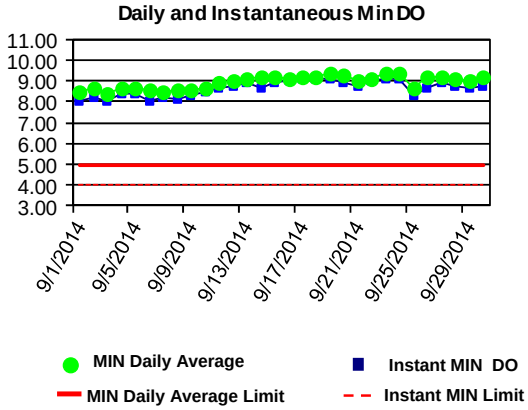
The Total Phosphorus (TP) is a measure of the particulate and dissolved phosphorus in the effluent. The annual average effluent TP concentration is 0.07 mg/L, which is below the 0.18 mg/L annual average limit.



Carbonaceous Biochemical Oxygen Demand (CBOD) is a measure of the amount of dissolved oxygen required for the decomposition of organic materials. The effluent CBOD concentration averaged 2.45 mg/L (partial month) which is below the 5.0 mg/L limit.

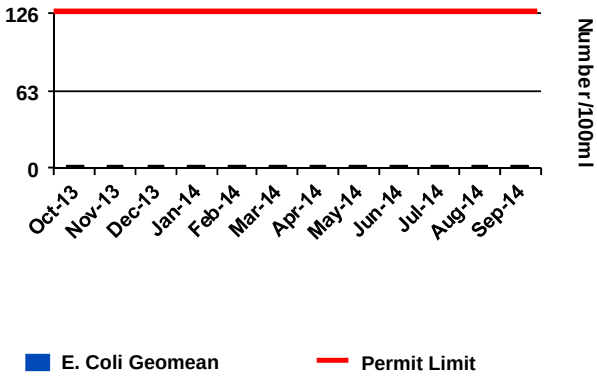


pH is a measure of the intensity of the alkalinity or acidity of the effluent. The minimum and maximum pH observed were 6.4 and 6.9 standard units respectively. The pH was within the permit limits of 6.0 and 8.5 for minimum and maximum respectively.



Dissolved Oxygen (DO) is a measure of the atmospheric oxygen dissolved in wastewater. The DO readings for the month are within the permit limits. The minimum daily average is 8.4 mg/L. The minimum instantaneous DO reading is 8.0 mg/L. The minimum permit limits are 5.0 mg/L and 4.0 mg/L respectively.

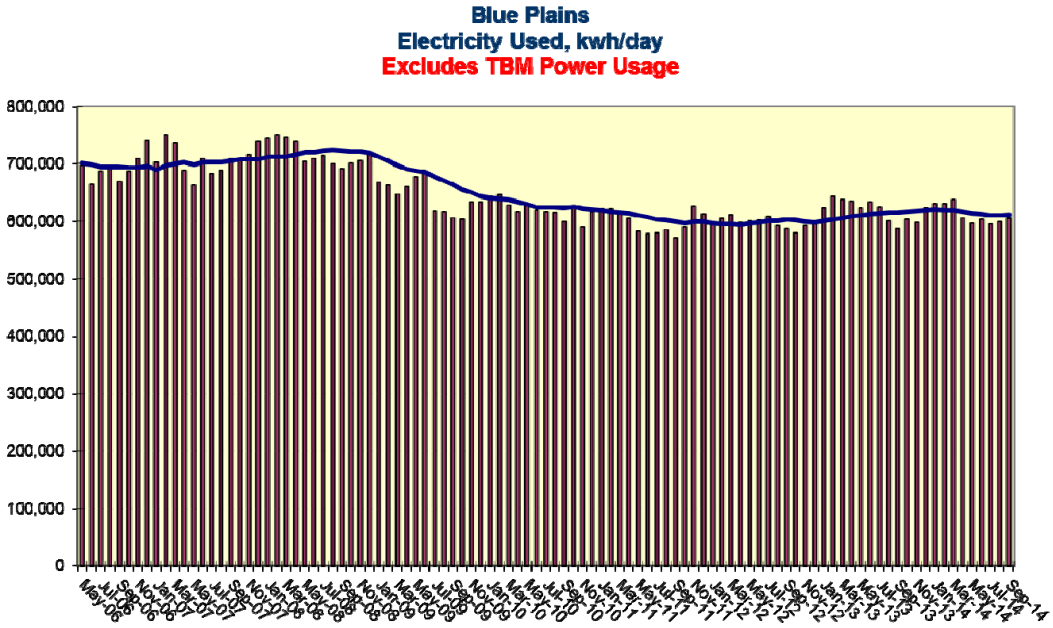
E. coli

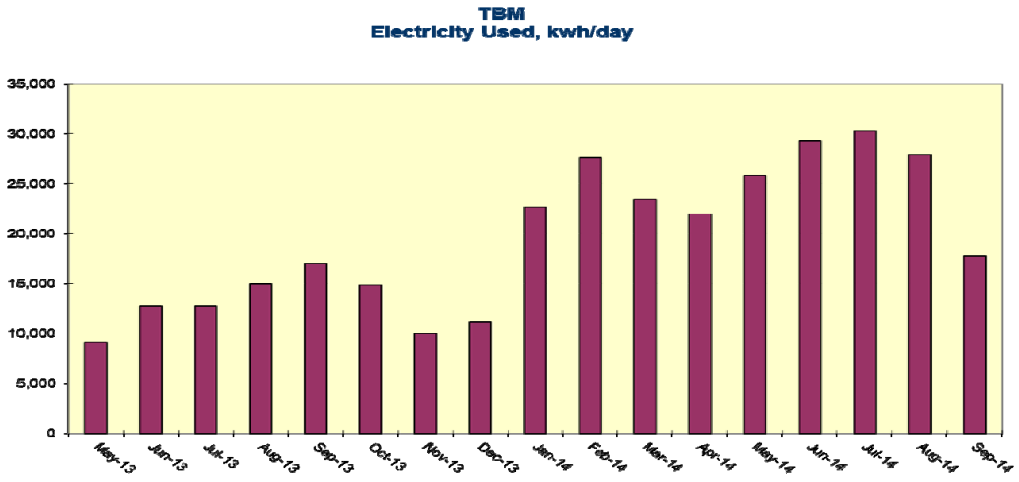


E.coli is an indicator of disease causing organisms (pathogens). The E.coli permit limit is 126/100mL. The E coli geometric mean is 2.5/100mL, and well below the permit limit.

BLUE PLAINS ELECTRICITY USAGE

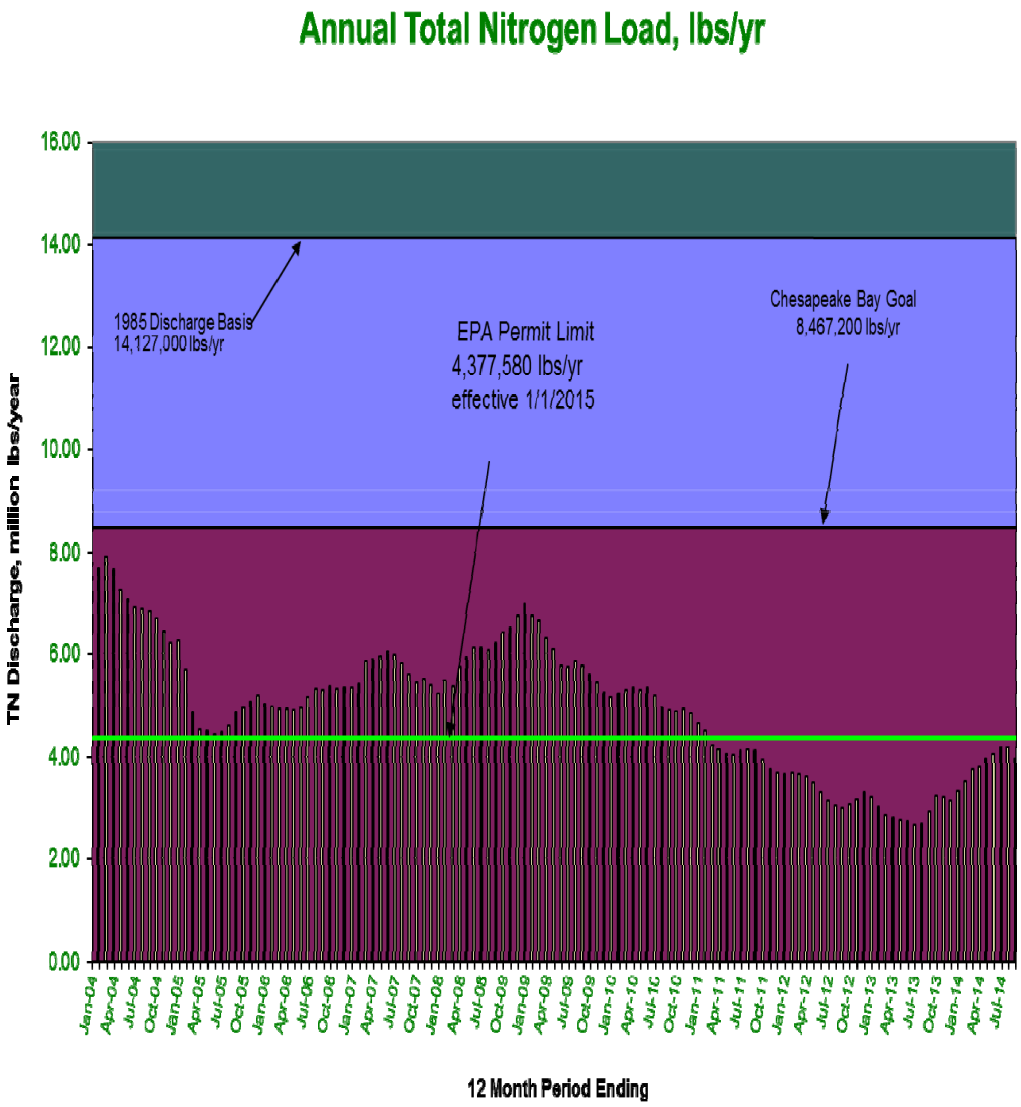
Blue Plains AWWTP has installed Power Monitors at critical points within the power distribution system to monitor power usage. The graph below is based on the installed power monitors and reflects usage at Blue Plains.

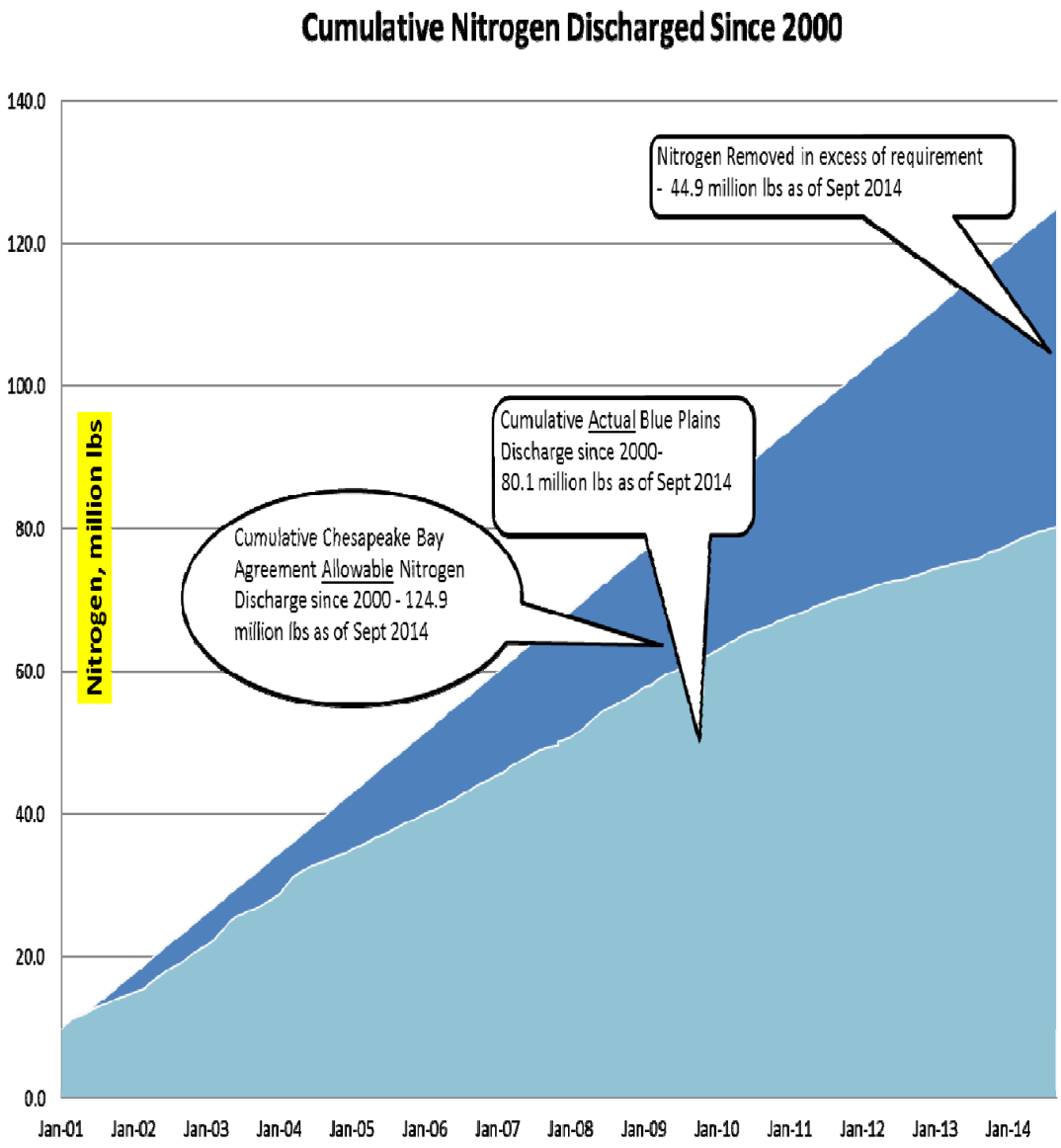




BIOLOGICAL NUTRIENT REMOVAL PERFORMANCE

During the month the full-scale BNR process produced an effluent with average total nitrogen concentration of 3.33 mg/l. The figure below shows Blue Plains effluent total nitrogen (TN) since the implementation of full scale BNR. The Figure shows Blue Plains meeting the Chesapeake Bay Goal of discharging less than 8,467,200 lbs/yr of TN.




Cumulative Nitrogen Discharged Since 2000
Nitrogen, million lbs
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Nitrogen Removed in excess of requirement - 44.9 million lbs as of Sept 2014
Cumulative Actual Blue Plains Discharge since 2000- 80.1 million lbs as of Sept 2014
Cumulative Chesapeake Bay Agreement Allowable Nitrogen Discharge since 2000 - 124.9 million lbs as of Sept 2014

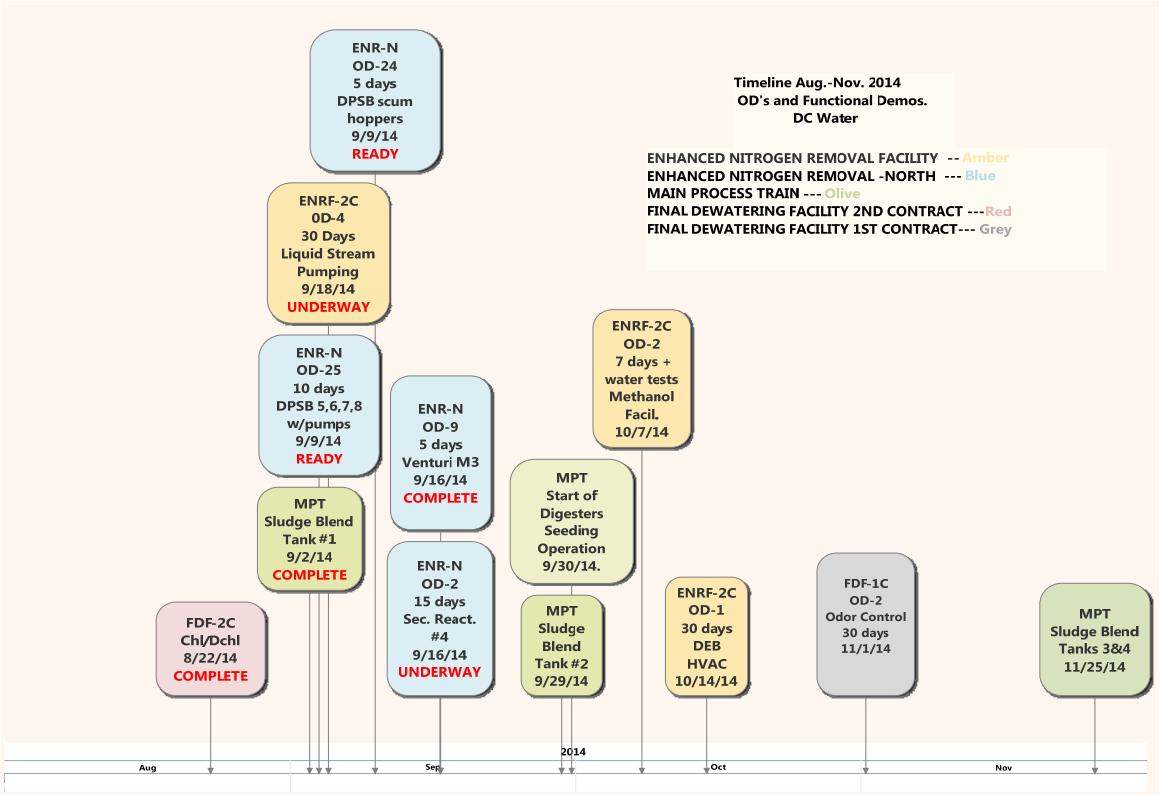
START-UP AND COMMISSIONING UPDATE

As some parts of the nearly $1 billion in construction activities at Blue Plains are winding down, the start-up and commissioning process is moving ahead. This process involves testing the newly built facilities to ensure:

1. the facilities perform as designed,
2. they are completed in accordance with an integrated schedule,
3. interfaces with Blue Plains have been made,
4. capture all new assets,
5. identify and order critical spare parts,
6. develop standard operating procedures, and
7. train personnel to take over the new facilities.

Operational Demonstrations:

One part of the construction checkout process is called the Operational Demonstration (OD). The OD process provides a platform for the contractor and DC Water to prove out the newly constructed process under the various design conditions which can last from 5 days to 1 year. Following is the three month OD look-ahead for 2014.



In September, several Operational Demonstrations were conducted. These demonstrations included testing the integrity of the Main Process Train project's Sludge Blend Tank #1 for solids processing and the functionality of the new Venturi flow meter that measures the wastewater flows entering secondary treatment that was installed under the Enhanced Nitrogen Removal – North's project. Both of these Operational Demonstrations passed successfully. Two additional Operational Demonstrations were started in September and are ongoing. These demonstrations include the Enhanced Nitrogen Removal – North's East Secondary Reactor #4 and the Enhanced Nitrogen Removal Facility's Liquid Stream Pumping, both of which are described in more detail below.

OPERATIONAL DEMONSTRATION: ENR-North - East Secondary Reactor #4

- Reactor #4 was upgraded to improve secondary treatment by improving the tanks aeration system and flow pattern. Upgrade included modifications to the aeration equipment (diffusers, flow meters, etc.) effluent weirs, and tank configuration.
- A 15 day, 24 hour/day continuous Operational Demonstration began on September 16th and will be completed on October 1st.
- Testing includes verifying the function of islolation gates, effluent weirs, aeration piping integrety, and valves, flow meters, diffusers, disolved oxygen probes, and all associated instrumentation and electrical systems.

OPERATIONAL DEMONSTATION: ENRF-2C - Liquid Stream Pumping

- With the addition of separate denitrification reactors, flow from the nitrification reactors will be diverted from the nitrification sedimentation basins to the denitrification reactors. This diversion will be accomplished using a series of pumps. Following the denitrification reactors, the flow will then travel by gravity to the nitrification sedimetation basins.
- A 30 day, 24 hour/day continuous Operational Demonstration began on September 18th and will be completed on October 17th.
- This operational demonstration includes verifying the operation of the pumps and isolation gates; the replacement of one of the pumps; the aeration systems in the post aeration tanks, channels and flow distribution chamber; as well as the structural, architectural, HVAC, plumbing, electrical, instrumentation and controls associated with the pump storage buildings.

Additionally, the CAMBI process including the screens and pre-dewatering process is being readied for sludge processing/commissioning in anticipation of digester seeding at the end of September.

Training:

Successful operation of the new facilities will require significant training of operations and maintenance employees on new processes, procedures and equipment. We are also continuously working with Human Capital Management with the Cornerstone Training program to schedule and track employee training.

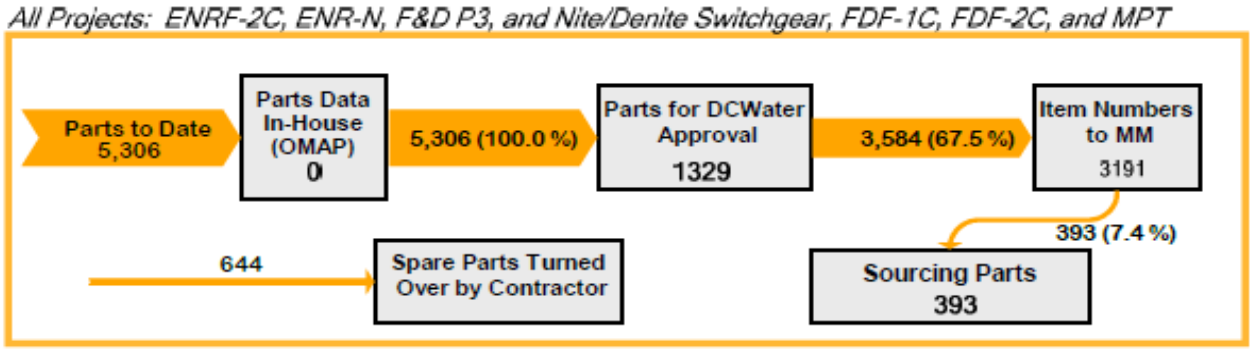
Training completed from August 19, 2014 – September 11, 2014:

- 540 hours of vendor training were completed by DC Water personnel.
- 3,690 hours of other required training were completed by DC Water personnel.

Asset Integration:

The process of asset integration involves capturing and identifying over 15,000 unique assets associated with the new projects coming on-line. This is done to facilitate ordering of critical spare parts through Maximo, identify qualified vendors, and to develop standard operating procedures. Efforts up through the month of September 2014 include:

- Asset attributes based on approved service manuals continue to be logged into the Maximo maintenance program,
- Working with Materials Management (MM) to identify vendors for critical spare parts.
- Parts work flow is as follows:



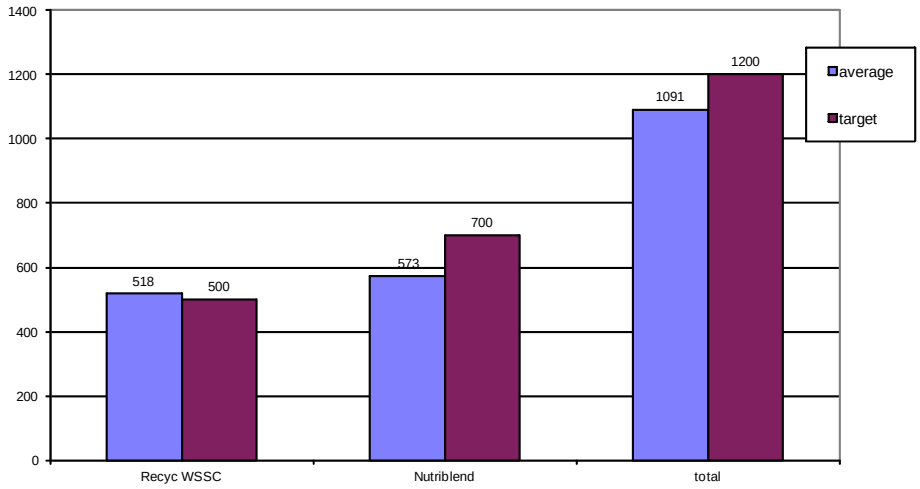
Project Acronym Key:
ENRF-2C: Enhanced Nitrogen Removal Facility 2nd Contract
ENR-N: Enhanced Nitrogen Removal – North
F&D P3: Filtration and Disinfection Electrical Upgrades Phase 3
Nite/Denite Switchgear: Nitrification/Denitrification Electrical Upgrades
FDF-1C: Final Dewatering Facility 1st Contract
FDF-2C: Final Dewatering Facility 2nd Contract
MPT: Main Process Train

END

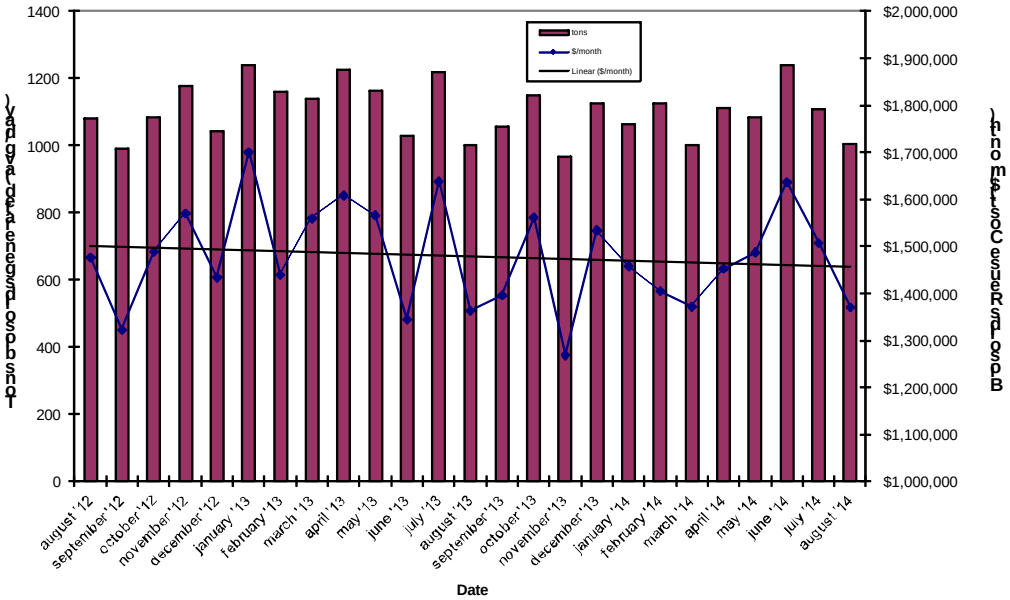
BLUE PLAINS RESOURCE RECOVERY REPORT – AUGUST/SEPTEMBER 2014

In September, biosolids hauling averaged 1091 wet tons per day. The graph below shows the hauling by contractor for the month of September. Average % solids for the unlimed cake was 28.1%. Average lime dose for the month was 22.6%. At the end of September the Cumberland County storage pad had approximately 8500 tons (~25,000 tons capacity), and the Cedarville lagoon had 0 tons of Blue Plains biosolids (~30,000 tons capacity).

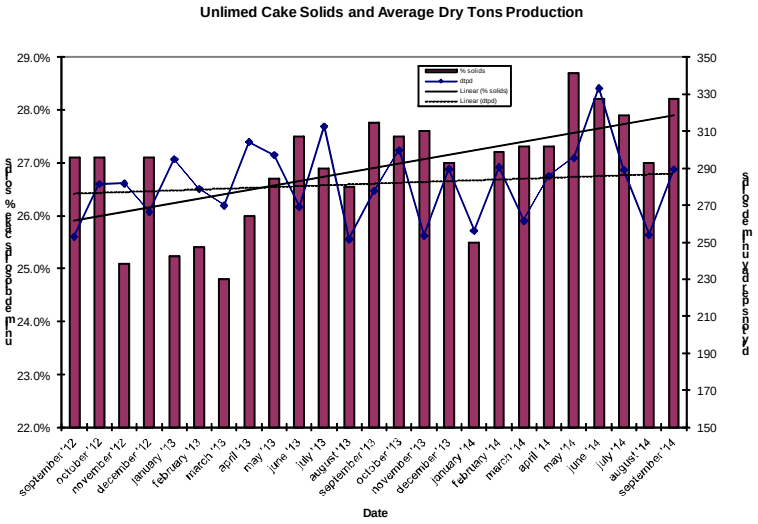
Average Daily Hauling by Contractor for September 2014



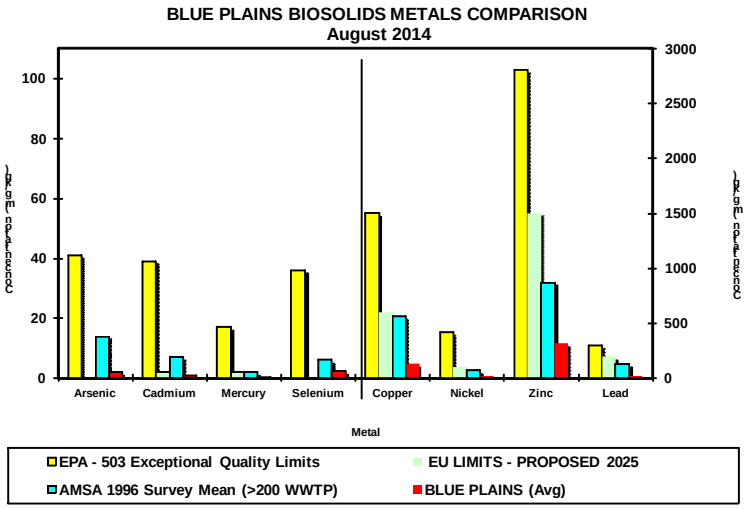
Average Daily Biosolids Production and Reuse Cost



The graph above shows a slight overall average cost decrease for biosolids reuse over the past two years. This is not due to a change in contractors, which happened beyond this two year look back, but rather to increased efficiency in dewatering. The graph below shows average dry solids processed and the average percent solids of the dewatered cake solids. While dry solids processed has held steady, cake solids has risen over one percent in the period. This means we are hauling less water, paying for fewer trucks, and reducing our overall program costs. While a 1% increase sounds small, at our volume it represents a savings of ~$650,000/yr in avoided water hauled.



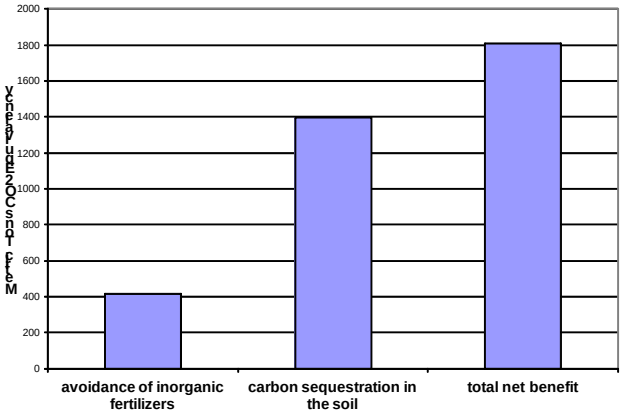
The graphs below show the EPA regulated heavy metals in the Blue Plains biosolids for the month of August 2014. As can be seen in the graphs, the Blue Plains levels are considerably below the regulated exceptional quality limits, the national average levels surveyed in 1996, and the European Union (EU) limits. The EU limits are more conservative than the USEPA limits, and Blue Plains biosolids metals content is lower than the EU standards as well.



Environmental Benefits

The quantity land applied in August coming directly from the plant and from storage facilities equaled 31,541 tons. Taking into account the fuel required to transport biosolids to the field, the net benefit of the land applied material is 1808 metric tons CO_2 equivalent avoided emissions. This is equivalent to taking 3,682,706 car miles off the road in the month of August (assumes 20 mpg, 19.4 lb CO_2 equivalent emissions/gallon gas – EPA estimate). The cumulative total avoided carbon emission since January, 2006 is 132,747 metric tons CO_2 equivalent.

DCWater Biosolids Recycling Program
Greenhouse Gas Balance Benefits
August 2014 Totals



September Highlights

WEFTEC – NBP recognition

At the WEFTEC conference in New Orleans, staff accepted a plaque of recognition from the National Biosolids Partnership (NBP), a partnership between the Water Environment Federation (WEF), The US Environmental Protection Agency (EPA), and the National Association of Clean Water Agencies (NACWA). The ceremony recognized the three agencies in the US (City of Los Angeles, Orange County (California) Sanitation District, and DC Water, that have been certified platinum status for 10 yrs in the NBP Environmental Management System program. These three agencies are the only in the US to achieve this recognition. DC Water will have its second platinum certification, third-party audit in November this year.	

WEFTEC Water Resource Recovery Facility (WRRF) report and concept adoption

At WEFTEC this past month, WEF rolled out a concept and a report entitled *Moving Toward Water Resource Recovery Facilities*, described as follows on the WEF webpage:

Resource recovery is an emerging societal need around the globe. Due to the ever-increasing pressures on increasingly limited environmental resources, it is critical that recovery of resources (water, nutrients, and energy) from waste streams be implemented. Moving Toward Resource Recovery Facilities is about moving away from waste streams and moving toward values streams. Providing an overview of the fundamental drivers for resource recovery from wastewater and presenting the basic case for resource recovery, Moving Toward Resource Recovery Facilities provides an overview of state-of-the-art technological approaches to resources recovery and provides general guidance on the applicability of recovery technologies for the cross section of facility types. This allows facilities to take steps towards recycling a greater number of otherwise lost resources

This concept and the report is a direct result of a concept paper authored by DC Water staff that came out of the WEF Residuals and Biosolids Committee (RBC) at WEFTEC last year. WEF has fully adopted the term “water resource recovery facility” as a substitute for “wastewater treatment facility”. This change is made as an effort to focus on the products instead of the process and influent.

Co-Digestion Task Force

Staff is leading a co-digestion task force to examine the possibility of bringing outside wastes to Blue Plains for input to the digesters. The task force will produce a market survey of potential waste products in the DC Metro area, test samples through the pilot digesters, report out on data collected and “best fit” wastes, and produce a feasibility study. The feasibility study will examine the benefits (tip fees, additional power, Tier 1 REC’s) and challenges (additional steam requirement, ammonia load to sidestream treatment, dewatering costs). Preliminary results from the pilot digesters indicate that pre-processed food waste may favorably benefit the pH conditions in the digesters while increasing gas production. This study is designed to determine whether or not it is favorable to maximize the asset of digester capacity.

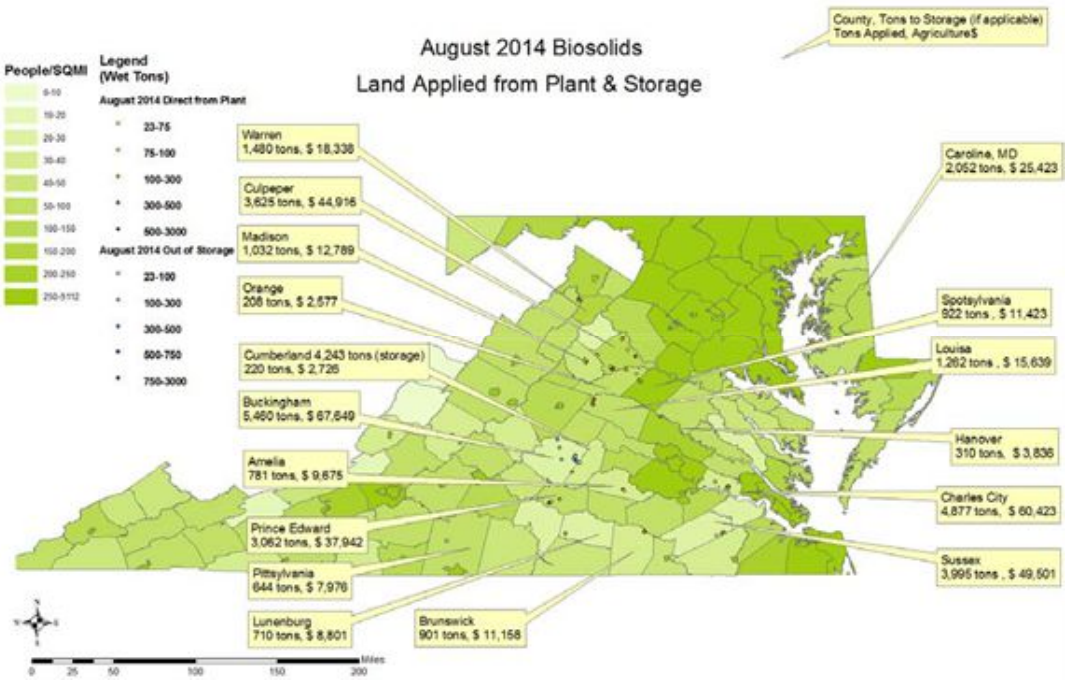
NRL water reuse meeting

Resource Recovery staff met with the representatives from the Naval Research Lab (NRL) to discuss effluent reuse projects. NRL has extensive requirements for cooling water in chiller towers. NRL believes this is fresh water, so an effluent reuse program would cut into DC Water’s fresh water revenue. Staff is investigating NRL’s water bills to check the accuracy of this assumption. If so, the project will require a discussion at management level to determine the benefits, which should include buying less water wholesale from the Army Corp, hedging against future fresh water needs (for capital planning purposes), and generating revenue for the effluent (likely less than the fresh water rate).

Solar RFP

The Blue Plains solar energy project, which could generate 8 MW of power on site (during daylight hours), moved past the RFQ phase into the RFP phase. Ten teams responded to the RFQ, and after review of the qualifications, staff chose 4 teams from whom we will request full proposals. Staff sent this request to the 4 teams on 9/26, with proposals due 11/18. DC Water requested proposals for a no-capital project, to be designed, built, owned, and operated by a power provider, in exchange for a power purchase agreement for DC Water to buy the output of the facility. This project will allow for better long-term planning for power purchasing.

Map of Blue Plains Biosolids Applications and Agricultural $'s for August 2014



Clean Water Quality and Technology

The Clean Water Quality and Technology department includes research and development, pretreatment and laboratory programs.

Research and Development Program

Effect of Cambi Filtrate on DEMON (AKA – Filtrate Treatment Facility)

Currently under construction, the filtrate treatment facility (FTF) was designed to treat the filtrate generated in the post dewatering built-filter-press facility. The filtrate is rich in ammonia as a result of the digestion process. One concern during the design of the filtrate facility was the potential for inhibitory effect of the filtrate on the biological activity in the FTF. While the provisions were made to address the impact of free ammonia inhibition by diluting the feed, other sources of inhibition required testing with actual filtrate from Blue Plains AWTP to address any design or operational modifications to the FTF process. The research and development team at Blue Plains conducted long term experiments using bench scale sequential batch reactors (SBR) mimicking the operation of the fullscale FTF process. Filtrate from Blue Plains generated from pilot scale Cambi and anaerobic digestion processes, and centrate from Alexandria renew, Alexandria were used to feed the bench-scale SBRs to compare the impact on the FTF operation and the degree of inhibition, if any, that we can expect. The main research objective was to determine the inhibitory compounds or characteristics in the filtrate and determine the acclimation potential of the key biological processes within FTF.

Two 20-L SBRs were operated for approximately 6 months with the same initial sludge characteristics [**Exhibit A**]. Both SBRs were initially fed centrate from Alexandria Renew and later on one SBR was switched gradually to filtrate from a dewatered thermally hydrolyzed and anaerobically digested sludge from Blue Plains AWTP. In both reactors the mass loading was increased gradually until the design loading of 0.6 kgN/m3.d was achieved. Inhibition of the biological activity was observed in both SBRs and necessary modifications to the aeration time (longer periods) within the reaction cycle and/or to the dissolved oxygen (DO) level were made to compensate for the reduction in biological activity. A DO setpoint of 1 mg/L was needed to achieve maximum activity rates compared to 0.3 mg/L per design criteria.

Exhibit A. Bench Scale SBR Setup.

It is believed that the inhibitory characteristic of the filtrate was due to the presence of organic matter in the digested sludge and/or from the excess polymer used in the dewatering process. **Exhibit B** shows the impact of polymer dosage on filtrate characteristics. When the polymer dose was under dosed, inhibition was observed and was correlated to the presence of organic matter that passed through in the filtrate during the dewatering process. On the other hand when the polymer was over dosed, inhibition was also observed and was correlated to excess polymer.

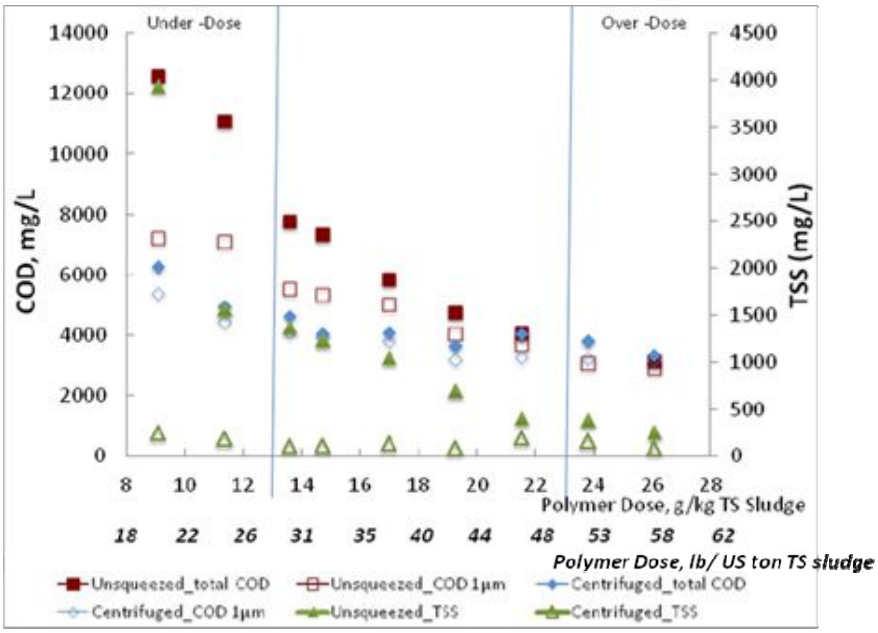


Exhibit B. Polymer dose and filtrate quality.

Events in August

- **Aug 4th – Aug 6th:** A group from DC Water including Dr. Sudhir Murthy, Mr. Ahmed Al-Omari, Dr. Haydee De Clippeleir, and AECOM including Dr. Beverley Stinson attended a three-day workshop at Hampton Roads Sanitation District and met with the research group there which is lead by Dr. Charles Bott [**Exhibit C**]. The purpose of the workshop was to discuss the progress of the research conducted at HRSD with regard to carbon and nitrogen removal and future work as part of the collaboration effort between DC Water and the sanitation district. The workshop took the form of presentations followed by discussions and included the following major topics:
  - A Stage [carbon removal] and B Stage [nitrogen removal] Piloting updates
  - Control Strategies and modeling
  - Testing scenarios and

Exhibit C. Site visit of the HRSD Pilot facility at Chez-liz WWTP.

future research direction

- **Aug 7th –** All day workshop at Blue Plains attended by DC Water process engineers and program managers to discuss whole plant modeling needs for future planning efforts for the plant. Dr. Bernhard Wett from ARA consult who is heavily involved in developing models for Blue Plains treatment processes such as Cambi® and DEMON participated in this workshop. A team comprised of DC Water staff, program manager AECOM and their sub-contractors will be working on developing the plant model and conduct appropriate testing to calibrate any model parameters as needed. The model will be used by DC Water and their consultants to plan, design and troubleshoot process performance.

Blue Plains Pretreatment Program

The Blue Plains Pretreatment Program staff of two manages the Industrial Pretreatment Program, including temporary dischargers from construction activities, as well as the Hauled Waste Program. Additional responsibilities include providing specialized sampling and program management support for the Blue Plains NPDES permit and facilitating the quarterly Blue Plains Storm Water Committee meetings.

Industrial Pretreatment Program

DC Water currently manages fifteen (15) Significant Industrial User (SIU) permits and sixteen (16) Non-Significant Industrial User (NSIU) permits. One SIU permit was renewed this month for Bureau of Engraving and Printing. Permit terms for both SIU and NSIU permits have been extended to four years, similar to WSSC. Compliance monitoring and inspections were conducted at two SIU facilities this month: Naval Research Lab and Dulles Airport. Compliance monitoring was also conducted at one NSIU facility, Washington Hospital Center. Children's National Medical Center reported a pH violation this month and conducted follow-up monitoring to demonstrate the facility was back in compliance. A Notice of Violation was issued to CNMC, requiring additional monitoring and an investigation to identify the cause of the violation. All SIUs and permitted IUs are currently in compliance with discharge standards.

DC Water investigated an odor complaint at 2301 Champlain St., NW, in conjunction with the DDOE UST Branch. A sample was collected from the storm water management structure in the parking garage of the condo building and the benzene concentration (80.3 ug/L benzene) exceeded EPA's gas/vapor discharge screening level (14 ug/L benzene). As a result, a Notice of Violation was issued to the Adams Row Condominium Property Manager and Condo Association President, requiring additional monitoring and submittal of a preliminary treatment system design and wastewater discharge permit application if benzene levels continue to exceed the discharge screening level.

DC Water currently manages 59 Temporary Discharge Authorization (TDA) permits, primarily for construction site discharges of groundwater and/or surface runoff in the combined sewer area. Five new TDA permits were issued this month. Self-monitoring reports were reviewed. All discharges are currently in compliance with pretreatment standards.

Hauled Waste Program

The hauled waste program currently has seventeen (17) permitted haulers authorized to discharge domestic septage, portable toilet waste, grease trap waste, groundwater or surface runoff, and other types of waste, if approved in advance and have been characterized and meet pretreatment standards. DC Water collected fees from six waste haulers this month, including those on a monthly payment plan option.

DC Water received 278 hauled waste loads (871,699 gallons) from permitted haulers this month. Manifest forms from each truck entering the plant are collected by the security guards and picked up daily by Pretreatment staff and entered into an Excel spreadsheet to track the volume and type of loads being discharged daily and the results of sampling. Two random hauled waste samples (with one targeted grease trap load) were collected this month. Both samples were grease trap loads that were in violation of the pH limit of 5.0. A Notice of Violation was issued to Stillwater Septic on August 29, 2014, for the pH violation of 4.52 for grease trap waste disposed on August 6, 2014. A second Notice of Violation was issued to Robert F. Beall and Sons on September 10, 2014, for the pH violation of 4.49 for grease trap waste disposed on August 19, 2014.

NPDES Permit Sampling

Pretreatment staff collected a dry weather 24-hour composite sample at outfall 002 and a grab sample at outfall 001 for low level PCB analysis using EPA Method 1668 this month.

Department of Wastewater Treatment Main Laboratory

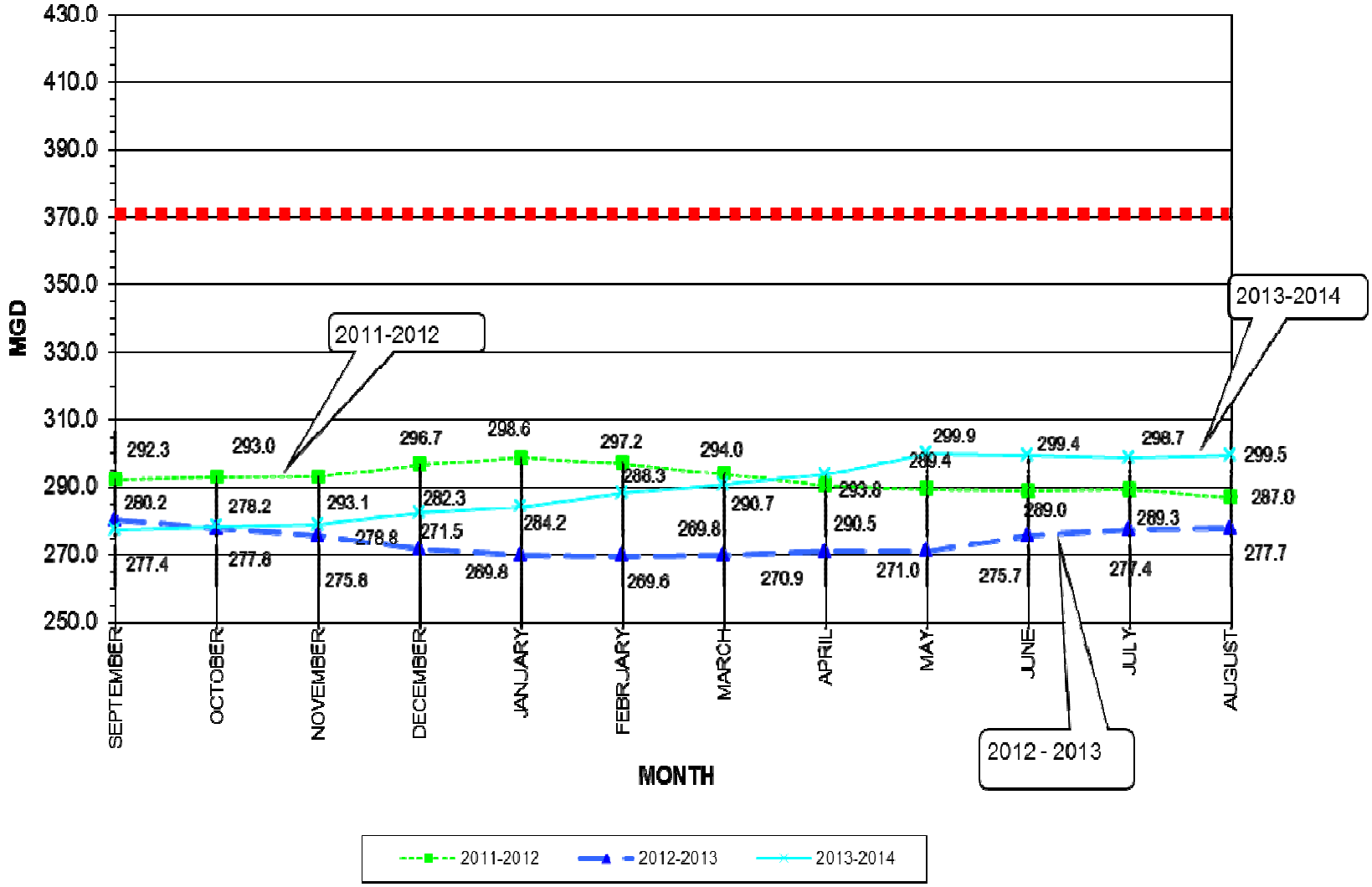
The **DWT Main Laboratory** conducts analyses on Blue Plains effluent for NPDES Permit requirements, as well as on biosolids, pretreatment samples, storm water runoff, and process samples, on a daily basis, 365 days a year. The laboratory currently analyzes approximately 2,800 samples a month and conducts approximately 8,000 analyses, including Total Suspended Solids, Volatile Suspended Solids, Total and Volatile Solids, Ammonia Nitrogen, Nitrite and Nitrate Nitrogen, Total, Soluble, and Ortho Phosphorus, Total and Soluble Kjeldahl Nitrogen, Carbonaceous Biochemical Oxygen Demand, Chemical Oxygen Demand, Total Alkalinity and Hardness, and Fecal Coliform and E. Coli microbiological testing.

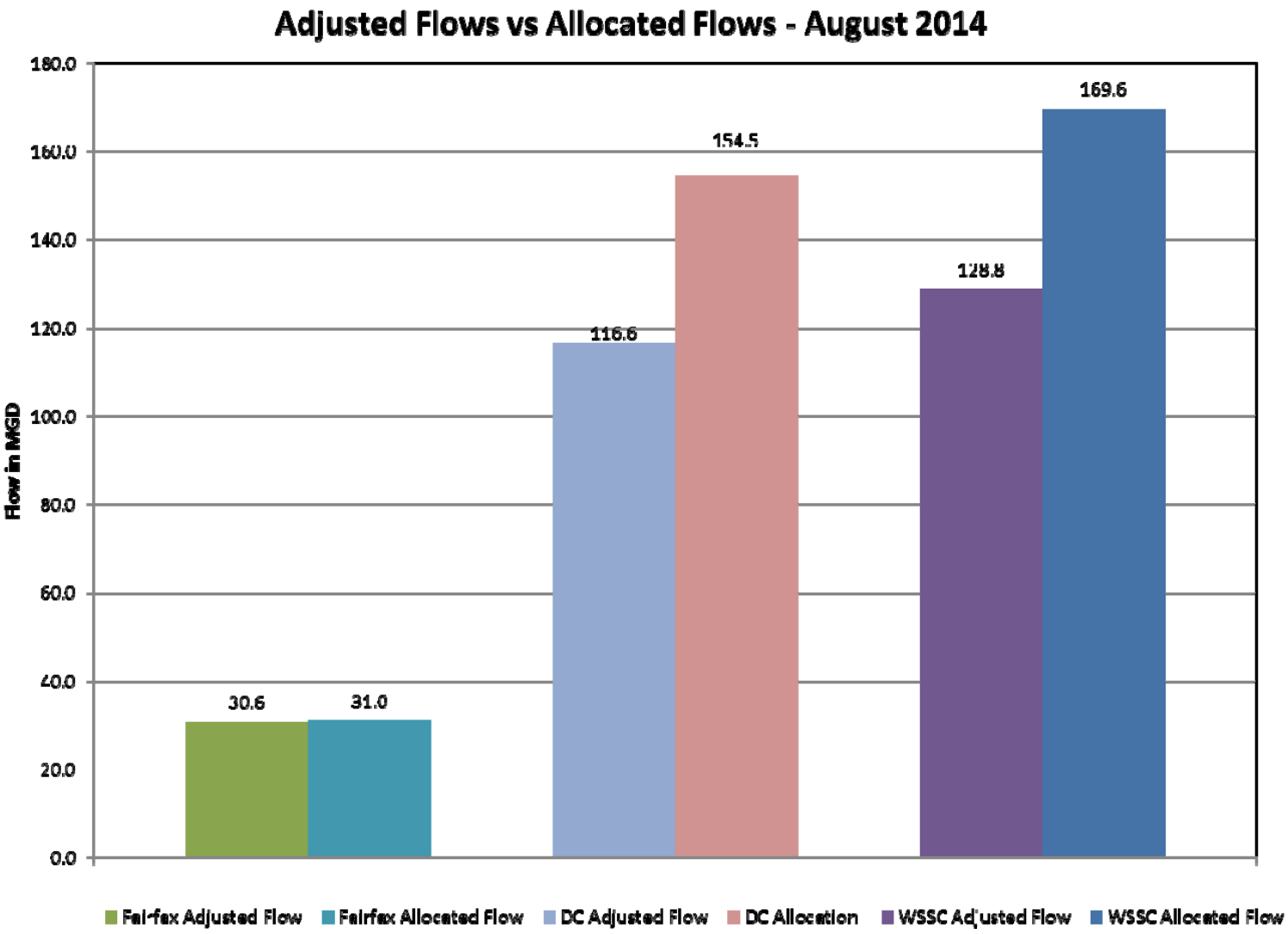
The **DWT Laboratory** assists the **Department of Sewer Services** on a regular basis conducting microbiological analysis of water samples for E. Coli bacteria.

The **DWT Laboratory** also assists the **Biosolids Division** with ongoing Odor Control and Lime Stabilization studies, as well as continued pH monitoring of biosolids for 40 CFR 503 Pathogen and Vector Attraction Reduction requirements.

The **DWT Laboratory** also participates in the **WWOA Executive Board.**

BLUE PLAINS
ADVANCED WASTEWATER TREATMENT PLANT
12 MONTH ROLLING AVERAGE FLOWS
AS OF THE MONTH OF AUGUST 2014




Adjusted Flows vs Allocated Flows - August 2014
Flow in MGD
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
30.6
31.0
116.6
154.5
128.8
169.6
Fai-fax Adjusted Flow
Fairfax Allocated Flow
DC Adjusted Flow
DC Allocation
WSSC Adjusted Flow
WSSC Allocated Flow

Potomac Interceptor Long-Term Odor Abatement
Status Report –September 2014

Project Description: This project provides for the long-term abatement of odors generated by the Potomac Interceptor by constructing six ventilation buildings along the main sections of the sewer. The six sites are located in the District of Columbia (Site 1995), Montgomery County, MD (Sites 4, 17 and 27), Fairfax County (Site 31) and Loudoun County (Site 46), VA. The constructed system draws gases from the sewer by vacuum, treats the gas stream with activated carbon and discharges the treated air to the atmosphere.

Summary Status:

General

Construction at the DC and three Maryland sites is substantially complete. Construction at the two Virginia sites is ongoing.

DC Site

Site 1995 (Fletcher's Boat House) – Construction substantially complete, minor punchlist work remains. Problem with obstruction in odorous air (OA) pipe caused temporary shutdown. DC Water staff working to resolve.

Maryland Sites

Site 4 (Little Falls PS) – Construction complete.

Site 17 (Beltway) – Construction complete.

Site 27 (Old Angler's Inn) – Construction substantially complete, minor punchlist work remains. Manhole repair work in vicinity of restaurant has been completed by WSSC, however odor complaints continue to be reported, including on days where the odor abatement system has not been operating. The counteractant delivery system was upgraded and will be put into service in October. Investigations into sources of odor complaints continue.

Virginia Sites

Site 31 (Fairfax) – Under Construction, 60% complete. Coordination with Verizon is ongoing for site service. Dominion to start permanent power installation on 10/31/14. Floor slab is complete. Exterior underground OA pipe is completed. Well drilling complete to 1100 feet. Exterior masonry and structural steel installation complete. Roof decking complete. Electrical room roof slab poured. OA tank installed, other equipment on site. OA pipe wrapping/joining ongoing in building.

Site 46 (Loudoun) – Under Construction, 85% complete. Permanent power is complete. Coordination with Verizon is ongoing for site service. Exterior stone fascia, roof soffits, and fascia complete. Electrical interior work ongoing with PLC and transformer set, outside driveway ramp poured. Exterior hand railing installed OA pipe installation complete. Meter and disconnect installed. Interior plumbing is ongoing. OA exhaust installed. Faux window installation complete. HVAC ongoing. Well installation complete.

Design & Construction Activities	Projected		Actual		Status
	Start	End	Start	End	
Fairfax County (Site 31) Building Closure	8/15/12	9/12/14	8/26/13	9/20/14	
Place in operation, Site 31 (Fairfax)		12/29/14			
Place in operation, Site 46 (Loudon)		12/29/14			Delay in fabrication and delivery of OA pipe valve actuator

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BOARD OF DIRECTORS CONTRACTOR FACT SHEET

ACTION REQUESTED

GOODS AND SERVICES CONTRACT OPTION:

Fleet Management Services
Joint-Use (Indirect)

Approval of contract modification: Exercise of option year two (2) and addition of funds for services, in the amount of $1,948,285.75.

CONTRACTOR/SUB/VENDOR INFORMATION

PRIME:	SUBS:	PARTICIPATION:
G4S Integrated Fleet Services, LLC 4800 Overton Plaza, Suite 380 Fort Worth, Texas 76109	Apex Petroleum 3190 Fairview Drive Falls Church, VA 22042	2%
	MBI, LLC 725 Gleneagles Drive Fort Washington, MD 20744	15%
	R.REA Core 331 H Street, NE Washington, DC 20002	10%
	Washington Supply Network 1235 Kenilworth Avenue, NE Washington, DC 20019	3%

DESCRIPTION AND PURPOSE

Original Contract Value:	$1,368,819.54
Original Contract Date:	11-01-2012—10-31-2013
No. of Option Years in Contract:	4
Option Year One (01) Value:	$1,625,000.00
Option Year (01 - 04) Date:	11-01-2013—10-31-2014
Modification Value	$ 600,328.00
Modification Date:	09-01-2014 – 11-15-2014
Second Option Year Value:	$1,347,957.75
Second Option Year Date:	11-16-2014—10-31-2015

Purpose of the Contract:
To contract for Fleet Management Services in support of the District of Columbia Water and Sewer Authority's (DC Water) Department of Fleet Management.

Contract Scope:
To provide continued fleet management services in an effort to oversee DC Water's maintenance and repair functions.

Spending Previous Year:

Cumulative Contract Value:	11-01-2012 to 10-31-2014—$2,993,819.54
Cumulative Contract Spending:	11-01-2012 to 05-31-2014—$2,597,077.32

Contractor's Past Performance:

The contractor's past performance has been satisfactory.

PROCUREMENT INFORMATION

Contract Type:	Fixed Price	**Award Based On:**	Highest Scored Vendor
Commodity:	Goods and Services	**Contract Number:**	WAS-12-033-AA-RE
Contractor Market:	Open Market with LBE/LSBE Preference Points		

BUDGET INFORMATION

Funding:	5610	**Department:**	Department of Fleet Management
Service Area:	125 O Street, NE, WDC	**Department Head:**	Timothy Fitzgerald

ESTIMATED USER SHARE INFORMATION

User	Share %	Dollar Amount
District of Columbia	83.78%	$1,632,273.80
Washington Suburban Sanitary Commission	11.84%	$ 230,677.03
Fairfax County	3.03%	$59,033.06
Loudoun County & Potomac Interceptor	1.17%	$ 22,794.94
Other, Potomac Interceptor	0.18%	$3,506.91
TOTAL ESTIMATED DOLLAR AMOUNT	100.00%	$1,948,285.75

Teresa L. Scott, 10/8/14
Teresa L. Scott — Date
Acting Director of Procurement

10/8/14
Gail Alexander - Reeves — Date
Director of Finance & Budget

10/9/14
Rosalind Inge — Date
Assistant General Manager, Support Services

_____ / _____
George S. Hawkins — Date
General Manager

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BOARD OF DIRECTORS CONTRACTOR FACT SHEET

ACTION REQUESTED

GOODS AND SERVICES CONTRACT OPTION:

Parts Supply Management Services
Joint-Use (Indirect)

Approval of contract modification: Exercise of option year two (2) for services in the amount of $1,054,654.00.

CONTRACTOR/SUB/VENDOR INFORMATION

PRIME:	SUBS:	PARTICIPATION:
G4S Integrated Fleet Services, LLC 4800 Overton Plaza, Suite 380 Fort Worth, Texas 76109	Apex Petroleum 3190 Fairview Drive Falls Church, VA 22042	2%
	MBI, LLC 725 Gleneagles Drive Fort Washington, MD 20744	15%
	R.REA Core 331 H Street, NE Washington, DC 20002	10%
	Washington Supply Network 1235 Kenilworth Avenue, NE Washington, DC 20019	3%

DESCRIPTION AND PURPOSE

Original Contract Value:	$660,000.00
Original Contract Dates:	11-01-2012—10-31-2013
No. of Option Years in Contract:	4
Option Year One (01) Value:	$775,000.00
Option Year One (01) Date:	11-01-2013—10-31-2014
Modification Value:	$302,154.00
Modification Date:	09-01-2014 – 11-15-2014
Second Option Year Value:	$752,500.00
Second Option Year Dates:	11-16-2014—10-31-2015

Purpose of the Contract:
To contract for Parts Supply Management Services in support of the District of Columbia Water and Sewer Authority's (DC Water) Department of Fleet Management.

Contract Scope:
To provide continued supply management services in an effort to maintain DC Water's vehicles and equipment.

Spending Previous Year:

Cumulative Contract Value:	11-01-2012 to 10-31-2014—$1,435,000.00
Cumulative Contract Spending:	11-01-2012 to 05-31-2014—$1,240,488.70

Contractor's Past Performance:
The contractor's past performance has been satisfactory.

Contractor's Past Performance:

The contractor's past performance has been satisfactory.

PROCUREMENT INFORMATION

Contract Type:	Fixed Price	**Award Based On:**	Highest Scored Vendor
Commodity:	Goods and Services	**Contract Number:**	WAS-12-035-AA-RE
Contractor Market:	Open Market with LBE/LSBE Preference Points		

BUDGET INFORMATION

Funding:	5610	**Department:**	Department of Fleet Management
Service Area:	125 O Street, NE, WDC	**Department Head:**	Timothy Fitzgerald

ESTIMATED USER SHARE INFORMATION

User	Share %	Dollar Amount
District of Columbia	83.78%	$ 883,589.12
Washington Suburban Sanitary Commission	11.84%	$ 124,871.03
Fairfax County	3.03%	$ 31,956.02
Loudoun County & Potomac Interceptor	1.17%	$12,339.45
Other, Potomac Interceptor	0.18%	$ 1,898.38
TOTAL ESTIMATED DOLLAR AMOUNT	100.00%	$ 1,054,654.00

Teresa L. Scott, 10/8/14
Teresa L. Scott — Date
Acting Director of Procurement

Gail Alexander-Reeves, 10/8/14
Gail Alexander - Reeves — Date
Director of Finance & Budget

Rosalind Inge, 10/9/14
Rosalind Inge — Date
Assistant General Manager, Support Services

George S. Hawkins — Date
General Manager

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BOARD OF DIRECTORS CONTRACTOR FACT SHEET

ACTION REQUESTED

GOODS AND SERVICES CONTRACT OPTION YEAR

Hauling of Grit, Screening and Scum
(Joint Use)

Approval to execute option year one (1) for a contract for the hauling and disposal of grit, screening and scum in the amount of $702,818.00.

CONTRACTOR/SUB/VENDOR INFORMATION

PRIME:	SUBS:	PARTICIPATION:
Urban Services Systems Corporation 212 Van Buren Street, NW Washington, DC 20012 LSBE 100%	N/A	N/A

DESCRIPTION AND PURPOSE

Original Contract Value:	$772,300.00
Original Contract Dates:	10-01-2013 – 09-30-2014
No. of Option Years in Contract:	4
Contract Modification Value:	$129,677.00
Contract Modification Dates:	09-01-2014 – 11-07-2014
Option Year 1 Value:	$702,818.00
Option Year 1 Dates:	11-08-2014 – 09-30-2015

Purpose of the Contract:

To provide for hauling of grit, screening and scum from the solids screening building to the disposal facility.

Contract Scope:

To provide all necessary labor, supervision, equipment, materials, tools, insurance and personnel, needed for the hauling and disposal of grit, screening and scum, and industrial cleaning services.

Spending Previous Year:

Cumulative Contract Value:	10-01-2013 to 11-07-2014—$901,977.53
Cumulative Contract Spending:	10-01-2013 to 10-05-2014—$669,978.60

Contractor's Past Performance:

The contractor's past performance has been satisfactory.

PROCUREMENT INFORMATION

Contract Type:	Fixed Price	**Award Based On:**	Highest Rated Offeror
Commodity:	Goods and Services	**Contract Number:**	WAS-12-056-AA-SC
Contractor Market:	Open Market with preference for LBE and LSBE		

BUDGET INFORMATION

Funding:	Operating	**Department:**	Wastewater Treatment
Service Area:	Blue Plains	**Department Head:**	Aklile Tesfaye

ESTIMATED USER SHARE INFORMATION

User	Share %	Dollar Amount
District of Columbia	43.70%	$307,131.47
Washington Suburban Sanitary Commission	41.43%	$291,177.50
Fairfax County	10.33%	$72,601.10
Loudoun County	3.93%	$27,620.75
Potomac Interceptor	0.61%	$4,287.19
TOTAL ESTIMATED DOLLAR AMOUNT	100.00%	$702,818.00

Teresa L. Scott / 10/9/14
Teresa L. Scott Date
Acting Director of Procurement

Gail Alexander-Reeves / 10/9/14
Gail Alexander-Reeves Date
Director of Budget

_____/_____
Walter F. Bailey Date
Assistant General Manager, Blue Plains

_____/_____
George S. Hawkins Date
General Manager

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BOARD OF DIRECTORS CONTRACTOR FACT SHEET

ACTION REQUESTED

GOODS AND SERVICES CONTRACT OPTION:

Monitoring of Biosolids Disposal Sites
(Joint Use)

Approval to exercise option year four (4) for the monitoring of biosolids disposal sites in the amount of $650,347.00.

CONTRACTOR/SUB/VENDOR INFORMATION

PRIME:	SUBS:	PARTICIPATION:
Maryland Environmental Service 259 Najoles Road Millersville, Maryland 21108	N/A	N/A

DESCRIPTION AND PURPOSE

Original Contract Value:	$601,203.00
Original Contract Dates:	07-26-2010—07-25-2011
No. of Option Years in Contract:	4
Option Year (1-3) Values:	$1,788,118.00
Option Year (1-3) Dates:	10-01-2011—10-15-2014
Contract Modification Value:	$293,468.00
Contract Modification Dates:	07-26-2011—11-15-2014
Option Year 4 Value:	$650,347.00
Option Year 4 Dates:	11-16-2014—10-15-2015

Purpose of the Contract:

To provide the District of Columbia Water and Sewer Authority (DC Water) with inspection services for the land application of biosolids from the Blue Plains Advanced Wastewater Treatment Plant to approved disposal sites. The contract also provides for performance of services to monitor operations for grit loading and hauling at the Blue Plains Facility.

Contract Scope:

To inspect the application of biosolids on all designated land application sites in the region and the hauling of grit and screenings from the Blue Plains Facility.

Spending Previous Year:

Cumulative Contract Value:	07-26-2010 to 11-15-2014—$2,682,789.00
Cumulative Contract Spending:	07-26-2010 to 09-05-2014—$2,478,273.44

Contractor's Past Performance:

The contractor's past performance has been satisfactory.

PROCUREMENT INFORMATION

Contract Type:	Fixed Price	**Award Based On:**	Sole Source Award
Commodity:	Services	**Contract Number:**	WAS-10-052-AA-RE
Contractor Market:	Sole Source Contract		

BUDGET INFORMATION

Funding:	Operating	**Department:**	Wastewater Treatment
Service Area:	Blue Plains AWTP	**Department Head:**	Aklile Tesfaye

ESTIMATED USER SHARE INFORMATION

User	Share %	Dollar Amount
District of Columbia	43.70%	$284,201.63
Washington Suburban Sanitary Commission	41.43%	$269,438.76
Fairfax County	10.33%	$67,180.85
Loudoun County	3.93%	$25,558.64
Potomac Interceptor	0.61%	$3,967.12
TOTAL ESTIMATED DOLLAR AMOUNT	**100.00%**	**$650,347.00**

Teresa L. Scott, 10/7/14
Teresa L. Scott — Date
Acting Director of Procurement

Gall Alexander-Reeves, 10/9/14
Gall Alexander-Reeves — Date
Director of Budget

Walter Bailey, 10/8/14
Walter Bailey — Date
Assistant General Manager
Blue Plains Advance Wastewater Treatment Plant

_____ / _____
George S. Hawkins — Date
General Manager

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BOARD OF DIRECTORS CONTRACTOR FACT SHEET

ACTION REQUESTED

ENGINEERING SERVICES SUPPLEMENTAL AGREEMENT:

Main and O Street Pumping Stations Intermediate Upgrades (Joint Use)

Approval to execute Supplemental Agreement No. 1 for $ 3,839,556. The modification exceeds the General Manager's approval authority.

CONTRACTOR/SUB/VENDOR INFORMATION

PRIME:	SUBS:		PARTICIPATION:
O'Brien & Gere Engineers 4201 Mitchellville Road Suite 500 Bowie, MD 20716	CC Johnson & Malhotra, Inc. Washington DC	MBE	21%
	PDH Associates Inc. Potomac, MD	WBE	5%
	Reviera Enterprises, Inc. T/A Rei-Drayco Forestville, MD	MBE	14%
	Sigma Associates Inc. Washington, DC	MBE	15%

DESCRIPTION AND PURPOSE

Original Contract Value:	$ 544,650	
Value of this Supplemental Agreement:	$ 3,839,556	
Cumulative SA Value, including this SA:	$3,839,556	
Current Contract Value, Including this SA:	$ 4,384,206	
Original Contract Time:	300 Days	(10 Months*)
Time extension, this SA:	1800 Days	
Total SA contract time extension:	1800 Days	(4 Years, 11 Months*)
Contract Start Date:	03-22-2011	
Contract Completion Date:	12-20-2016	

* Contract on hiatus while awaiting updated hydraulic model.

Purpose of the Contract:

Provide final design services for rehabilitation of existing infrastructure to restore the operational capacity of the Main Pump Station pumping apparatus and improve the flow control at O Street Pump Station.

Original Contract Scope:

- Field Investigations and a Conceptual Investigation Report to better understand the current operations at Main and O Street Pump Stations and recommend measures to improve the operational capacity and flow control at the two (2) facilities.

Current Supplemental Agreement Scope:

- Final design services to rehabilitate existing equipment such as storm pumps, motors, screening systems and other related infrastructure to restore the operational capacity of the Main Pumping Station pumping apparatus and improve the flow control at O Street Pump Station.

Future Supplemental Agreement Scope:

- A future supplemental agreement will be required to fund design activities such as bid phase services and design services during construction.

PROCUREMENT INFORMATION

Contract Type:	Lump sum	**Award Based On:**	Highest Ranking Score
Commodity:	Engineering Services	**Contract Number:**	DCFA#426
Contractor Market:	Open Market		

BUDGET INFORMATION

Funding:	Capital	**Department:**	Engineering and Technical Services
Service Area:	Sewer	**Department Head:**	David McLaughlin
Project:	FQ		

ESTIMATED USER SHARE INFORMATION

User	Share %	Dollar Amount
District of Columbia	90.49%	$ 3,474,414.00
Washington Suburban Sanitary Commission	9.51%	$ 365,142.00
Fairfax County	0.00%	$ 0.00
Loudoun County & Potomac Interceptor	0.00%	$ 0.00
Total Estimated Dollar Amount	**100.00%**	**$ 3,839,556.00**

Gail Alexander-Reeves, 10/6/2014
Gail Alexander-Reeves — Date
Director of Budget

Teresa L. Scott, 10/7/14
Teresa L. Scott — Date
Acting Director of Procurement

, 10/6/14
Leonard R. Benson — Date
Chief Engineer

/
George S. Hawkins — Date
General Manager

DCFA 426 SA1 Fact Sheet final draft 10 01 14 (2).docx

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District of Columbia Water and Sewer Authority
George S. Hawkins, General Manager

Resource Recovery through Biosolids Blending: Future Plans, Start-up Schedule, and Regulatory Issues

October 16, 2014

NUTRIENTS and CARBON RECYCLING

FARMING

Provides carbon and nutrients valued at $300.00 per acre.

SILVICULTURE

Increases yield and improves understory.

RECLAMATION

Restoring mines to their natural state and providing wildlife habitats.

URBAN RESTORATION

Grow trees and reduce runoff.

dc water is life

BLUE PLAINS ADVANCED WASTEWATER TREATMENT PLANT: A RESOURCE RECOVERY FACILITY

water • nutrients • carbon • energy

BLUE PLAINS SERVICE AREA

DC Water receives and treats wastewater collected from the District of Columbia sewer system and from the Maryland and Virginia suburbs. On an average day, more than 330 million gallons of raw sewage flow into the Blue Plains Advanced Wastewater Treatment Plant from area jurisdictions.

dcwater.com/biosolids

GREEN ENERGY BIORENEWABLES

THERMAL HYDROLYSIS PROCESS (THP) AND DIGESTION FACILITY

DC Water will be the first in North America to use thermal hydrolysis for wastewater treatment. When completed, this facility will be the largest plant of its kind in the world.

GREEN BENEFITS:

- Produce combined heat and power, generating 13 MW of electricity
- Save DC Water $10 million annually cutting grid demand by a third (DC Water is the largest consumer of electricity in the District)
- Reduce carbon emissions by approximately 50,000 metric tons of CO_2e per year.
- Reduce trucking by 1.7 million miles per year.
- Save $10 million in biosolids trucking costs
- Produce Class A biosolids to grow trees, sequester carbon and reduce runo

2

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Currently Exporting Carbon, Nutrients, and Energy

- Pay a third party ~$43/wt for full service contract (transport, land app, reporting)
- $19M/yr program cost =21% of the Blue Plains operating budget
- Delivered free to farmers
- Farmers value product at $300/acre (nutrients, lime, etc.), approximately $15/wt
- Nutrient rebate back to DC Water ($2/wt), $500K/yr designated for research and outreach.
- Value to farmers @ $15/wt, 1200 wtpd = $6,570,000/yr
- We do not extract this value

DCWATER.COM

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Spotsylvania County Composting Facility

water is life

Blue Plains Garden & Compost Giveaway

DCWATER.COM

dc water is life

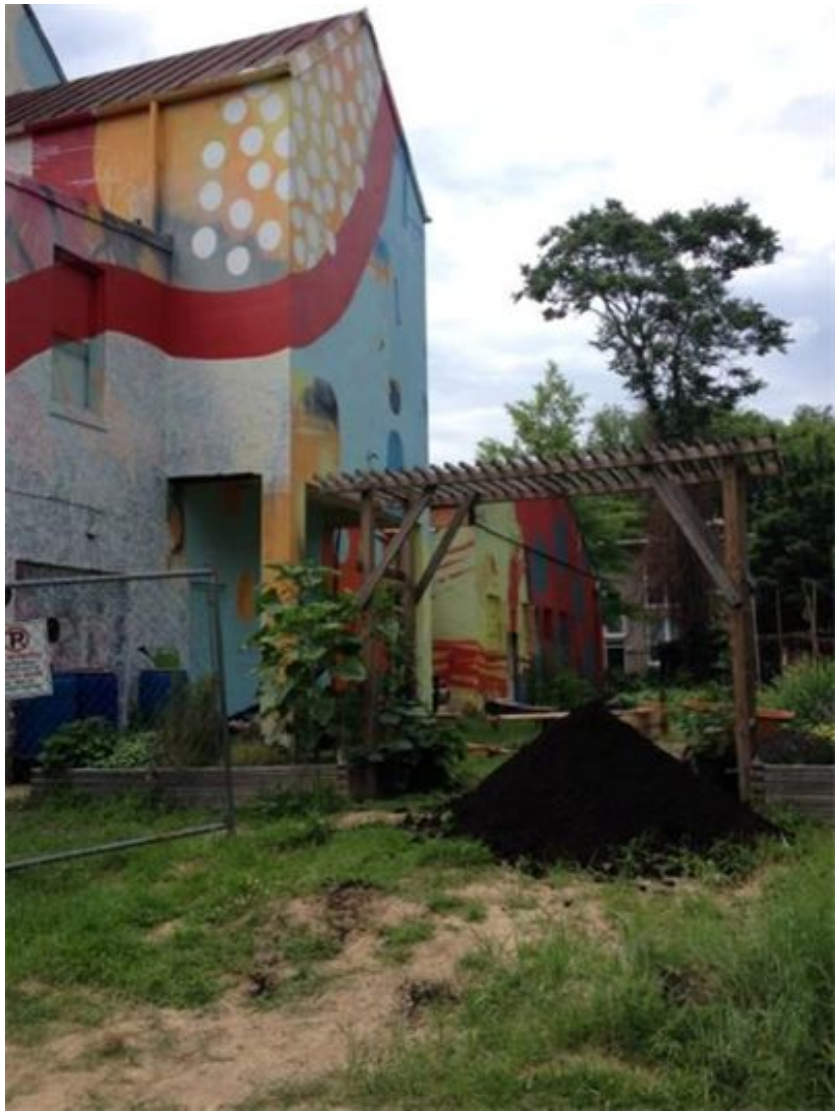
Connecting with the DC Gardening Community

DCWATER.COM

water is life

water is life

Community Gardens



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Casey Trees Donations

water is life

Future Plans for Class A Biosolids

- Continue land application of remaining Class A dewatered biosolids
- Produce a blended soil product (similar to compost)
- Establish a market for this product (bagged and/or bulk, garden centers, green roofs, tree planting, green infrastructure projects, landscaping, etc.)
- Use current compost product to help re-establish this market

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Research

- Va Tech is developing blends for:
  - Use in an urban setting
  - Green infrastructure
  - Marketing to landscapers
  - DOT use

- U of Washington using soil columns to:
  - Study the release of nutrients from blended soils
  - Examining porosity and drainage
  - Addressing concerns of DDOE concerning use in DC

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TH and Digester Pilot units – Blue Plains and Bucknell University

water is life

Digested Product Analysis

Page: 1 of 2

Report Number: 13-211-0207
Account Number: 73496
Submitted By: MIKE BECK

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6448
www.aleastern.com

Send To: VA TECH/GREG EVANYLO
DEPT OF CSES
421 SMYTH HALL
BLACKSBURG, VA 24061-0403

Project : ERIC

REPORT OF ANALYSIS

Lab Number : 94784
Sample Id : 5

Date Sampled: 7/3/2013 00:00:00
Date Received: 07/30/2013 00:00
Date Reported: 08/01/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	27.17	271700	100.0	JM	07/30/2013 14:15	SM-2540G
Moisture *	72.83		100.0	JM	07/30/2013 14:15	SM-2540G
Total Kjeldahl Nitrogen	6.07	60700	10.0	JM	07/31/2013 07:54	SM-4500-NH3C-TKN
Total Phosphorus	3.19	31900	100	KM	07/31/2013 12:04	SW 6010C
Total Potassium	0.19	1850	100	KM	07/31/2013 12:04	SW 6010C
Total Sulfur	1.12	11200	100	KM	07/31/2013 12:04	SW 6010C
Total Calcium	2.85	28500	100	KM	07/31/2013 12:04	SW 6010C
Total Magnesium	0.47	4680	100	KM	07/31/2013 12:04	SW 6010C
Total Sodium	0.04	431	100	KM	07/31/2013 12:04	SW 6010C
Total Iron		62400	100	KM	07/31/2013 12:04	SW 6010C
Total Aluminum		7000	100	KM	07/31/2013 12:04	SW 6010C
Total Manganese		770	5	KM	07/31/2013 12:04	SW 6010C
Total Copper		361	5	KM	07/31/2013 12:04	SW 6010C
Total Zinc		923	5	KM	07/31/2013 12:04	SW 6010C
Ammonia Nitrogen	1.58	15800	10.0	JM	07/31/2013 07:54	SM-4500-NH3C
Organic N	4.49	44900	10.0		07/31/2013 07:54	CALCULATION
Nitrate+Nitrite-N		3.68	2.00	JM	07/31/2013 07:55	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	07/31/2013 12:04	SW 6010C

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

water is life

Digested Product Analysis

Report Number: 13-211-0207
Account Number: 73496
Submitted By: MIKE BECK

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6448
www.aleastern.com

Send To: VA TECH/GREG EVANYLO
DEPT OF CSES
421 SMYTH HALL
BLACKSBURG, VA 24061-0403

Project : ERIC

REPORT OF ANALYSIS

Lab Number : 94784
Sample Id : 5

Date Sampled: 7/3/2013 00:00:00
Date Received: 07/30/2013 00:00
Date Reported: 08/01/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		112	5	KM	07/31/2013 12:04	SW 6010C
Total Nickel		42	5	KM	07/31/2013 12:04	SW 6010C
Total Lead		97	5	KM	07/31/2013 12:04	SW 6010C
Total Arsenic		5.0	3.0	KM	07/31/2013 12:04	SW 6010C
Total Mercury		<0.4	0.4	MW	07/31/2013 09:55	SW-7471B
Total Selenium		<5.0	5.0	KM	07/31/2013 12:04	SW 6010C
pH (Standard Units) *	8.57		2.00	JM	07/31/2013 07:54	SW-9045D
Calcium Carbonate Equivalent	1.84	18400	100	JM	07/31/2013 11:39	AOAC 955.01
Total Volatile Solids	64.44	644400	100.0	JM	07/30/2013 14:15	SM-2540G
Total Molybdenum		10	5	KM	07/31/2013 12:04	SW 6010C

Comments:
QUALIFIER: THE LRB WAS OUT OF LIMITS FOR "NO3/NO2-N". THE MATRIX SPIKE WAS OUT OF LIMITS FOR "Fe" AND "Se". AND ALL OTHER QC DATA IS ACCEPTABLE.

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

DCWATER.COM

dc water is life

Blended Product Analysis

Page: 1 of 2

Report Number: 13-211-0206
Account Number: 73496
Submitted By: MIKE BECK

www.aleastern.com

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6449

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DEPT OF CSES
421 SMYTH HALL
BLACKSBURG , VA 24061-0403

Project : ERIC

Lab Number : 94783
Sample Id : 4

REPORT OF ANALYSIS

Date Sampled: 7/3/2013 00:00:00
Date Received: 07/30/2013 00:00
Date Reported: 08/01/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	60.06	600600	100.0	JM	07/30/2013 14:15	SM-2540G
Moisture *	39.94		100.0	JM	07/30/2013 14:15	SM-2540G
Total Kjeldahl Nitrogen	1.41	14100	10.0	JM	07/31/2013 07:54	SM-4500-NH3C-TKN
Total Phosphorus	0.91	9120	100	KM	07/31/2013 12:04	SW 6010C
Total Potassium	0.09	918	100	KM	07/31/2013 12:04	SW 6010C
Total Sulfur	0.31	3120	100	KM	07/31/2013 12:04	SW 6010C
Total Calcium	0.81	8130	100	KM	07/31/2013 12:04	SW 6010C
Total Magnesium	0.16	1550	100	KM	07/31/2013 12:04	SW 6010C
Total Sodium	0.02	218	100	KM	07/31/2013 12:04	SW 6010C
Total Iron		21500	100	KM	07/31/2013 12:04	SW 6010C
Total Aluminum		3000	100	KM	07/31/2013 12:04	SW 6010C
Total Manganese		282	5	KM	07/31/2013 12:04	SW 6010C
Total Copper		132	5	KM	07/31/2013 12:04	SW 6010C
Total Zinc		265	5	KM	07/31/2013 12:04	SW 6010C
Ammonia Nitrogen	0.34	3380	10.0	JM	07/31/2013 07:54	SM-4500-NH3C
Organic N	1.07	10720	10.0		07/31/2013 07:54	CALCULATION
Nitrate+Nitrite-N		2.83	2.00	JM	07/31/2013 07:55	SM-4500NO3F
Total Cadmium		<2.0	2.0	KM	07/31/2013 12:04	SW 6010C

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Debbie Holt

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Blended Product Analysis

Page: 2 of 2

Report Number: 13-211-0206
Account Number: 73496
Submitted By: MIKE BECK

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BLACKSBURG , VA 24061-0403

Project : ERIC

REPORT OF ANALYSIS

Lab Number : 94783
Sample Id : 4

Date Sampled: 7/3/2013 00:00:00
Date Received: 07/30/2013 00:00
Date Reported: 08/01/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Chromium		620	5	KM	07/31/2013 12:04	SW 6010C
Total Nickel		210	5	KM	07/31/2013 12:04	SW 6010C
Total Lead		30	5	KM	07/31/2013 12:04	SW 6010C
Total Arsenic		16.0	3.0	KM	07/31/2013 12:04	SW 6010C
Total Mercury		<0.4	0.4	MW	07/31/2013 09:55	SW-7471B
Total Selenium		<5.0	5.0	KM	07/31/2013 12:04	SW 6010C
pH (Standard Units) *	8.62		2.00	JM	07/31/2013 07:54	SW-9045D
Calcium Carbonate Equivalent	2.11	21100	100	JM	07/31/2013 11:39	AOAC 955.01
Total Volatile Solids	24.24	242400	100.0	JM	07/30/2013 14:15	SM-2540G
Total Molybdenum		7	5	KM	07/31/2013 12:04	SW 6010C

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Debbie Holt

dc water is life

Working with local soil blenders

- VA blender interested in developing commercial products
  - Spent a day with their marketing team
  - Coordinating with Va Tech on research
  - Willing to participate in a yr-1 blending pilot
  - Have 12-compartment computerized blending equipment
- MD blender closer by, but a smaller operation
  - Interested in highly specialized soil blends
  - Have 8-compartment computerized blending equipment
  - Interested in serving the DC Metro land development community with a top quality soil product.
- Working with DC Water Fleet to determine the best trucking scenario

water is life

dc water is life

Tacoma, Washington

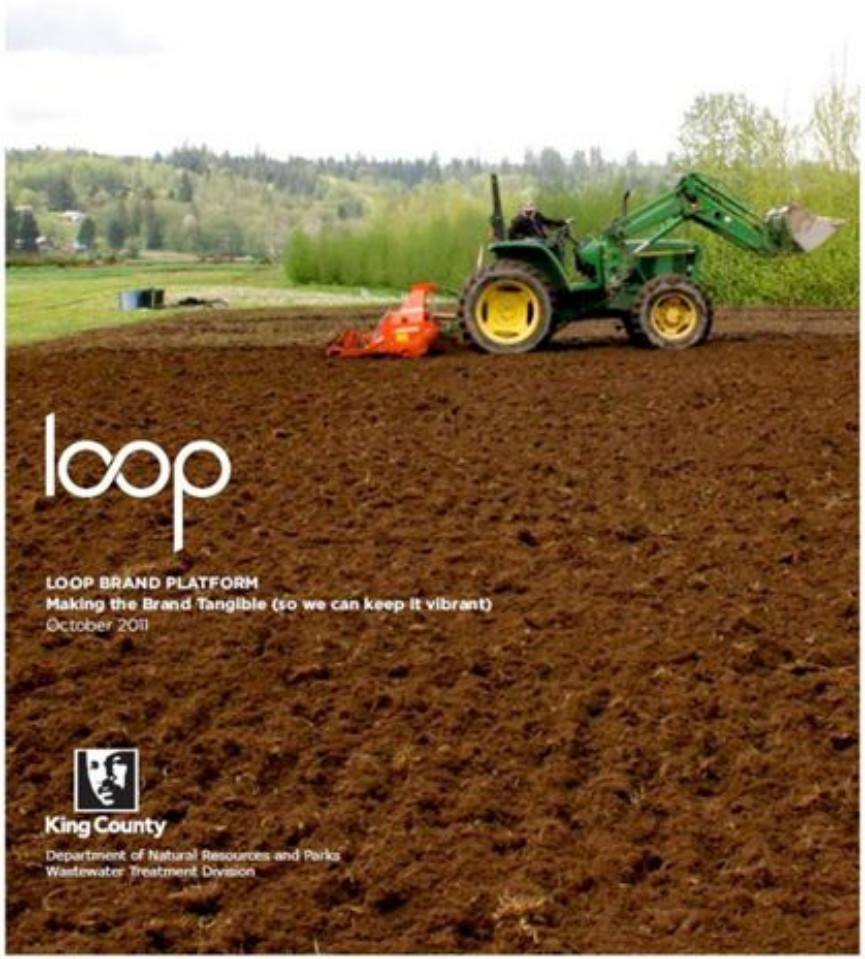
TAGRO
City of Tacoma
(253) 502-2150
tagro@cityoftacoma.org

TAGRO Mix components: sawdust, sand and Class A biosolids.

- Digested, Class A biosolids blended with sand and sawdust
- Tagro mix sells for $8/yard for residents, $10/yard for non-residents and commercial customers
- Tagro potting soil sells for $30/cy
- Tagro green roof mix sells for $50/yd

water is life

KING COUNTY BIOSOLIDS kingcounty.gov/loop



King County Metro

Loop is a natural soil amendment. Using Loop replenishes the earth and closes the nutrient loop that begins when harvested plants remove nutrients from the soil.

As it has for the past 40 years, King County produces Loop from solids extracted during the wastewater treatment process. Using Loop as a soil amendment closes the nutrient loop wherein harvested plants take nutrients from soil, humans obtain nutrients from the plants, and then we return nutrients to soil with Loop.

Loop is an endlessly renewable resource restoring carbon and nutrients to the land for the good of plants, people, and Puget Sound. Loop delivers a full suite of macro- and micronutrients, making it a superior source of plant food over synthetic fertilizers. It has a proven ability to improve soil structure thereby reducing runoff and erosion. Held to rigorous standards by both the EPA and the State of Washington, Loop is safe. Choosing to use Loop as a soil amendment reduces greenhouse gas emissions into the atmosphere. It has enriched Pacific Northwest landscapes as an ingredient in the commercial product GroCo since 1976.

- What is Loop?
- The Science
- Gardens & Landscapes
- Commercial Growers
- About Us
- FAQs
- Contact
- Why is Loop Awesome?
- Galleries

http://www.loopforyoursoil.com/what-is-loop/galleries/

water is life

Implementation schedule

- Research contracts to develop product mixes (2013-14)
- Pilot digester for product testing (2013)
- Pilot blending/marketing project (2015)
- Full scale,10 – 20% to blenders (2016)

water is life

VA DEQ and MDE New Biosolids Source Certification

- VA DEQ requires 90 days of data before a generator can land apply biosolids
- Initially stated that we would have to store 90 days of material digested Class A biosolids (~25,000 tons). Infeasible because:
  - Storage capacity
  - Potential for odors from stored material – poor first impression
- Since then DEQ has agreed to allow for certification of batches
  - Four one week batches, each of which will fit in an individual bunker
  - 5th week production will exceed 1000 tons
- Have sampling and analysis plan in with VA DEQ for review
  - DEQ requiring that we begin 90-day period when digesters reach steady-state
- Staffed up in lab with interns to perform all analysis for the duration of the certification period

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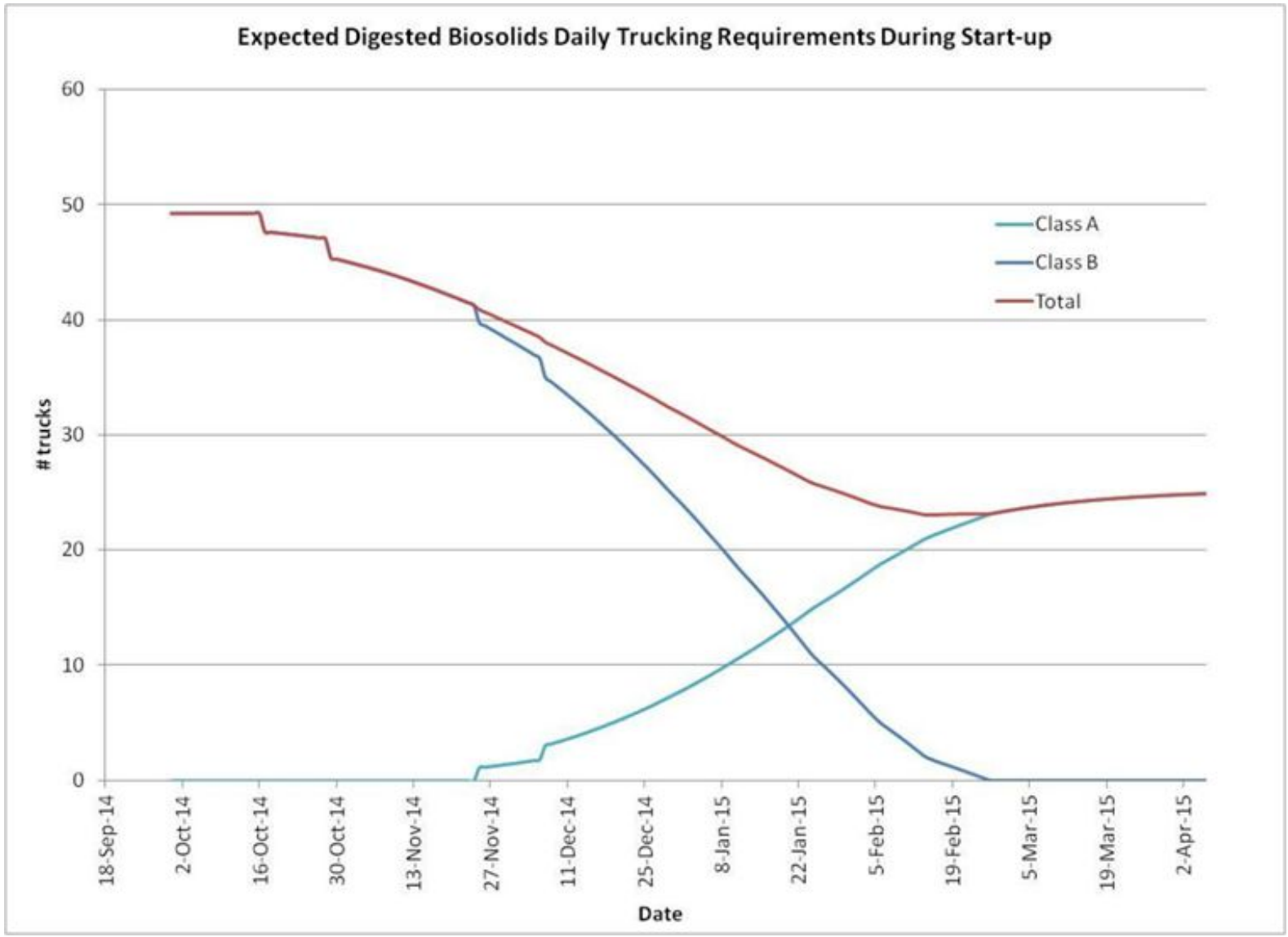

water is life

Summary

- Committed to optimizing the use of this resource within the service area
- Marketing this product will lower operating costs
- Improved environmental stewardship with lower program costs
- Make use of the asset within the service area

There is no such thing as waste, only wasted resources.

Chris Peot, P.E., BCEE
cpeot@dcwater.com

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District of Columbia Water and Sewer Authority
George S. Hawkins, General Manager

Emergency Preparedness at Blue Plains

Jonathan P. Reeves
Manager, Office of Emergency Management

October 16, 2014

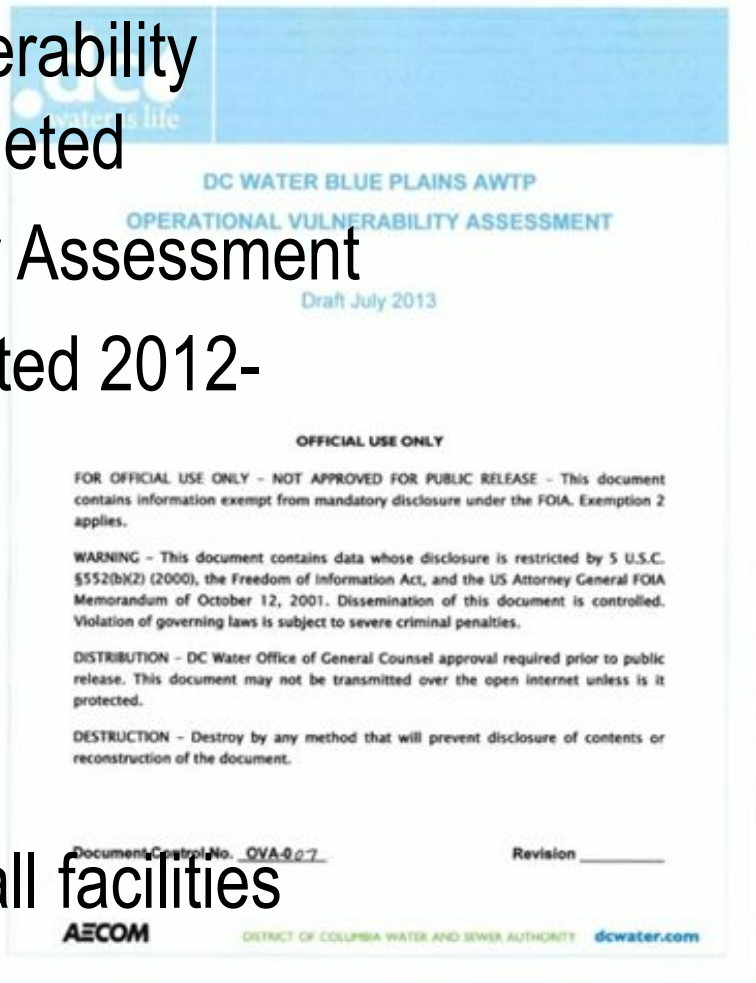
DCWATER.COM

DC Water – Critical Infrastructure Protection Program

- Why do we have a program?
  - DC Water provides water and sewer services to the Nations Capital and the community expects it
  - We are in the Federal city close to federal resources
- Leverage federal critical infrastructure resources to minimize cost to DC Water
- Quantify risks and consequences to DC Water personnel and facilities into actionable CIP activities
- Support operations with actionable intelligence and information

DC Water – Vulnerability Assessments

- March 2014 J-100 Operational Vulnerability Assessment for plant facilities completed
- February 2012 Security Vulnerability Assessment
- DHS Site Assessment Visits completed 2012-2014
- February 2014 Prime power Facility assessments
- Fire Marshal visits annually
- Ongoing FEMS site inspections for all facilities occur at least monthly


DC WATER BLUE PLAINS AWTP

OPERATIONAL VULNERABILITY ASSESSMENT

Draft July 2013

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AECOM DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY dcwater.com

DC Water – Interagency Coordination

- DC Water has an employee in the DC Fusion Center - Nov 2014
- Dedicated Clean Rivers and DC Water Liaison with FEMS
- Identified Liaison with USSS, FBI WMD, DHS
- DC Water provides SME to Federal enforcement and response agencies
- DC Water provides data for NCR and DC THIRA

DC Water – Joint Exercises and Drills

- FBI/Security Office air operations exercise
- WAD DC Water joint response exercise
- DC HSEMA multiagency exercises
- DC Clean Rivers, DC Water, and FEMS joint response drills 4 completed FY 2014
- JBAB joint activation drill
- Army Corps of Engineers prime power exercise and site visit

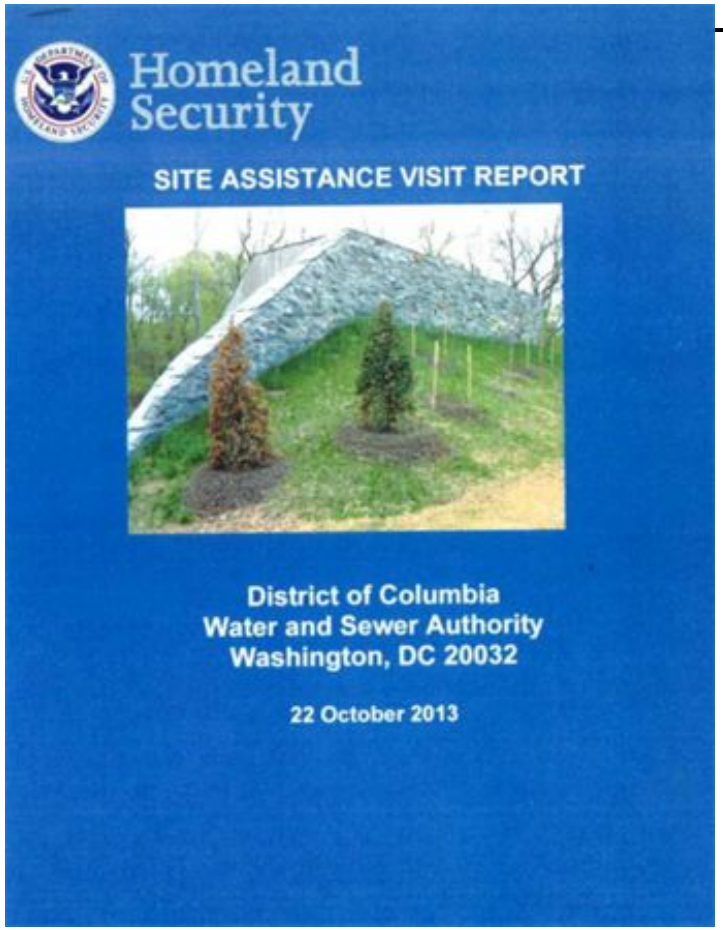
DC Water – Looking Forward

- Complete hiring of Critical Infrastructure Program Manager
- Continue engaging federal partners in exercise opportunities
- Continue leveraging federal funding
- Maintain CIP and EMP programs
- Identify federal assets to support emergency operations
- Joint agency site visits to all DC Water facilities

DC Water – Lessons Learned

- Policies and procedures for response communication and escalation
- Targeted communication of weather-related threat information to the water sector
- Understanding of each sectors 'realities'
- Placement & training of Emergency Liaison Officers
- Joint training and exercises between energy and the water sector

water is life



Q & A

For more information please contact:
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jonathan.reeves@dcwater.com

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