

# **Tarentum Borough Municipal Separate Storm Sewer System (MS4)**

## **Stormwater Management Program**

located in

**Tarentum Borough, Allegheny County, Pennsylvania  
(PAG136248)**

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## INTRODUCTION

Stormwater runoff (i.e. rainfall and snowmelt runoff) in urbanized areas has for quite some time been associated as a source of pollution into surface waters such as rivers, streams, lakes and coastal waters throughout the United States. As rainfall runoff travels overland, it can pick up and convey pollutants such as salts, grit, oils and grease from roads and parking lots, nutrients, herbicides and pesticides from lawn treatments, sediments from construction areas, thermal pollution from hot rooftops and pavement, as well as trash and chemical spills that are susceptible to coming into contact with stormwater. As such, stormwater discharges through Municipal Separate Storm Sewer Systems (MS4) are being brought into the fold for federal and state regulation of discharges from point sources (i.e. pipes, manmade channels and ditches, etc.) into surface waters of the United States in an effort to protect and improve the quality of our surface waters.

In 2003, the Pennsylvania Department of Environmental Protection (PADEP) identified Tarentum Borough in Allegheny County, Pennsylvania as a Phase II Municipal Separate Storm Sewer System (MS4) community. A Phase II MS4 community is a community with a population less than 100,000 within or whose MS4 discharges within an urbanized area as designated by the 2000 US Census. Thus the Borough's MS4 is required to be permitted under the National Pollutant Discharge Elimination System (NPDES) permitting program for point-source discharges into surface waters of the United States under the federal Clean Water Act of 1972 and as amended in 1990.

The United States Environmental Protection Agency (EPA) defines an MS4 on its stormwater website as conveyance or system of conveyances that is:

- Owned by a state, Borough, town, village, or other public entity that discharges to waters of the U.S.;
- Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.);
- Not a combined [storm and sanitary] sewer; and
- Not part of a Publicly Owned Treatment Works (sewage treatment plant).

Federal regulation of Phase II MS4s began in 1999 and are typically regulated under a general or individual NPDES permit. The US EPA has delegated the PADEP to oversee and enforce Phase II MS4s throughout the Commonwealth of Pennsylvania with the PADEP developing a protocol for Phase II MS4 permittees to follow that is compliant and consistent with the EPA's Phase II MS4 permitting objectives to reduce the discharge of pollutants to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. In order to achieve these objectives, the PADEP has

required each Phase II MS4 permittee to develop and implement six Minimum Control Measures (MCMs) as defined by the EPA. These MCMs are identified and defined as such:

**MCM #1: Public Education and Outreach** – Distribute educational materials and perform outreach to inform residents and businesses about the impacts of polluted stormwater discharges on the quality of the water of the community’s streams, ponds, rivers and lakes.

**MCM #2: Public Participation and Involvement** – Provide opportunities for residents, businesses and other stakeholders within the community to assist in the stormwater program implementation through such means as participation in public hearings, distribution of stormwater educational material, assistance with monitoring MS4 outfalls for non-stormwater discharges and volunteering in roadside and/or streamside litter collection campaigns.

**MCM #3: Illicit Discharge Detection and Elimination** – Develop a plan to monitor, detect and eliminate non-stormwater discharges through the MS4.

**MCM#4: Construction Site Stormwater Management** – Develop, implement and enforce an erosion and sedimentation control program for construction sites and other land disturbance activities.

**MCM #5: Post-Construction Stormwater Management** – Develop, implement and enforce a program to address stormwater discharges from new site developments or redevelopments.

**MCM #6: Pollution Prevention and Good Housekeeping** – Develop and implement a program for maintaining and operating the MS4, as well as develop and implement a program for prevention or minimization of pollutant loading into the MS4 from municipal operations.

The following sections of this program describe in greater detail specific actions that the Borough has taken and/or is planning to take to implement each of these Minimum Control Measures.

## **Minimum Control Measure No. 1: Public Education and Outreach**

The objective of this control measure is to heighten public awareness of the impacts that urban stormwater runoff can have on local as well as regional streams, rivers, lakes and other surface waters as well as what actions that residents and businesses within the community can have to reduce or prevent pollution that enters into the MS4. This can be achieved through the distribution of educational materials and conducting community outreach to inform and instruct residents, businesses and other stakeholders.

### **Educational Posters and Pamphlets:**

Educational posters and pamphlets are on display at the Borough office and are available to Borough residents as well as contractors/developers at the Borough building. The Borough provided stormwater educational flyers as inserts in the water reports and bills to its approximately 2,500 water customers. A Borough MS4 webpage with links to the DEP stormwater web site and the EPA MS4 web site are to be added to the Borough's web site.

### **Websites:**

The Borough website will be updated to include a stormwater/MS4 webpage as well as post other MS4 educational material.

[www.tarentumboro.com](http://www.tarentumboro.com)

### **Storm Drain Markings:**

Through volunteer efforts, the Borough succeeded in stencilling all of its storm drain inlets throughout the municipality. The Borough is investigating the use of more permanent acrylic or metal signs that can be affixed directly onto or adjacent to the storm inlets.

### **School age education:**

The Borough may sponsor a coloring, poster, or paper contest on storm water management ideas. Other educational program that are geared toward younger audiences can help foster awareness of water quality and a sense of stewardship toward protection of our rivers, streams and other waterways.

**Newspaper:**

Many residents of Tarentum Borough read the Valley Dispatch. MS4 and stormwater educational advertisements can be placed in the paper twice a year. A spring ad will advise residents not to over fertilize, and to not blow their grass into the streets. A summer ad would advise residents to wash their autos on their lawns to help to water their grass. The fall ad will encourage residents to mulch their leaves into their grass and not to rake them out to the curb.

**Annual Potable Water Report:**

Being that the Borough owns and operates the potable water treatment and distribution system that serves the borough residents and businesses, the Borough is responsible for publishing and distributing its annual water quality report. The Borough can include MS4 and stormwater educational flyers with the report which is distributed to every water customer as well as posted on the Borough's website.

**Meetings:**

Public meetings are held on the third Monday of every month at the Borough's building. Among other topics, attendants at the meetings are informed about the MS4 program and other environmental issues in the Borough.

## **Minimum Control Measure No. 2: Public Participation and Involvement**

The objective of this control measure is to provide opportunities for residents, businesses and other stakeholders within the community to assist in the implementation of certain tasks of the stormwater management program. This can be achieved through such means as participation in public hearings, distribution of stormwater educational material, assistance with monitoring MS4 outfalls for non-stormwater discharges and volunteering in roadside and/or streamside litter collection campaigns.

An active public participation element will promote the community's stewardship of Tarentum Borough's MS4. The goal of the Public Participation Component is to develop mechanisms for public participation in the development and implementation of Tarentum Borough's Stormwater Management Program.

The Borough successfully recruited local Boy Scouts of America Troop 101 to assist in the stenciling of all of the Borough's MS4 inlets. The Borough is maintaining an open line of communication with this troop for maintenance of the stenciled signs. The Borough has also entered into an agreement with Waste Management for collection and disposal of household hazardous wastes. In addition, a river clean-up in conjunction with Paddle for Pollution was conducted in May.

The Borough is in the process of developing a webpage devoted to stormwater education and MS4 information which will be added to the official Borough website. This webpage will solicit help from residents in simple steps they can take to help prevent stormwater pollution. Links to the DEP brochures and pamphlets on stormwater control and awareness.

The Borough will continue to reach out to various organizations such as Highlands School District and the Penn State New Kensington campus for assistance with implementing some of its MS4 programs.

### **Minimum Control Measure No. 3: Illicit Discharge Detection and Elimination (IDD&E)**

Any discharge into a storm drain system that is not composed entirely of stormwater is an illicit discharge as defined by the EPA and the PADEP. Illicit discharges can enter the storm drain system either through accidental means (i.e. spills, chemical storage tank failures, roadway accidents, cracked sanitary pipes allowing wastewater to infiltrate into the storm drain system); negligence (i.e. uncovered salt stockpiles, open bags of lawn fertilizer exposed to rainfall, vehicles leaking oil or antifreeze); or willful discharging of wastes (i.e. disposing grass clippings along stream banks, pouring used motor oil down catch basins, illegal sanitary lateral connections into the storm drain system). Pollutant loads from illegal discharges have often been found to be substantial enough to significantly degrade the quality of receiving waters and to pose as a health threat to aquatic life and humans who come into contact with these impaired waters.

#### **Adoption of Ordinance:**

To date, the DEP model ordinance for illicit discharges and connections (ID&C) has not been adopted. The Borough will work to pass a resolution of the ID&C prohibitions. However, full adoption of the ID&C prohibitions will be done after the new DEP model stormwater has been finalized so that the Borough will only need to advertize the proposed ordinance one time in order to save money.

This ordinance followed the PADEP model ordinance for prohibited discharges into the storm sewer system. This ordinance made allowances for certain discharges such as discharges from firefighting activities, air conditioning condensate, lawn watering, routine exterior washing of buildings (free of detergents), dechlorinated swimming pool drainage, and individual residential vehicle washing among other clean water releases to be allowed to enter into the Borough's MS4.

#### **MS4 Outfall and System Map:**

All outfalls within the Borough have been identified and mapped. Three additional outfalls have been identified by Borough personnel and the map has been updated to include these outfalls. The MS4 map also shows streets, topography and sewer and combined sewer networks. A complete map showing the entire MS4 network is under development.

#### **MS4 Outfall Screening:**

Outfall screening is the visual inspection of the MS4 outfall pipe and the area of the receiving waterway around and downstream of the outfall. An MS4 outfall can be a pipe, concrete or rock-lined channel, earthen or vegetated swale, or any other constructed means of conveyance

intended to discharge storm water to a receiving water body. An outfall screening form is completed each time an outfall is visually inspected. Outfall screenings are to be conducted during periods of dry weather where no less than 48 hours have passed since the last time a runoff-producing storm event has occurred (i.e. rainfall or snowmelt). A sample outfall screening form is attached in Appendix B. Information entered onto this form includes the time of the last runoff event, the outfall type, size and location, the presence of flow from the outfall and its estimated flow rate, the color and clarity of the flow, signs of alga growth, the presence of odors, trash, foam, and other visual indicators that may lead to suspicion of non-stormwater discharge entering into the MS4 in some manner.

All outfalls within the Borough have been identified and mapped. Three additional outfalls have been identified by Borough personnel and the map has been updated to include these outfalls. All outfalls have been screened at least once so far. Borough personnel are to continue to conduct dry-weather outfall screenings. Outfalls that have the greatest suspicion of discharging non-stormwater shall be identified as early on in the screening process and monitored more closely. A tracking log of every outfall screening shall be kept and those outfalls having evidence of suspicious discharge shall be earmarked for follow-up investigation.

It is common throughout western Pennsylvania to find outfalls discharging clear, often odorless water during dry weather periods. If no other indicators of non-stormwater discharge are observed, it can often be declared that these outfalls are discharging groundwater that has infiltrated into the MS4. A simple reconnaissance investigation following the storm inlets and manholes upstream from the outfall (i.e. up-the-pipe investigation) should be taken to verify that the source of the clear, odorless flow is groundwater infiltration. Outfalls receiving groundwater discharge will often have consistent flow rates that significantly vary only seasonally rather than day-to-day. These outfalls should be checked repeatedly to confirm that discharge rates do not vary dramatically from one day to the next. Once the source of the groundwater into the MS4 is found, this pathway should be mapped on the MS4 system map.

At some outfalls with dry weather flow, the outfall inverts and the receiving channel invert may be stained orange or the discharge may be a milky white appearance. These are indicative of Acid Mine Drainage (AMD) which is common in watersheds that have histories of being extensively mined for coal, which leads to exposure of iron- and aluminum-containing minerals to oxygen and water and consequently the precipitation of iron oxide and aluminum oxide in the water which causes these colorations. An up-the-pipe investigation of these AMD-related discharges should also be conducted to verify that they are indeed due to AMD. Once verified, these outfalls should be noted as having such flows and no other courses of action are necessary under this IDD&E program. Again, these outfalls should be checked repeatedly to make certain that no other non-stormwater is comingling with the AMD and that once the point of entry of the AMD into the MS4 is discovered, the pathway should be included on the MS4 system map.

### **Outfall Sampling:**

Where it is observed that an outfall does have dry weather flow and it cannot be discerned from the visual screening that this flow is either uncontaminated groundwater or AMD, then a field

test kit can be used to measure basic parameters of the effluent water such as temperature, pH, dissolved oxygen, as well as detect for the presence of non-stormwater indicators as chlorine, hydrocarbons and detergents. Where field tests for indications of non-stormwater are inconclusive, samples of the effluent should be taken for laboratory testing. Samples should be collected in triplicate at each outfall location using 250 to 500 ml clean, nonreactive sample bottles that are to be filled to the top with the sample water to eliminate headspace, sealed with a screw-on cap and labeled with outfall ID number and location, date and time of sampling, and initials of the individual who collected the sample.

Collected samples should be kept cool during transport to the laboratory and a chain of custody log shall be kept for all samples taken. This log shall include the sample ID, outfall ID, outfall location, time and date of sampling, name of individual who took the samples, name of individual who transported the samples to the lab, time of when samples were delivered to the lab and the name of the laboratory personnel who received the samples. The laboratory results typically include time and date of when the lab tests were performed on the samples and the name of the individual(s) who performed the tests. Sample results shall be compiled for each outfall and kept on record at the MS4 operators' administration building.

### **Illicit Discharge Elimination:**

For outfalls that show clear evidence of non-stormwater discharge or for outfalls whose effluent samples have tested positive for non-stormwater discharges, an up-the-pipe investigation shall be conducted at each of these outfalls to determine the source of the non-stormwater discharge. For non-continuous non-stormwater flows, it may be necessary to establish some form of monitoring system at various points upstream from the outfall, such as capturing flows in various strategic inlets or manholes for further water quality testing and to pinpoint the source. The nature of the non-stormwater, whether it is chlorinated, grease, hydrocarbon or other can help determine the possible source such as a swimming pool, a restaurant, automotive garage or other source identified with typically using the substance found in the outfall effluent.

Soliciting the help of residents and businesses within the area of the illicit discharge can be of great help to tracking down and eliminating the non-stormwater discharge. The area tributary to the outfall can be canvased along with flyers and door hangers distributed explaining the objective of this work and a phone number to call to report any information that may be beneficial to identifying the source.

Once the source is identified, verification should be performed through dye testing any drains on that property. The property owner shall be contacted by the Borough of the illicit discharge originating from their property and the appropriate corrective action that the property owner must perform. The notification should also identify the prohibited discharge ordinance of the Borough's Code and the possible fines that the property owner could face if the corrective actions are not completed in a timely manner.

**Public Education on Illicit Discharges:**

General stormwater educational posters and pamphlets are on display and available at the Borough office and other locations in the Borough. The Borough website will be updated to include links to the DEP and EPA stormwater/MS4 sites as well as post other MS4 educational material.

Stormwater information addressing IDD&E is included in the Borough's forthcoming MS4 webpage and stormwater posters on this topic are displayed throughout the Borough as well.

## **Minimum Control Measure No. 4: Construction Site Stormwater Management**

Construction site stormwater is rainfall or snowmelt runoff that runs across land that has been disturbed by earthmoving and other construction-related activities for lands that are being developed or redeveloped for residential, commercial, industrial, transportation or other purposes. Construction site stormwater can pick up and convey many pollutants during the period that the construction activities are taking place. These pollutants include trash and construction debris, oils, fuels and other fluids from construction vehicles, demolition debris, washwater from concrete trucks, lime and fertilizers, and foremost sediments that are exposed to runoff and susceptible to erosion due to the stripping of vegetative cover from the disturbed areas of the construction site. These pollutants, particularly sediments, though discharging into the MS4 and ultimately into receiving waters over a relatively short time period, can contribute significantly to the long-term impairment of receiving waters. Sediment- and pollutant-laden construction site runoff can degrade water quality of the receiving waters, become a maintenance issue for the MS4 as sediments accumulate in the catch basins and storm pipes, choke out aquatic flora and fauna in the receiving streams as sediments deposit on the streambeds, and decrease the conveyance capacity of the MS4 as well as the receiving stream channels during periods of high flows.

No earth disturbance projects have occurred within the Borough over the last permit year other than structure demolitions. No problems with sediment runoff have been reported by the Borough regarding the demolition sites. The Borough code requires that all new development and redevelopment comply with the Allegheny County Subdivision and Land Development Ordinance. Due to the DEP's redrafting of the model ordinance, the Borough will not enact its own ordinance until this model ordinance has been finalized.

Procedures for the review and enforcement of Erosion & Sediment Control (E&SC) Plans is enforced by the Borough with the Borough Engineer reviewing E&SC plans submitted for new and redevelopments within the Borough. A memorandum of agreement is also being formulated with the Allegheny County Conservation District to review and enforce E&SC plans.

The construction site stormwater control flyers are distributed to contractors/developers at the Borough office. These flyers are distributed to persons picking up building permit applications at the Borough office.

An existing Borough ordinance addresses solid waste storage and transport within the Borough. Complaints submitted by the public can be received by the Borough Manager or other Borough agent. The Borough Manager or agent can then consult with the Borough Engineer on investigating these complaints.

## **Minimum Control Measure No. 5: Post-Construction Stormwater Management**

Post-construction stormwater management is the long-term management of stormwater from a site whose land cover has changed, typically from an open and vegetated land cover condition to a more urbanized land cover condition, due to development or redevelopment of the site. These changes in the land cover conditions leads to less rainfall or snowmelt infiltrating into the ground or recirculated into the atmosphere through evapotranspiration by trees and other vegetation, and an increase in the rates and volumes of direct runoff from the site. This often leads to flooding downstream if left unmanaged as the MS4 and the receiving stream channel conveyance capacities are exceeded. In addition, the receiving streams are often degraded as greater intensity flows and larger runoff volumes lead to scouring of the beds and banks of the stream channels. Also, water quality of the stormwater runoff from the developed site can become impaired as it comes into contact with trash, pesticides and herbicides, fertilizers, oils and fluids from streets and parking lots, as well as thermal pollution as the runoff is heated as it flows over paved surfaces during the summer months. Therefore, it is prudent to provide long-term management of stormwater to provide quantity control as well as quality control of runoff from development and redevelopment sites in order to sustain and protect the integrity of the MS4 as well as the receiving waters.

Minimal earth disturbance activity has taken place within the Borough over the past permit year. Nonetheless, on July 16, 2012, the Borough adopted the MS4 Operation and Maintenance Ordinance (Ordinance No. 12-02) which requires all new land developments that are regulated as per Title 25, Chapter 102 of the PA Code (land disturbances of 1.0 acre or more) meet all State stormwater management requirements and that all post-construction stormwater management facilities have a recorded operations and maintenance plan that runs with the property(ies) on which said facilities are situated.

Post-Construction Stormwater Management plans received by the Borough are reviewed by the Borough Engineer to ensure compliance with the Allegheny County Subdivision and Land Development Ordinance as well as the Borough's MS4 Operations and Maintenance Ordinance and in accordance with sound engineering practices. Plan implementation is enforced by the Borough Code Enforcement officer.

Inspection of the installation as well as the maintenance of any post-construction stormwater management facilities shall be performed by the Borough Code Enforcement Officer with assistance from the Borough Engineer as well as the Allegheny County Conservation District whenever needed.

## **Minimum Control Measure No. 6: Pollution Prevention and Good Housekeeping**

Municipalities conduct numerous activities that can pose a threat to water quality if practices and procedures are not in place to prevent pollutants from entering the MS4. These activities include winter road maintenance, minor road repairs and other infrastructure work, truck and automobile fleet maintenance, landscaping and park maintenance, and building maintenance. Municipalities also conduct activities that remove pollutants from the MS4 when performed properly, such as parking lot and storm drain system cleaning. Finally, municipal facilities can be sources of stormwater pollutants if BMPs are not in place to contain spills, manage trash, and handle non-stormwater discharges. This Pollution Prevention/Good Housekeeping Guideline for municipal operations is an important element of the Stormwater Management Program for the Borough. Here we recognize the need to adopt BMP's to help reduce pollutants in the waterways. A general pollution prevention/O&M plan is currently being drafted. Once this plan has been reviewed and finalized by the Borough, Borough personnel will be trained accordingly.

There are currently no municipally-owned stormwater management facilities within the Borough. However, the Borough does regularly clean and maintain its MS4 catch basins and storm pipes as well as routinely clean its streets. The Borough keeps records of all maintenance and street sweeping operations.

The Borough has worked with PennDOT to modify plans for the SR366 reconstruction in the Borough to include grass medians to help with stormwater runoff quantity and quality.

Though no pollution prevention/O&M plan has been drafted to date, the Borough already practices many actions consistent with pollution prevention and good housekeeping. Routine vehicle maintenance is conducted inside the Borough garage where floor drains are tied into the sanitary/combined system. A vehicle wash bay used for all Borough fleet vehicles is tied into the sanitary system. Salt stockpiles are kept under cover in a storage shed and out of direct contact with rain and snow.

The Borough replaced its street sweeper in 2011 with a sweeper that is more appropriate for use in the narrow streets and alleyways. The previous sweeper was leaking fluids and due to its larger size, required an operator with a CDL. The newer sweeper does not require a CDL operator and therefore can be used by most Borough street department personnel and as a result is used more frequently.

### **Municipal-Owned Facilities:**

The Borough owns and operates a variety of facilities that serve or provide services to the community. Each of these facilities are to be regularly inspected and maintained in ways that will minimize the risk of contributing pollutants into the Borough's MS4 system. The following facilities are identified as being owned and/or operated by the Borough:

- Borough streets and Municipal Separate Storm Sewer System
- Borough Building and Police Headquarters at 318 Second Avenue
- Public Works garage
- Riverview Park
- Tarentum Water Treatment Plant at 618 Fifth Avenue
- Tarentum marina

### **Municipal Landscaping:**

Lawn and garden activities can contaminate storm water with pesticide, soil, and fertilizer runoff. Proper landscape management, however can effectively reduce water use and contaminant runoff, and enhance a property's aesthetics. Borough personnel bag most grass clippings or are careful not to blow grass clippings into the streets while cutting municipal properties. All herbicides shall have a low persistence and low water solubility and be environmentally safe. No herbicides should be applied near the river or other waterways. Should herbicide be required, it should be applied when no rain is forecasted and in a manner to prevent physical drift. All employees applying herbicides are to follow the label directions. Municipal crews must wear the appropriate protective equipment listed on the label when working with herbicides, and read and follow all safety precautions and wash hands and face before smoking or eating. Tools or equipment used to apply the herbicide should always be rinsed in a bucket and the rinse water applied as if it were full strength.

### **Municipal Vehicle Fueling:**

Fueling fleets of municipal vehicles can generate spills and leaks of fuel (gasoline and diesel fuel) and heavy metals-disproportionately toxic compounds that if washed into the storm drain system by storm water runoff can seriously impair the water quality of nearby water bodies. To prevent such discharges, municipal officials can employ a variety of BMP's. Most vehicles are fueled offsite.

Old outdated equipment and facilities limit the implementation of the appropriate vehicle fuel BMPs. It is too costly to retrofit existing facilities or build new fueling islands to provide a greater degree of storm water protection. To prevent spills from entering the waterways, during fueling any catch basins where spills may drain to should be covered with a drain cover seal. Employees should also make the following maintenance checks when fueling:

1. Check for external corrosion and structural failure of the tank
2. Check for spills and overfills due to operator error.

3. Check for failure of any piping systems.
4. Check for leaks or spills during pumping of liquids.
5. Inspect tank foundations, connections, coatings, tank walls, and piping systems. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.

Dry cleanup methods should be employed when cleaning up fuel-dispensing areas. Such methods include sweeping to remove litter and debris and using rags and adsorbents for leaks and spills. Water should not be used to wash these areas. During routine cleaning, use a damp cloth on the pumps, and a damp mop on the pavement, rather than spraying with a hose.

### **Municipal Vehicle and Equipment Maintenance:**

Common activities at municipal maintenance shops include parts cleaning, vehicle fluid replacement, and equipment replacement and repair. Automotive maintenance facilities are considered to be storm water “hot spots.” Hotspots are areas that generate significant loads of hydrocarbons, trace metals, and other pollutants that can affect the quality of stormwater. Some of the wastes generated at automobile maintenance facilities include: solvents, antifreeze, brake fluid and brake pad dust, battery acid, motor oil, fuel, lubricating grease.

Fluid spills and improper disposal of materials result in pollutants, heavy metals, and toxic materials entering ground and surface water supplies, which can create public health and environmental risks. Municipal facilities that properly store automotive fluids and thoroughly clean up spills can help reduce the effects of automotive maintenance practices on stormwater runoff and, consequently local water supplies.

Routine vehicle maintenance is conducted inside the Borough garage where floor drains are tied into the sanitary/combined system. Older leaking vehicles are replaced with newer vehicles whenever possible. The Borough replaced its street sweeper in 2011 with a sweeper that is more appropriate for use in the narrow streets and alleyways. The previous sweeper was leaking fluids and due to its larger size, required an operator with a CDL.

Municipal activities require the use of various vehicles and equipment, such as public works operation and maintenance vehicles, police vehicles, fire trucks, etc. Maintenance facilities are located at the Borough’s building. The most effective way to minimize wastes generated by automotive maintenance activities is to prevent their production in the first place. Pollution prevention programs trying to reduce polluted liquid discharges from automotive maintenance facilities to storm drains should stress “dry shop” techniques. Among suggestions for creating a dry operation:

- All maintenance activities should be performed inside or under cover
- Spills should be cleaned up immediately, without water whenever possible and clean up materials disposed of properly.

- Floor drains should be sealed
- A solvent service can be hired to supply parts and cleaning materials and to collect spent solvent.

Other methods can also help prevent or reduce pollutant discharges from vehicle maintenance facilities. The following suggestions can reduce vehicle maintenance and repair impacts.

- Collect used vehicle oil with an oil pan and then disposed with used oil distributed to Borough residents to be used as fuel oil.
- Conduct maintenance work such as fluid changes indoors
- Closely monitor parked vehicles for leaks and place pans under any leaks to collect the fluids for proper disposal or recycling.
- Dispose of liquid waste properly.
- In the event of a spill, cover drains with drain mats.
- Store cracked batteries to leak proof secondary containers.
- All batteries are taken and recycled at the auto parts stores.
- Use detergent based or water based cleaning systems instead of organic solvent degreasers
- Pressure-wash instead of using chemicals.
- Take acceptable materials (antifreeze, brake fluid, transmission fluid, wood preservatives, fluorescent tubes, aerosols, ammonia, moth balls, oil-based paints, pesticides, and pool chemicals) to the Allegheny Cleanways' Annual Household Hazardous Waste Collection, which is free of charge to all Borough residents because the Borough is among the participating sponsors. For more information about the collection, visit [www.Alleghenycleanways.org](http://www.Alleghenycleanways.org) or call 724-836-4129.

### **Municipal Vehicle and Equipment Washing:**

Municipal vehicle washing can generate dry weather runoff contaminated with detergents, oils, grease, and heavy metals. Vehicle washing BMP's can eliminate contaminated wash water discharges to the sanitary sewer system. A vehicle wash bay is used by all Borough fleet vehicles and is tied into the sanitary system. Detergents should be avoided whenever possible. If detergents are necessary, a phosphate –free, non-toxic, biodegradable soap is recommended.

### **Road Salt Application and Storage:**

The application and storage of deicing materials, most commonly salts such as sodium chloride, can lead to water quality problems for surrounding areas. Salts, gravel, sand, and other materials are applied to highways and roads to reduce the amount of ice during winter storm events. Salts lower the melting point of ice, allowing roadways to stay free of ice buildup during cold winters. Many of the problems associated with contamination of local waterways

stem from the improper storage of deicing materials. Salts are very soluble when they come into contact with storm water. They can migrate into ground water used for public water supplies and also contaminate surface waters.

Salt stockpiles are kept under cover in a storage shed and out of direct contact with rain or snow. Storing salt under cover helps to prevent it from lumping together, which makes it easier to load and apply. In addition, storing the salt in sheds eliminates salt loss from storm water runoff and potential contamination to streams, aquifers, and estuarine areas.

During road salt application, certain best management practices can produce significant environmental benefits. The amount of road salt applied should be regulated to prevent over salting of roadways and increasing runoff concentrations. The amount of salt applied should be varied to reflect site-specific characteristics, such as road width and design, traffic concentration, and proximity to surface waters. Alternative materials, such as sand or gravel should be used along waterways.

### **Storm Drain System Cleaning:**

The Borough does regularly clean and maintain its MS4 catch basins and storm pipes as well as routinely clean its streets. The Borough keeps records of all maintenance and street sweeping operations.

Storm drain systems need to be cleaned regularly to reduce the amount of pollutants, trash, and debris both in the storm drain system and in receiving waters. Clogged drains and storm drain inlets can cause the drains to overflow, leading to increased erosion. Cleaning increases dissolved oxygen, reduces levels of bacterial, and supports in-stream habitat. Areas with relatively flat grades of low flows should be given special attention because they rarely achieve high enough flows to flush themselves.

Some common pollutants found in storm drains include:

- Trash and debris
- Sediments
- Oil and Grease
- Antifreeze
- Paints
- Cleaners and Solvents
- Pesticides
- Fertilizers
- Animal Waste
- Detergents

The Borough is to perform the following maintenance activities:

- All catch basin grates are to be cleaned and all debris removed on an as needed basis. During and after heavy rainfall all grates should be inspected for debris and obstructions removed as needed
- Catch basins will be vacuum-cleaned and inspected on a 4 year rotating basis. Thus, over a four-year period all catch basins throughout the Borough will have been cleaned.
- Storm sewer lines will be televised and cleaned with a jet/vactor truck on an as-needed basis until the time when money allows a more aggressive maintenance plan.
- Catch basins are to be visually inspected when walking by. If a repair is needed, it shall be scheduled.
- Records of all maintenance, cleaning and repair of the Borough's storm system are kept by the Borough.

### **Spill Prevention:**

Spills and leaks can adversely impact the storm drain system and receiving waters if not controlled correctly. Due to the type of work or the materials involved, many activities that occur either at a municipal facility or as a part of municipal field programs have the potential for accidental spills and leaks. Proper spill prevention training, planning, and preparation can enable Borough employees to effectively prevent problems before they occur to minimize the discharge of pollutants to the environment. An effective spill prevention plan should include spill/leak prevention measures and employee training.

### **Spill/Leak Prevention Measures:**

- If possible, move material handling indoors, under cover, or away from storm drains or sensitive water bodies
- Properly label all containers so that the contents are easily identifiable
- Cover outside storage areas either with a permanent structure or with a seasonal one such as a tarp so that materials will be left untouched by rain
- Check containers (and any containment sumps) often for leaks and spills. Replace containers that are leaking, corroded, or otherwise deteriorating with containers in good condition. Collect all spilled liquids and properly dispose of them
- Place drip pans or absorbent materials beneath all mounted taps and at all potential drip and spill locations during the filling and unloading of containers
- Only transport the minimum amount of material needed for the daily activities and transfer materials between containers at a municipal yard where leaks and spills are easier to control

- If paved, sweep and clean storage areas monthly, do not use water to hose down the area unless all of the water will be collected and disposed of properly
- Install a spill control device in any catch basins that collect runoff from any storage areas if the materials stored are oil, gas, or other materials that separate from and float on water
- If necessary, protect catch basins while conducting field activities so that if a spill occurs, the material will be contained

### **Spill Prevention Training:**

- Employees will be educated on spill prevention, spill response and cleanup by on the job training and through routine discussion.
- Well-trained employees can reduce human errors that lead to accidental releases or spills:
  - The employees have access to the MSDS's which are located in a filing cabinet in the Borough Building.
  - A spill kit is available for spill clean-ups at the public works garage.
  - Employees should follow same protocol as outlined in the offsite response plan should a spill occur.
- If any spills or tank failures occur wherein spilled fluids threaten to enter the Borough's MS4, call the Highland Hose Company (East Eighth Avenue) at 724-224-0999 or the Summit Hose Company (304 Third Avenue) at 724-224-3473 for first response for containment and clean-up. Also, contact the Borough Public Works Director at 724-226-1313.

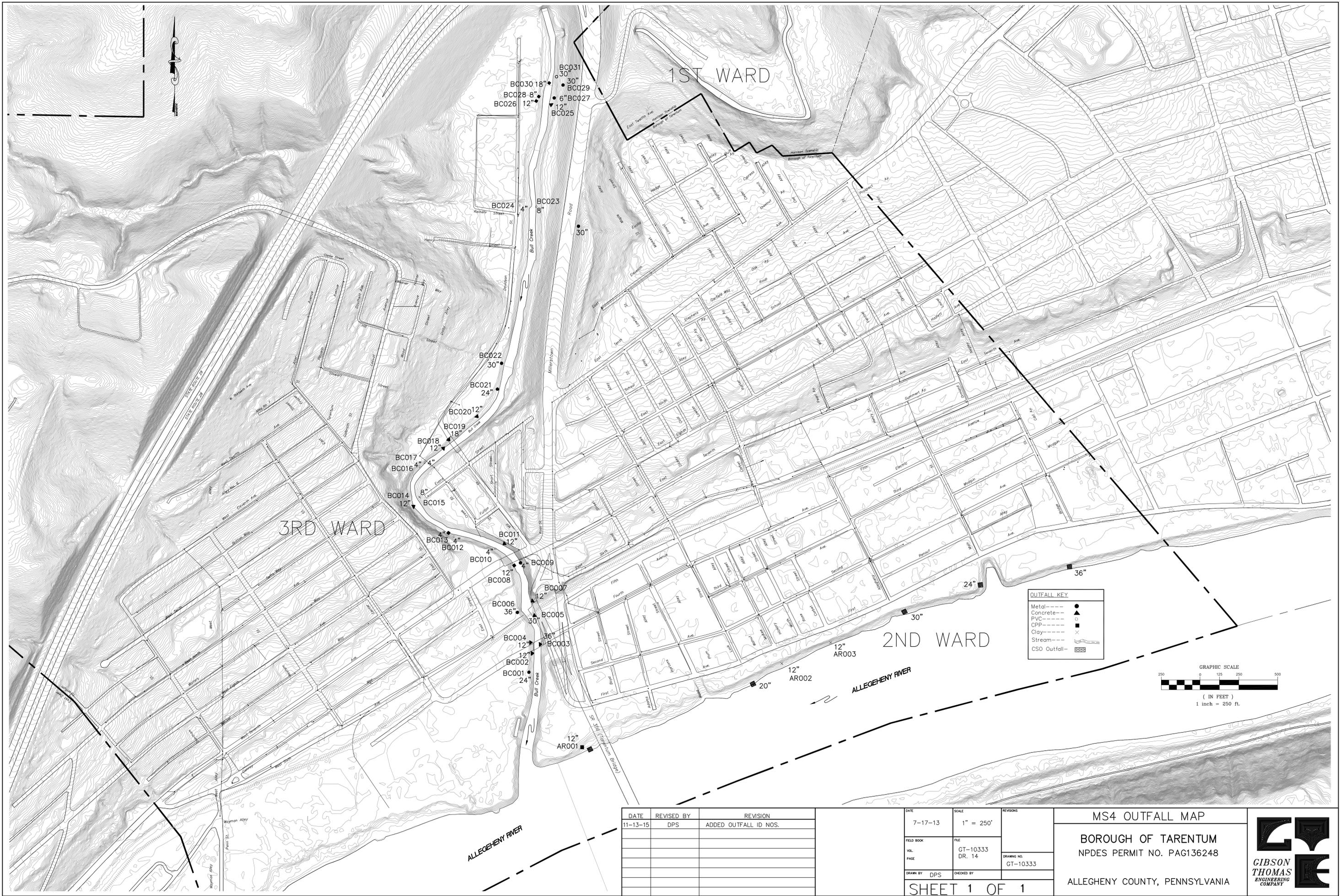
### **Good Housekeeping and Pollution Prevention Education and Training for Municipal Employees:**

- Within 30 days of hire, new employees shall be instructed on proper techniques for grass cutting, vehicle fueling, vehicle maintenance and washing, material storage and other routine tasks as detailed in the preceding sections under this Good Housekeeping and Pollution Prevention Plan.
- Employees responsible for vehicle fueling and maintenance shall receive training for the use of the spill response kits and protocol to follow whenever a significant spill occurs.
- Employees are to be educated through on the job training with everyday reminders and pamphlets, signage and other employee-focused educational material.
- McCutcheon Enterprises, Inc. (724-568-3623) offers periodic training courses on the following MS4-related topics for good municipal housekeeping and pollution prevention/response:
  - Spill Prevention Control and Countermeasures
  - Hazardous Materials Training (DOT) 49 CFR 172.704
  - 40-hour and 8-hour HAZWOPER29 CFR1910.120(e) training and refresher courses

- Other regional MS4-related training programs are offered through the Southwest Pennsylvania Commission (SPC) with upcoming training program information available through their website at [http://www.spcregion.org/water/ed\\_res.shtml](http://www.spcregion.org/water/ed_res.shtml)

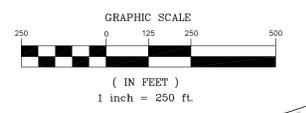
# **Appendix A**

## **MS4 System and Outfall Map**



**OUTFALL KEY**

Metal	●
Concrete	▲
PVC	○
CPP	■
Clay	×
Stream	—
CSO Outfall	▣



DATE	REVISED BY	REVISION
11-13-15	DPS	ADDED OUTFALL ID NOS.

DATE	SCALE	REVISIONS
7-17-13	1" = 250'	
FIELD BOOK	FILE	
VOL.	GT-10333	
PAGE	DR. 14	DRAWING NO. GT-10333
DRAWN BY DPS	CHECKED BY	

**MS4 OUTFALL MAP**  
**BOROUGH OF TARENTUM**  
 NPDES PERMIT NO. PAG136248  
 ALLEGHENY COUNTY, PENNSYLVANIA



## **Appendix B**

### **IDD&E Field Screening Inspection Form**

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.): Last 24 hours:	Last 48 hours:	
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED	
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____  Depth: _____ Top Width: _____ Bottom Width: _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully  With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____		
<input type="checkbox"/> In-Stream	(applicable when collecting samples)				
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
<input type="checkbox"/> Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature		°F	Thermometer	
pH		pH Units	Test strip/Probe	
Ammonia		mg/L	Test strip	

### Outfall Reconnaissance Inventory Field Sheet

**Section 4: Physical Indicators for Flowing Outfalls Only**

Are Any Physical Indicators Present in the flow?  Yes  No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

**Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls**

Are physical indicators that are not related to flow present?  Yes  No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

**Section 6: Overall Outfall Characterization**

Unlikely   
  Potential (presence of two or more indicators)   
  Suspect (one or more indicators with a severity of 3)   
  Obvious

**Section 7: Data Collection**

1. Sample for the lab?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam		

**Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?**