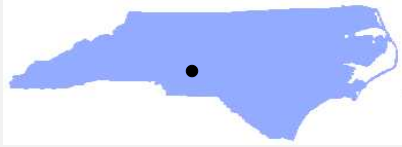


**DENR/DEMLR**  
**FACT SHEET FOR NPDES STORMWATER PERMIT DEVELOPMENT**  
 NPDES No. NCS000546

<b>Facility Information</b>			
Applicant/Facility Name:	Duke Energy Carolinas, LLC - Allen Steam Station		
Applicant Address:	P.O. Box 1006, Mail Code EC13K; Charlotte, North Carolina 28201		
Facility Address:	253Plant Allen Road; Belmont, North Carolina 28012		
Permitted Flow:	N/A (Stormwater Discharges Only)		
Industrial Activities:	Primary SIC Code: 4911 - Electric Services		
Permit Status:	New NPDES Stormwater Permit		
County:	Gaston County		
<b>Miscellaneous</b>			
Receiving Stream:	Catawba River and South Fork River	Regional Office:	Mooreville
Stream Classification:	WS-V and B	State Grid / USGS Quad:	G 14 NE
303(d) Listed?	Hg, statewide	Permit Writer:	Mike Randall
Subbasin:	03-08-34	Date:	March 4, 2015
			
<b>Facility Location:</b> Lat. 35° 11' 35" N Long. 81° 00' 27" W			

BACKGROUND

Allen Steam Station is a fossil-fueled, electric generating plant located approximately four miles southeast of Belmont, North Carolina, in Gaston County. The facility has five active coal-fired generating units with a net generating capacity of 1,155 megawatts. Power production originally began at the site in 1957. In addition to the generation units, the station includes a Flue Gas Desulfurization (FGD) facility, a dry ash handling facility, an active ash settling basin, an ash landfill, ash structural fills, a limestone unloading and stockpile operation, a gypsum stacker and storage operation, a wastewater treatment plant, a 115 kV electrical switchyard, a 230 kV electrical switchyard, a station transformer yard, a coal handling operation and storage yard, and various storage and maintenance buildings.

The Allen Steam Station property encompasses approximately 953 contiguous acres along the Catawba River in the headwaters of Lake Wylie. The station powerhouse and surrounding plant yard, the coal pile, the switchyards, and associated material and equipment storage areas encompass approximately 65 acres. The FGD facility, including the dry ash handling facility, limestone unloading and stockpile operation, gypsum stacker and storage operation, wastewater treatment plant, and all associated FGD construction laydown areas, and parking areas encompass approximately 56 acres. The remaining property is comprised of active and retired ash settling basins, an ash landfill, ash structural fills, and undeveloped areas. The site contains approximately 5 miles of rail lines and approximately 2 miles of paved roadways. Coal and limestone are shipped to the site via these rail lines.

The active ash settling basin has a surface area of approximately 176 acres and a total watershed of approximately 300 acres. Ash is sluiced to the northern section of the basin and discharged into one of three rotating cells. Approximately 64 acres that were previously occupied by a retired ash settling basin are currently the site of an active ash landfill operation.

In developed areas of the property, runoff generally flows overland to ditches and catch basins which are connected to a buried network of corrugated metal pipes (CMP). Concrete, cast iron pipes (CIP), and high-density polyethylene (HDPE) pipes also serve as discharge structures. In most areas, this collected runoff discharges into a system of sumps that pump to the ash settling basin. Areas of the site where stormwater is collected by sumps include areas surrounding the Powerhouse, the coal pile and coal handling areas, the FGD facility, the dry ash handling facility, the limestone unloading area, the gypsum storage area, the wastewater treatment system (WWTS), and the ash landfill.

Stormwater runoff from the station transformer yard and the 115 kV switchyard is routed through oil trap tanks prior to being discharged. Stormwater runoff from all remaining areas of the site is discharged directly to the Catawba River via overland flow or subsurface drain piping.

In addition to NPDES wastewater discharge permit NC0004979, the facility also holds 03757T39 (air permit) and NCD043678937 (Hazardous wastes) and WQ0000452/36-12 (Residual solids permit/Industrial landfill permit). The facility is subject to federal requirements of 40 CFR §423 – Steam Electric Power Generation. This category is subject to federal NPDES stormwater discharge permit requirements per 40 CFR §122.26 (b)(14)(vii).

Allen Steam Station maintains an up-to-date Spill Prevention Control and Countermeasure (SPCC) Plan in place in accordance with the U.S. Environmental Protection Agency (USEPA) Oil Pollution Prevention Regulation 40 CFR Part 112.

The company originally applied to the Stormwater Permitting Program (SPP) for a separate NPDES stormwater discharge permit for this facility in February 2011. A draft permit was proposed and sent to public notice in March 2012. On September 25, 2014, the company submitted materials to revise information in the original application. The new proposed draft permit is based on more recent site activity information, sampling results, and visits by NCDENR staff.

This facility discharges to the Catawba River in the headwaters of Lake Wylie. Lake Wylie is subject to the nutrient management strategy developed for that watershed (Lake Wylie TMDL, 1995). There is also a statewide total maximum daily load (TMDL) for mercury (Hg), approved in September 2012. No specific reductions or Hg limits are required from NPDES stormwater permittees at this time. Duke Energy has developed a decommissioning plan for ash ponds on the site, submitted to the Division of Water Resources (DWR) at the end of 2014.

#### WHY THIS FACILITY IS SUBJECT TO A PERMIT

Federal NPDES regulations define **stormwater discharge associated with industrial activity** in 40 CFR §122.26 (b)(14) as:

“the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under this part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water [sic] discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter);

sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and **areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.** For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water [sic] drained from the above described areas.”

PROPOSED MONITORING FOR STORMWATER DISCHARGES

The Division considered potential pollutants from past and present industrial activities (coal-fired electric generation, plant decommissioning, and future ash removal) and data submitted August and November, 2014, and in April and June, 2009. Sampling included O&G, COD, Cl, Fl, SO<sub>4</sub>, Hg, Al, As, Ba, B, Ca, Cd, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Se, Sb, Tl, Zn, TDS, TSS, conductivity, and pH.

Unlike most stormwater permits in its program, the Division is proposing a permit structure with outfall-specific monitoring for discharges. Parameters are based on potential pollutants in the drainage area, sampling results, and in some cases, dependent upon future activities (e.g., ash removal through the drainage area). Below is a table of the proposed monitoring for each outfall at the Allen Steam Station site. **All outfalls ultimately discharge to the Catawba River.**

<b>Stormwater Discharge Outfall (SDO) Monitoring</b>	
<b>Outfalls SW001 and SW001A, SW003, SW007, SW008, SW009, SW010, SW013, SW015, SW016, and SW020</b>	
<i>Draining Access Road Areas and Rail Lines</i>	
Total Suspended Solids (TSS)	Semi-annual monitoring ( <i>quarterly if coal or ash transport</i> ). <b>BASIS:</b> Potential pollutant from drainage area and BMP effectiveness indicator. These outfalls may be impacted by a Phase I Coal Ash Excavation Plan (hauling ash from Ash Stack).
Priority Pollutant Metals Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, and Zn.	<b>Quarterly</b> monitoring <i>only if coal or coal ash transported through this drainage area</i> . <b>BASIS:</b> Coal combustion waste (CCW) constituents; includes metals incorporated into the coal ash monofill constructed for the company's Mayo Steam Electric Plant. Monitoring is quarterly because this outfall will be impacted by Phase I of the Coal Ash Excavation Plan.
Boron	<b>Quarterly</b> monitoring <i>only if coal or coal ash transported through this drainage area</i> . <b>BASIS:</b> Coal combustion waste (CCW) constituent / coal tracer. These outfalls may be impacted by a Phase I Coal Ash Excavation Plan (hauling ash from Ash Stack).
pH	<b>Quarterly</b> monitoring <i>only if coal or coal ash transported through this drainage area</i> . <b>BASIS:</b> Pollutant indicator and important to interpreting toxicity potential of metals. These outfalls may be impacted by a Phase I Coal Ash Excavation Plan (hauling ash from Ash Stack).

- Outfalls SW001 and SW001A (Drainage Area 1) includes approximately 2,000 linear feet of rail lines and undeveloped wooded areas upland of the rail lines.
- Outfall SW003 (Drainage Area 3) includes approximately 1,500 linear feet of rail lines.
- Outfall SW007 (Drainage Area 7) includes approximately 1,500 linear feet of rail lines, and 400 linear feet of gravel roadway and 400 linear feet of limestone conveyor.
- Outfall SW008 (Drainage Area 8) includes approximately 2,400 linear feet of rail lines, and 1000 linear feet of paved road and 400 linear feet of limestone conveyor.
- Outfall SW009 (Drainage Area 9) includes approximately 940 linear feet of rail lines.
- Outfall SW010 (Drainage Area 10) includes approximately 1,280 linear feet of rail lines.
- Outfall SW013 (Drainage Area 13) includes approximately 12,400 linear feet of gravel road and 750 linear feet of rail lines.
- Outfall SW015 (Drainage Area 15) includes a large soil borrow area, two ash structure fill areas, and approximately a one mile gravel and dirt road.
- Outfall SW016 (Drainage Area 16) includes approximately 1,700 linear feet of paved access road, 1,000 linear feet of a paved ash haul road, 700 linear feet of paved road south of the access road, 1,000 linear feet of dirt roads and a gravel laydown and equipment parking area north of the access road.
- Outfall SW020 (Drainage Area 20) includes approximately 1,300 linear feet of paved access road, and an earth spoil area and a gravel construction parking area and storage area.

<b>Stormwater Discharge Outfall (SDO) Monitoring</b>	
<b>Outfalls SW011, Outfall SW012, and SW018</b>	
<i>Draining powerhouse and switchyard areas</i>	
Polychlorinated Biphenyls (PCBs)	Monitored semi-annually; <b>may be discontinued after the first year (two samples) if not detected. BASIS:</b> Electrical equipment in these drainage areas (powerhouse and switchyard areas) may have contained PCBs, which persist in the environment if ever released. If all PCBs have been removed and past releases cleaned up, these compounds should not be detected.
Copper	Semi-annual monitoring. <b>BASIS:</b> Coal combustion waste (CCW) constituent; very high concentrations measured in discharge from
Selenium	Semi-annual monitoring. <b>BASIS:</b> Coal combustion waste (CCW) constituent.
Mercury	Semi-annual monitoring with Method 1631E. <b>BASIS:</b> Coal combustion waste (CCW) constituent.
Zinc	Semi-annual monitoring. <b>BASIS:</b> Coal combustion waste (CCW) constituent.
Total Suspended Solids (TSS)	Semi-annual monitoring. <b>BASIS:</b> Potential pollutant from drainage area and BMP effectiveness indicator.
Non-polar Oil & Grease (Method 1664 SGT-HEM)	Semi-annual monitoring. <b>BASIS:</b> Potential pollutant from lubricants; Method 1664 SGT-HEM targets petroleum-based O&G.
pH	Semi-annual monitoring. <b>BASIS:</b> Pollutant indicator and important to interpreting toxicity potential of metals.

Drainage Area 11 includes developed areas south and southwest of the station Powerhouse. The drainage area includes approximately 5.3 acres of impervious areas comprised of roof drainage, paved parking areas, switchyard, and the station access road. The drainage area includes approximately 3,100 linear feet of rail lines and 1,600 linear feet of ash sluice piping, transformers and electrical equipment, and a 500 gallon aboveground gasoline tank. Uncontained tanker unloading takes place within Drainage Area 11. Contained areas of the transformer and switchyard are directed to the 65,300 gallon oil trap tank.

Drainage Area 12 is primarily comprised of gravel covered surfaces and vegetative yard areas west of the station powerhouse. The drainage area is comprised of a transformer yard and a graveled surface switchyard and includes ten large transformers, approximately 1,400 linear feet of rail lines, 300 linear feet of paved road, and 800 linear feet of ash sluice piping. The transformers are located in a curbed gravel containment directed to a 100,000 gallon oil trap tank. The oil trap tank discharges through SW012.

Drainage Area 18 includes approximately 2,000 linear feet of paved access road and 250 linear feet of a paved ash haul road. The area includes 150 linear feet of ash sluice piping and a gravel switchyard.

<b>Outfall SW019</b>	
Drainage Area 19 includes undeveloped and active soil borrow areas. All runoff is directed to a sedimentation basin located north east of the borrow area.	
Total Suspended Solids (TSS)	Semi-annual monitoring. <b>BASIS:</b> Potential pollutant from drainage area and BMP effectiveness indicator.
pH	Semi-annual monitoring. <b>BASIS:</b> Pollutant indicator and important to interpreting toxicity potential of metals.

Drainage Area 19 includes undeveloped and active soil borrow areas. All runoff is directed to a sedimentation basin located north east of the borrow area.

### **Outfall SW004 (Drainage Area 4), Outfall SW006 (Drainage Area 6), Outfall SW014 (Drainage Area 14)**

Outfalls SW004 (Drainage Area 4), SW006 (Drainage Area 6), SW014 (Drainage Area 14), SW017 (Drainage Area 17), and SW021 (Drainage Area 21) do not include industrial activities. Any modifications to Outfalls SW004, SW006, SW014, and SW017 that result in a potential stormwater discharge associated with past or present industrial activities will require a modification to this permit.

### **Drainage Area 5 – sheet flow**

Drainage Area 5 is primarily comprised of a gravel laydown yard and vegetated slopes located west and upland of the limestone unloading area. The gravel laydown yard comprises approximately 3 acres. The drainage area also includes approximately 500 linear feet of paved roadway. Drainage Area 5 sheet flows and not subject to an NPDES permit.

#### STORMWATER BENCHMARKS AND TIERED RESPONSE

Rather than limits, North Carolina NPDES Stormwater permits contain benchmark concentrations. Stormwater benchmarks are numerical action levels for stormwater monitoring. **Benchmarks are not effluent limits, and benchmark exceedances are not permit violations.** Benchmarks provide facilities a tool for assessing the significance of pollutants in stormwater discharges and the effectiveness of best management practices (BMPs). Benchmark concentrations are intended as guidelines for the facility's development and implementation of the Stormwater Pollution Prevention Plan (SPPP).

Benchmark exceedances require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater BMPs in a tiered program. The permit establishes a tiered approach to specify actions the permittee must take in response to analytical results above benchmark concentrations (Part II, Section B., following Table 10). The tiered structure of the permit provides the permittee and NCDEMLR wide flexibility to address issues that may arise with one or more parameters and/or outfalls.

Metals benchmarks are calculated to mimic acute water quality standards and with the guidance of NC's Division of Water Resources (DWR). NC DWR follows established federal procedures for calculating acute standards when developing the benchmarks. Just like the acute standards, metals benchmarks normally reflect one half of the calculated Final Acute Value (the "½ FAV"). In most cases, translation into total recoverable values is based on an assumed hardness of 25 mg/l and a total suspended solids (TSS) concentration of 10 mg/l. Acute standards protect aquatic life from negative impacts of short-term exposure to higher levels of chemicals where the discharge enters a waterbody. The Stormwater Permitting Program applies this approach because of the ephemeral nature of rainfall events.

The Division may evaluate results to determine if a smaller suite of parameters for some outfalls is adequate to characterize potential pollution or BMP effectiveness. For example, one or more metals or other parameters may serve as an adequate tracer for the presence of ash pollution during disturbance or ash removal in specific drainage areas at this site. For parameters that do not have a stormwater benchmark, the Division may develop a benchmark value if appropriate toxicity data become available or if rising trends in concentrations suggest a persistent source.

A summary of the benchmarks in the draft permit, and their basis, is below:

Parameter	Benchmark	Basis
Antimony (Sb), mg/L (Total)	0.09	Acute Aquatic Criterion, ½ FAV
Arsenic (As), mg/L (Total)	0.34	Acute Aquatic Criterion, ½ FAV
Beryllium (Be), mg/L (Total)	0.065	Acute Aquatic Criterion, ½ FAV
Cadmium (Cd), mg/L (Total)	0.003	Acute Aquatic Criterion, ½ FAV
Chromium (Cr), mg/L (Total)	0.9	½ FAV, based on (Cr III + Cr VI) acute thresholds and assumption that industrial activities here are not a source of hexavalent chromium.
Copper (Cu), mg/L (Total)	0.010	Acute Aquatic Criterion, ½ FAV
Lead (Pb), mg/L (Total)	0.075	Acute Aquatic Criterion, ½ FAV
Mercury (Hg), ng/L (Total)	N/A	Monitoring only, CCW/Coal Constituent. Hg influenced by regional transport and wet deposition. Values above 12 ng/L (NC WQ standard) should be noted on the DMR but do not trigger Tier Responses.
Nickel (Ni), mg/L (Total)	0.335	Acute Aquatic Criterion, ½ FAV
Polychlorinated biphenyl compounds (PCBs), µg/L	Detected	NC Water Quality Standards vs. present Arochlors quantitation levels (higher than standard)
Selenium (Se), mg/L (Total)	0.056	½ FAV, NC-specific, based on 1986 Study on Se impacts in North Carolina
Silver (Ag), mg/L (Total)	0.0003	Acute Aquatic Criterion, ½ FAV. (The Division notes this value is below the practical quantitation level (PQL) of 1 µg/L of EPA Method 200.8)
Boron (B), mg/L	N/A	Monitoring only, CCW/Coal Constituent. Narrative National Recommended Water Quality Criterion.
Thallium (Tl), mg/L (Total)	N/A	Monitoring Only, CCW/Coal constituent. National Recommended Human Health Criterion.
Zinc (Zn), mg/L (Total)	0.126	Acute Aquatic Criterion, ½ FAV
Total Suspended Solids (TSS), mg/L	100	National Urban Runoff Program (NURP) Study, 1983
Non-Polar Oil & Grease, EPA Method 1664 (SGT-HEM), mg/L	15	Review of other state's daily maximum benchmark concentration for this more targeted O&G; NC WQ Standard that does not allow oil sheen in waters.
pH	6-9	NC Water Quality Standard (Range)

#### STORMWATER POLLUTION PREVENTION PLAN

The proposed permit conditions reflect the Environmental Protection Agency's (EPA) and North Carolina's pollution prevention approach to stormwater permitting. The Division's maintains that implementation of Best Management Practices (BMPs) and traditional stormwater management practices that control the source of pollutants meets the definition of Best Available Technology (BAT) and Best Conventional Pollutant Control Technology (BCT). The permit conditions are not numeric effluent limitations but are designed to be flexible requirements for implementing site-specific plans to minimize and control pollutants in stormwater discharges associated with the industrial activity. Title 40 Code of Federal Regulations (CFR) §122.44(k)(2) **authorizes the use of**

**BMPs in lieu of numeric effluent limitations in NPDES permits when the agency finds numeric effluent limitations to be infeasible.** The agency may also impose BMP requirements which are "reasonably necessary" to carry out the purposes of the Act under the authority of 40 CFR 122.44(k)(3). The conditions proposed in this draft permit are included under the authority of both of these regulatory provisions. In essence, the pollution prevention and BMP requirements operate as limitations on effluent discharges that reflect the application of BAT/BCT.

#### MERCURY MONITORING REQUIREMENTS

The proposed permit requires mercury to be measured in stormwater samples by EPA Method 1631E, which can detect levels as low as 0.5 ng/l. This requirement is consistent with recent federal rule-making that requires NPDES permittees to monitor discharges with sufficiently sensitive test procedures approved under 40 CFR §136. Modifications to 40 CFR §122.44(i) require a method that has a minimum level (ML) at or below the effluent limit (not applicable here), or the lowest minimum level (ML) of EPA approved analytical methods for the measured parameter. Based on results, Method 1631E will be required to quantify levels in these discharges. NC DEMLR understands that this method is more costly and requires a more intensive sampling protocol than most other parameters, and that fish tissue sampling will be provided during the permit cycle. Therefore, no benchmark applies that would trigger tiered response actions. Proposed permit provisions also allow the permittee to use field blank and/or method blank concentrations to adjust reported mercury levels as long as documented is submitted with the Data Monitoring Report (DMR).

#### FLEXIBILITY IN TIER RESPONSES

**Tier Two** actions (upon two consecutive benchmark exceedances at an outfall) proposed in this draft permit differs slightly from the Program's standard template and includes **step 6**. That step provides an opportunity for the permittee to propose an **alternative monitoring plan for approval** by the Region:

1. *Alternatively*, in lieu of steps 2 and 3, the permittee may, after two consecutive exceedances, exercise the option of contacting the DEMLR Regional Engineer as provided below in Tier Three. The Regional Engineer may direct the response actions on the part of the permittee as provided in Tier Three, including reduced or additional sampling parameters or frequency.
2. If pursuing the alternative above after two consecutive exceedances, the permittee may propose an **alternative monitoring plan** for approval by the Regional Engineer.

The permit therefore allows the permittee to petition the Regional Office for monitoring changes *sooner than Tier Three* (upon any four benchmark exceedances) and gives guidance on one option to take. For example, the permittee may request that mercury only be monitored semi-annually under the tiers, or that only parameters over the benchmark be monitored more frequently. In this way, changes to the monitoring scheme for any outfall could be handled outside of a permit modification.

#### OTHER PROPOSED REQUIREMENTS

- It is standard for Stormwater Pollution Prevention Plan (SPPP) requirements to include an annual certification that stormwater outfalls have been evaluated for the presence of *non-stormwater* discharges, and if any are identified, how those discharges are permitted or otherwise authorized. The draft permit requires this **facility to submit the first certification to DEMLR no later than 90 days after the effective date of the permit** (Part II, Section A.).
- Requirement to submit a request for permit modification if the facility identifies or creates any new outfalls, removes outfalls, or alters any drainage area that changes potential



pollutants. This site may trigger this requirement during demolition or ash removal activities.

- Standard text that allows a permittee to forgo collecting samples outside of regular operating hours was omitted in Part II because this power plant is not currently operating. The Division expects the permittee to apply best professional judgment and consider the safety of its personnel in fulfilling sampling obligations under the permit.
- Proposed federal regulations will require electronic submittal of all discharge monitoring reports (DMRs). If a state does not establish a system to receive such submittals, then permittees must submit DMRs electronically to the Environmental Protection Agency (EPA). The Division anticipates that these regulations will be adopted and is beginning implementation. Permit provisions addressing this impending requirement is included in Part III, Section B. (General Conditions), 3.e.
- **Quarterly** Qualitative/Visual Monitoring to assure regular observation of outfalls throughout year.

PROPOSED SCHEDULE FOR PERMIT ISSUANCE:

Draft Permit to Public Notice: [March 2015](#) (est.)  
Permit Scheduled to Issue: [June 2015](#) (est.)

STATE CONTACT:

If you have any questions about any of the above information or the attached permit, please contact Mike Randall at (919) 807-6374 or [mike.randall@ncdenr.gov](mailto:mike.randall@ncdenr.gov)

STORMWATER SAMPLING RESULTS FROM ALLEN STEAM STATION AUGUST 11, 2014:

Parameter	Current Benchmark	SW008	SW010
Rainfall Data	N/A	0.45 inches	0.45 inches
Oil and Grease	30 (15, non-polar)	< 5 mg/l	< 5 mg/l
Aluminum	0.75 mg/l	<b>2.34 mg/l</b>	0.688 mg/l
Antimony	N/A	< 1 µg/l	< 1 µg/l
Arsenic	0.34 mg/l	1.12 µg/l	1.79 µg/l
Barium	N/A	0.038 mg/l	0.026 mg/l
Boron	N/A (monitor only)	< 0.05 mg/l	< 0.05 mg/l
Cadmium	0.003 mg/l	< 1 µg/l	< 1 µg/l
Calcium	N/A	33.4	28
Chromium	0.9 (Cr III) mg/l 0.016 (Cr VI) mg/l	2.5 µg/l	1.43 µg/l
Copper	0.010 mg/l	6.87 µg/l	5.41 µg/l
Iron	N/A	3.61 mg/l	1.16 mg/l
Lead	0.075 mg/l	2.32 µg/l	1.13 µg/l
Magnesium	32 mg/l	2.29 mg/l	1.57 mg/l
Manganese	N/A	0.076 mg/l	0.02 mg/l
Nickel	0.335 mg/l	2.93 µg/l	< 1 µg/l
Selenium	0.056 mg/l	2.24 µg/l	7.32 µg/l
Thallium	N/A (monitor only)	< 0.2 µg/l	< 0.2 µg/l
Zinc	0.126 mg/l	0.048 mg/l	0.067 mg/l
Mercury	12 ng/l	< 0.05 µg/l	< 0.05 µg/l
TSS	100 mg/l	46 mg/l	12 mg/l
pH	6-9	6.95	6.24
Chloride	860 mg/l	0.28 mg/l	0.86 mg/l
COD	120 mg/l	< 20 mg/l	<20 mg/l
Sulfate	500 mg/l	55 mg/l	50 mg/l
Fluoride	N/A	< 0.1 mg/l	0.13 mg/l

STORMWATER SAMPLING RESULTS FROM ALLEN STEAM STATION NOVEMBER 2014:

Parameter	Current Benchmark	SW001 Nov 1, 2014	SW002 Nov 24, 2014	SW004 Nov 17, 2014	SW006 Nov 17, 2014
Rainfall Data	N/A	0.77 inches	1.64 inches	0.44 inches	0.44 inches
Oil and Grease	30 (15, non-polar)	< 5 mg/l	< 5 mg/l	< 5 mg/l	< 5 mg/l
Aluminum	0.75 mg/l	<b>4.71 mg/l</b>	0.02 mg/l	0.788 mg/l	0.064 mg/l
Antimony	N/A	< 1 µg/l	< 1 µg/l	< 1 µg/l	< 1 µg/l
Arsenic	0.34 mg/l	1.25 µg/l	< 1 µg/l	1.18 µg/l	< 1 µg/l
Barium	N/A	0.031 mg/l	0.016 mg/l	0.03 mg/l	0.018 mg/l
Boron	N/A (monitor only)	0.072 mg/l	< 0.083 mg/l	< 0.227 mg/l	< 0.05 mg/l
Cadmium	0.003 mg/l	< 1 µg/l	< 1 µg/l	< 1 µg/l	< 1 µg/l
Calcium	N/A	14.4 mg/l	90.9 mg/l	52.4 mg/l	53.3 mg/l
Chromium	0.9 (Cr III) mg/l 0.016 (Cr VI) mg/l	<b>3.84 mg/l</b>	< 1 mg/l	< 1 mg/l	< 1 mg/l
Copper	0.010 mg/l	11.9 µg/l	< 1 µg/l	2.63 µg/l	< 1 µg/l
Iron	N/A	6.99 mg/l	0.09 mg/l	1.12 mg/l	0.074 mg/l
Lead	0.075 mg/l	5.44 µg/l	< 1 µg/l	< 1 µg/l	< 1 µg/l
Magnesium	32 mg/l	2.81 mg/l	12.1 mg/l	2.87 mg/l	4.12 mg/l
Manganese	N/A	0.205 mg/l	0.067 mg/l	0.028 mg/l	0.006 mg/l
Nickel	0.335 mg/l	2.52 µg/l	< 1 µg/l	< 1 µg/l	< 1 µg/l
Selenium	0.056 mg/l	< 1 µg/l	1.09 µg/l	5.39 µg/l	1.83 µg/l
Thallium	N/A (monitor only)	0.202 µg/l	< 0.2 µg/l	< 0.2 µg/l	< 0.2 µg/l
Zinc	0.126 mg/l	<b>2.8 mg/l</b>	0.032 mg/l	0.012 mg/l	0.013 mg/l
Mercury	12 ng/l	< 0.05 µg/l	< 0.05 µg/l	< 0.05 µg/l	< 0.05 µg/l
TSS	100 mg/l	<b>130 mg/l</b>	< 5 mg/l	14 mg/l	< 5 mg/l
pH	6-9		7.4	7.36	7.09
Chloride	860 mg/l	2.3 mg/l	9.3 mg/l	1.6 mg/l	1.4 mg/l
COD	120 mg/l	<b>150 mg/l</b>	<20 mg/l	<20 mg/l	<20 mg/l
Sulfate	500 mg/l	9.8 mg/l	110 mg/l	100 mg/l	110 mg/l
Fluoride	N/A	1.5 mg/l	0.12 mg/l	0.1 mg/l	0.12 mg/l

STORMWATER SAMPLING RESULTS FROM ALLEN STEAM STATION NOVEMBER 2014 (CONTINUED):

Parameter	Current Benchmark	SW009 Nov 17, 2014	SW013 Nov 17, 2014	SW016 Nov 17, 2014
Rainfall Data	N/A	0.44 inches	0.44 inches	0.44 inches
Oil and Grease	30 (15, non-polar)	< 5 mg/l	< 5 mg/l	< 5 mg/l
Aluminum	0.75 mg/l	0.092 mg/l	0.034 mg/l	<b>2.38 mg/l</b>
Antimony	N/A	< 1 µg/l	< 1 µg/l	1.25 µg/l
Arsenic	0.34 mg/l	<1.37 µg/l	2.01 µg/l	15.1 µg/l
Barium	N/A	0.027 mg/l	0.046 mg/l	0.072 mg/l
Boron	N/A (monitor only)	< 0.05 mg/l	< 0.05 mg/l	0.269 mg/l
Cadmium	0.003 mg/l	< 1 mg/l	< 1 mg/l	< 1 mg/l
Calcium	N/A	42.1 mg/l	57.2 mg/l	32.9 mg/l
Chromium	0.9 (Cr III) mg/l 0.016 (Cr VI) mg/l	< 1 mg/l	< 1 mg/l	6.79 mg/l
Copper	0.010 mg/l	1.92 µg/l	2.83 µg/l	6.01 µg/l
Iron	N/A	0.136 mg/l	0.053 mg/l	2.48 mg/l
Lead	0.075 mg/l	< 1 µg/l	< 1 µg/l	1.68 µg/l
Magnesium	32 mg/l	3.45 mg/l	5.22 mg/l	4.51 mg/l
Manganese	N/A	< 0.005 mg/l	0.005 mg/l	0.039 mg/l
Nickel	0.335 mg/l	< 1 µg/l	< 1 µg/l	< 1 µg/l
Selenium	0.056 mg/l	19.9 µg/l	5.26 µg/l	7.01 µg/l
Thallium	N/A (monitor only)	< 0.2 µg/l	< 0.2 µg/l	< 0.2 µg/l
Zinc	0.126 mg/l	0.188 mg/l	0.073 mg/l	0.048 mg/l
Mercury	12 ng/l	< 0.05 µg/l	< 0.05 µg/l	< 0.05 µg/l
TSS	100 mg/l	< 5 mg/l	< 5 mg/l	41 mg/l
pH	6-9	7.83	7.57	6.87
Chloride	860 mg/l	1.9 mg/l	3.6 mg/l	4.1 mg/l
COD	120 mg/l	<20 mg/l	<20 mg/l	<20 mg/l
Sulfate	500 mg/l	62 mg/l	74 mg/l	60 mg/l
Fluoride	N/A	0.24 mg/l	0.11 mg/l	0.22 mg/l

STORMWATER SAMPLING RESULTS FROM ALLEN STEAM STATION JUNE 5 AND APRIL 20, 2009

<b>Parameter</b>	<b>Current Benchmark</b>	<b>SW008 June 5, 2009</b>	<b>SW015 April 20, 2009</b>
Oil and Grease	30 (15, non-polar)	< 4.8 mg/l	< 4.4 mg/l
Aluminum	0.75 mg/l	27.0 mg/l	0.35 mg/l
Arsenic	0.34 mg/l	< 0.050 mg/l	20 µg/l
Barium	N/A	0.470 mg/l	0.080 mg/l
Boron	N/A (monitor only)	< 0.050 mg/l	0.33 mg/l
Cadmium	0.003 mg/l	< 0.00010 mg/l	< 0.10 mg/l
Chromium	0.9 (Cr III) mg/l 0.016 (Cr VI) mg/l	0.020 mg/l	< 5 µg/l
Copper	0.010 mg/l	<0.058 mg/l	< 10 µg/l
Iron	N/A	36 mg/l	1.8 mg/l
Magnesium	32 mg/l	17.0 mg/l	5.3 mg/l
Manganese	N/A	1.00 mg/l	0.60 mg/l
Nickel	0.335 mg/l	0.019 mg/l	< 10 µg/l
Selenium	0.056 mg/l	< 0.050 mg/l	< 5 µg/l
Mercury	12 ng/l	0.00014 mg/l	< 0.0001 mg/l
TSS	100 mg/l	1500 mg/l	25 mg/l
Chloride	860 mg/l	< 1.0 mg/l	5.4 mg/l
COD	120 mg/l	80 mg/l	16 mg/l
Sulfate	500 mg/l	26 mg/l	38 mg/l
Fluoride	N/A	0.30 mg/l	0.12 mg/l