



November 2021

Binghamton University

Stormwater Management Program Plan



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ENVIRONMENTAL HEALTH & SAFETY

Binghamton University

STORMWATER MANAGEMENT PLAN

To report stormwater related violations, contact:

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1. Pollutants of Concern: Phosphorus, silt/sediment, pathogens, organic waste, metals (mercury, copper, iron, etc), oil/grease, nitrogen and floatable.
2. Number of Stormwater Outfalls: 5 with Visual Inspections twice a year.
3. BU Facilities Affected by the SWMP:
Entire campus as shown on attached drawing (storm water map)
4. Stormwater Pollution Prevention Plan (SWPPP) Review:
Physical Facilities Department, Anthony Citriniti, P.E.
5. Campus Construction Site Inspection:
Project Site Representatives and Physical Facilities Department
6. Post Construction Stormwater Management Practices Inspection:
Physical Facilities Department

INTRODUCTION

The Binghamton University's Stormwater Management Program (SWMP) Plan was developed to comply with the New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s) (Current Permit No. GP-0-15-003 dated 4/1/20 I 5).

The SWMP Plan is based on the most current NYSDEC SPDES General Permit (GP-0-15-001) issued under the Federal Stormwater Phase II rule (issued in 1999) which requires MS4 owners and operators to develop a SWMP Plan. There are six program elements designed to reduce the discharge of pollutants to the maximum extent practicable. The program elements, titled Minimum Control Measures, include:

1. Public Education and Outreach

2. Public Involvement Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention/ Good Housekeeping for Municipal Operations.

Each Minimum Control Measure, the Measurable Goals and the Best Management Practices that have been implemented to maintain compliance with GP-0-15-003 are described in this SWMP Plan, For each Measurable Goal, responsibilities to achieve and sustain compliance are clearly defined.

Certain components of this program have been mandated for some time by the University as required practices, The University administers Storm water Management and Erosion and Sediment Control and prohibits Illicit Discharges, Activities and Connections to the Separate Storm Sewer Systems.

The SWMP Plan will be updated on a periodic basis in order to take into consideration the latest technologies and information to maintain compliance with changes in the. NYSDEC General Permit.

STORMWATER MANAGEMENT PROGRAM PLAN GENERAL DEFINITIONS AND REQUIREMENTS

Best Management Practice (BMP) • means scheduled activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state, BMPs also include treatment requirements (if determined necessary by the covered entity), operating procedures, and practices to control runoff, spillage and leaks, sludge or waste disposal, or drainage from areas that could contribute pollutants to storm water discharges. BMP is referred to in EPA's fact sheets and other materials, BMPs are also referred to as "activities" or "management practices" throughout this SPDES general permit.

Better Site Design (BSD) - Better Site Design incorporates non-structural and natural approaches to new and redevelopment projects to reduce impacts on watersheds by conserving natural areas, reducing impervious cover and better integrating stormwater treatment Belter site design is a form of Green Infrastructure and is similar to Low Impact Development (LID), Sec also Green Infrastructure and Low Impact Development.

Clean Water Act· Amendments incorporated into the Federal Water Pollution Control Act in 1972 to establish water quality standards and to create the National Pollutant Discharge Elimination System to protect the waters of the U, S, by regulating the discharge of pollutants from point source discharges and municipal separate storm sewer systems.

Combined Sewer System - A sewer system designed to convey both sanitary wastewater and stormwater,

Detention Pond - Pond that stores a volume of water for a given period of time and then discharges to downstream waters.

Discharge(s) • any addition of any pollutant to waters of the State through an outlet or point source,

Ecosystem - All of the plants and animals in an area that interact to make up the local environment,

Erosion - the overall process of the transport of material on the earth's surface including the movement of soil and rock by agents such as water, wind, or gravity.

Green Infrastructure - Green infrastructure approaches essentially infiltrate, evapotranspiration or reuse stormwater, with significant utilization of soils and vegetation rather than traditional hardscape collection, conveyance and storage structures. Common green infrastructure approaches include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, vegetated median strips, reforestation, and protection and enhancement of riparian buffers and floodplains. See also Low Impact Development and Better Site Design.

Groundwater - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Heavy Metals - Metals such as zinc, copper, lead, mercury, chromium, cadmium, iron, manganese, nickel, molybdenum and silver that, even in low concentrations can be toxic or lethal to humans, animals and aquatic life.

Illicit Discharges - discharges not entirely composed of stormwater into the small MS4, except those identified in Part I.A.2. Examples of illicit discharges are non-permitted sanitary sewage, garage drain effluent, and waste motor oil. However, an illicit discharge could be any other non-permitted discharge which the covered entity or has determined to be a substantial contributor of pollutants to the small MS4.

Industrial Waste - Unwanted materials from an industrial operation. It may be liquid, sludge, solid, or hazardous waste.

Large Municipal Separate Storm Sewer System (Large MS4) - all municipal separate storm sewers that are located in an incorporated place with a population of 250,000 or more according to the latest Census.

Low Impact Development - is a site design strategy with a goal of maintaining or replicating the predevelopment hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic landscape. Hydrologic functions of storage, infiltration, and groundwater recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro scale stormwater retention and detention areas, reduction of impervious surfaces, and the lengthening of flow paths and runoff time. Other strategies include the /protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, valuable (mature) trees, flood plains, woodlands and highly permeable soils. LID principles are based on controlling stormwater at the source by the use of micro scale controls that are distributed throughout the site. This is unlike conventional approaches that typically convey and manage runoff in large facilities located at the base of drainage areas. See also Green Infrastructure and Better Site Design.

Maximum Extent Practicable (MEP)- is a technology-based standard established by Congress in the Clean Water Act '402(p) (3) (B) (iii). Since no precise definition of MEP exists, it allows for maximum flexibility on the pml of MS4 operators as they develop their programs. (40CFR 122.2 See also: Stormwater Phase II Compliance Assistance Guide EPA 833-R-00-002, March 2000). When trying to reduce pollutants to the MEP, there must be a serious attempt to comply, and practical solutions may not be lightly rejected. If a covered entity chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a covered entity employs all applicable BMPs except those where it can be shown that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP required covered entities to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive.

Measurable Goals - are the goals of the SWMP that should reflect the needs and characteristics of the covered entity and the areas served by its small MS4. Furthermore, the goals should be chosen using an integrated approach that fully addresses the requirements and intent of the MCM. The assumption is that the program schedules would be created over a 5-year period and goals would be integrated into that time frame. For example, a larger MS4 could do an outfall reconnaissance inventory for 20% of the collection system every year so that every outfall is inspected once within the permit cycle.

Medium Municipal Separate Storm Sewer System (Medium MS4) - all municipal separate storm sewers that are located in an incorporated place with a population of more than 100,000 but less than 250,000.

Minimum Control Measures (MCMs) - six program elements designed to reduce the discharge of pollutants to the maximum extent practicable.

Municipal Separate Storm Sewer System (MS4) • a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. owned or operated by a State, city, village, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA, that discharges to surface waters of the State;
2. designed or used for collecting or conveying stormwater;
3. which is not a combined sewer; and
4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) ~ means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Non-Point Source Pollutants (NPS) pollution coming from many diffuse sources whose origin is often difficult to identify. This pollution occurs as rain or snowmelt travels over the land surface and mobilizes pollutants such as fertilizer, pesticides, and chemicals from cars. This pollution is difficult to regulate due to its origin from many different sources. These pollutants enter waterways untreated and are a major threat to aquatic organisms and people who fish or use waterways for recreational purposes.

Notice of Intent (NOI) • An application to notify the permitting authority of a facility's intention to be covered by a general permit. This exempts a facility from having to submit an individual or group application.

Nutrients • The term typically refers to nitrogen and phosphorus or compounds containing free amounts of the two elements. These elements are essential for the growth of plant life, but can create problems in the form of algal blooms, depletion of dissolved oxygen and pH changes in streams and other water bodies when higher concentrations are allowed to enter drainage systems and lakes.

Operator • the person, persons or legal entity that is responsible for the small MS4, as indicated by signing the NOI to gain coverage for the MS4 under this SPDES general permit.

Ordinance • A law based on state statutory authority developed and approved by a governmental agency to allow them to regulate the enforcement of criteria contained within the specific Jaw and to invoke sanctions and other enforcement measures to ensure compliance with the criteria.

Outfall - is defined as any point where a municipally owned and operated separate storm sewer system discharges to either surface waters of the State m· to MS4. Outfalls include discharges from pipes, ditches, swales, and other points of concentrated flow. However, areas of non-concentrated (sheet) flow which drain to surface waters of the State or to another MS4's system are not considered outfalls and should not be identified as such on the system map.

Point Source Pollution - pollution coming from a single, definable source, such as a factory.

Pollutants of Concern (POC) - there are POCs that are primary (comprise the majority) sources of stormwater pollutants and others that are secondary (less likely).

. The POCs that are primarily of concern are: nitrogen, phosphorus, silt and sediment, pathogens, flow, and floatables impacting impaired waterbodies listed on ttle Priority Waterbody List known to come in contact with stormwater that could be discharged to that water body.

. The POCs that arc secondarily of concern include but are not limited to petroleum hydrocarbons, heavy metals, and polycyclic aromatic hydrocarbons (PAHs), where stormwater or runoff is listed as the source of this impairment.

The primary and secondary POCs can also impair waters not on the 303(d) list. Thus, it is important for the covered entity to assess known and potential POCs within the area served by their small MS4. This will allow the covered entity to address POCs appropriate to their MS4.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must understand the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics in order to prepare a SWPPP that conforms to the Department's technical standard. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Retention Pond - Pond that stores a volume of water without allowing it to discharge downstream.

Retrofit - means modifying or adding to existing infrastructure for the purpose of reducing pollutant loadings. Examples, some of which may not be effective for all pollutants, include:

1. Better site design approaches such as roof top disconnection, diversion of runoff to infiltration areas, soil decompaction, riparian buffers, rain gardens, cisterns
2. Rehabilitation of existing storm sewer system by installation of standard stormwater treatment systems (ponds, wetlands, filtering, infiltration) or propriety practices
3. Stabilize dirt roads (gravel, stone, water bar, check dam, diversion)
4. Conversion of dirt parking lots to pervious pavement, grassed or stone cover
5. Conversion of dry detention ponds to extended detention or wetland treatment systems
6. Retrofit by converting abandoned buildings to stormwater treatment systems
7. Retrofit of abandoned building to open space
8. Retrofit road ditches to enhance open channel design
9. Control the downstream effects of runoff from existing paved surfaces resulting in flooding and erosion in receiving waters
10. Control stream erosion by plunge pool, velocity s, and flow control devices for discharges from conveyance systems
11. Upgrade of an existing conveyance system to provide water quality and/or quality control within the drainage structure.

Runoff - any drainage that leaves an area as surface flow.

Sanitary Sewer - an underground pipe system that carries sanitary waste and other wastewater to a treatment plant.

Section 303(d) Listed Waters - Section 303(d) is part of the federal CWA that requires the Department to periodically to prepare a list of all surface waters in the State for which beneficial uses of the water B such as for drinking, recreation, aquatic habitat, and industrial use are impaired by pollutants. These are water quality-limited estuaries, lakes, and streams that fall short of state surface water quality standards, and are not expected to improve within the next two years. Refer to impaired waters for more information.

Sediment - material derived from the weathering of rock such as sand and soil. This material can be detrimental to aquatic life and habitats if an excessive amount flows into rivers and ponds.

Site Plan - a geographic representation of the layout of buildings and other important features on a tract of land.

Small MS4 - MS4 system within an urbanized area or other areas designated by the State.

SPDES general permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 authorizing a category of discharges.

Staff - actual employees of the covered entity or contracted entity.

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Storm Drain - any drain which discharges directly into the storm sewer system, usually found along roadways or in parking lots.

Storm Sewer - an underground pipe system that carries runoff from streets and other surfaces.

Storm Sewershed - the catchment area that drains into the storm sewer system based on the surface topography in the area served by the storm sewer. Adjacent catchment areas that drain to adjacent outfalls are not separate storm sewersheds.

Stormwater - means that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the state.

Stormwater Management - any measure associated with the planning, maintenance, and regulation of facilities which collect, store, or convey stormwater.

Stormwater Management Program (SWMP) - the program implemented by the covered entity. Covered entities are required at a minimum to develop, implement and enforce a SWMP designed to address POCs and reduce the discharge of pollutants from the small MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the ECL and Clean Water Act. The SWMP must address the MCM described in Part VIII.

The SWMP needs to include measurable goals for each of the BMPs. The measurable goals will help the covered entities assess the status and progress of their program.

The SWMP should:

1. describe the BMP / measurable goal;
2. identify time lines/ schedules and milestones for development and implementation;

3. include quantifiable goals to assess progress over time; and
4. describe how the covered entity will address POCs.

Guidance on developing SWMPs is available from the Department on its website. Examples of successful SWMPs and suggested measurable goals are also provided in EPA's Menu of BMPs available from its website. Note that this information is for guidance purposes only. An MS4 may choose to develop or implement equivalent methods equivalent to those made available by the Department and EPA to demonstrate compliance with the MCMs.

When creating the SWMP, the covered entities should assess activities already being performed that could help meet, or be modified to meet, permit requirements and be included in the SWMP. Covered entities can create their SWMP individually, with a group of other individual covered entities or a coalition of covered entities, or through the work of a third-party entity.

Stormwater Management Program (SWMP) Plan- used by the covered entity to document developed, planned and implemented SWMP elements. The SWMP plan must describe how pollutants in stormwater runoff will be controlled. For previously unauthorized small MS4s seeking coverage, information included in the NOI should be obtained from the SWMP plan. The SWMP plan is a separate document from the NOI and should not be submitted with the NOI or any annual reports unless requested.

The SWMP plan should include a detailed written explanation of all management practices, activities and other techniques the covered entity has developed, planned and implemented for their SWMP to address POCs and reduce pollutant discharges from their small MS4 to the MEP. The SWMP plan shall be revised to incorporate any new or modified BMPs or measurable goals.

Covered entities can create their SWMP plan individually, with a group of other individual covered entities or a coalition of covered entities, or through the work of a third-party entity.

Documents to include are: applicable local laws, inter-municipal agreements and other legal authorities; staffing and staff development programs and organization charts; program budget; policy, procedures, and materials for each minimum measure; outfall and small MS4 system maps; stormwater management practice selection and measurable goals; operation and maintenance schedules; documentation of public outreach efforts and public comments; submitted construction site SWPPPs and review letters and construction site inspection reports.

The SWMP plan shall be made readily available to the covered entity's staff and to the public and regulators, such as Department and EPA staff. Portions of the SWMP plan, primarily policies and procedures, must be

available to the management and staff of a covered entity that will be called upon to use them. For example, the technical standards and associated technical assistance documents and manuals for stormwater controls should be available to code enforcement officers, review engineers and planning boards. The local laws should be readily available to the town board and planning board. An integrated pest management program would have to be available to the parks department and the stormwater outfall and available sewer system mapping and catch basin cleaning schedule would have to be available to the department of public works.

Stormwater Pollution Prevention Plan (SWPPP) - A plan developed by a facility or entity to comply with the requirements of the NYSDEC General Permit for Construction Activities (GP-0-15-003).

Surface Runoff - the flow of water across the land surface that occurs when the rainfall rate exceeds the ability of the soil to absorb the water. Also occurs on impervious surfaces, such as parking lots, where water cannot infiltrate at all.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941. Storm sewers are not waters of the state unless they are classified in 6 NYCRR Parts 800 to 941. Nonetheless, a discharge to a storm sewer shall be regulated as a discharge at the point where the storm sewer discharges to waters of the state. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Act and Environmental Conservation Law (other than cooling ponds as defined in 40 CFR 423 .11 (m) (see section 750 - 1.24) which also meet the criteria of this definition are not waters of the state. This exclusion applies only to man made bodies of water which neither were originally created in waters of the State (such as a disposal area in wetlands) nor resulted from impoundment of waters of the state.

Total Maximum Daily Load (TMDL) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL stipulates waste load allocations for point source discharges, load allocations for nonpoint sources, and a margin of safety,

Traditional Land Use Control MS4s - means a city, town or village with land use control authority.

Traditional Non-land Use Control MS4s - means any county agency without land use control.

Tributary - a stream which drains into another larger body of water.

Urbanized Area (UA) - is a land area comprising one or more places (central place(s)) and the adjacent densely settled surrounding area (urban fringe) that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile, as defined by the US Bureau of Census. Outlines the extent of automatically regulated areas, often do not extend to the political boundaries of a city, town, or village. SWMPs are only required within the UA. However, the Department encourages covered entities to voluntarily extend their SWMP programs at least to the extent of the storm sewer shed that flow into the UA or extend further to their entire jurisdiction. For ease of creation and administration of local laws, ordinances or other regulatory mechanisms, these should be created to apply to the full jurisdictional boundary of municipalities.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

Waterbodies of Concern - Susquehanna River and Fuller Hollow Creek

Watershed - a geographic area in which water flowing across the surface will drain into a certain stream or river and flow out of the area via that stream or river, all of the land that drains to a particular body of water. also known as a drainage basin.

Wetlands - an area of land where part of the surface is covered with water or the soil is completely saturated with water for a large majority of the year. Wetlands provide an important habitat for many different types of plant and animal species, Wetlands are also natural stormwater control areas, since they filter out pollutants and are able to retain large amounts of water during storm events.

LIST OF COMMONLY USED ABBREVIATIONS

BU - Binghamton University
BMPs - Best Management Practices
CFR - Code of Federal Regulations
CWA - Clean Water Act
ECL - Environmental Conservation Law
MCM - Minimum Control Measure

MEP - Maximum Extent Practicable
MS4 - Municipal Separate Storm Sewer System
NOI - Notice of Intent
NPDES - National Pollution Discharge Elimination System
NPS - Non-Point Source Pollutants
NYSDEC - New York State of Environmental Conservation
POC - Pollutant of Concern
SPDES - State Pollution Discharge Elimination System
SOP - Standard Operating Procedure
SWMP - Stormwater Management Program
SWPPP - Stormwater Pollution Prevention Plan
TMDL - Total Maximum Daily Load
UA- Urbanized Area
USACOE - United States Corps of Engineers
USEPA - United States Environmental Protection Agency
UST - Undergratound Storage Tank

1. PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

1.1 Description of Minimum Control Measure

The Public Education and Outreach minimum control measure consists of Best Management Practices (BMPs) that focus on the development of educational materials designed to inform the public about the impacts that stormwater discharges have on local water bodies. The educational materials contain specific actions as to how the public, as individuals or collectively as a group, can participate in reducing pollutants and their impact on the environment.

1.2 General Permit Requirements

At a minimum, all covered entities must:

- a.** Identify POCs, waterbodies of concern, geographic areas of concern, target audiences;
- b.** Develop (for newly authorized MS4s) and implement an ongoing public education and outreach program designed to describe to the general public and target audiences:
 - i. the impacts of stormwater discharges on waterbodies;
 - ii. POCs and their sources;
 - iii. steps that contributors of these pollutants can take to reduce pollutants in stormwater runoff; and
 - iv. steps that contributors of non-stormwater discharges can take to reduce pollutants (non-stormwater discharges are listed in Part 1.A.2);
- c.** Develop (for newly authorized MS4s), record, periodically assess, and modify as needed, measurable goals; and
- d.** Select and implement appropriate education and outreach activities and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.

1.3 Methodology for Compliance with Permit Requirements

Binghamton University owns and operates all facilities and properties covered under MS4 SPDES ID No. NYR20A387. All construction projects are administered by one of the following three entities:

- State University Construction Fund (SUCF)
- Dormitory Authority of the State of New York (DASNY)
- Binghamton University

All these entities strictly follow all stormwater management practices for construction as required under GP-0-10- 002.

In addition to academic programs offered on campus, BU offers on-the-job training to employees and continuing education to professional staff whose duties and responsibilities include campus stormwater management.

1.4 Best Management Practices

1.4.1 Identification of POCs, Waterbodies of Concern, Geographic Areas of Concern, Target Audiences

Binghamton University has identified the following for the areas covered by the University:

POCs as targets for public education: sediment/silt, and nutrients.

Potential sources: urban runoff and erosion.

Target audiences for the public education and outreach program: Students and contractors.

Geographic Areas of Concern: Areas that discharge to Susquehanna River and its tributaries, including University Roadways and property that ultimately discharge to this waterbody.

1.4.5 Trainings and Displays : Goals

Ensure that all employees (PF grounds, cleaning, trades) receive new employee and annual refresher training in stormwater topics. Standardized content and employee sign-in sheets to quantify.

Initiate educational campaigns targeted at students (and regular campus visitors). Educational postings and articles to be added to B-line and Dateline. Investigate utilizing the campus newspaper "Pipedream" for news items or articles.

1.4.5.a Measures

**B-Line/Dateline stormwater articles distributed quarterly.*

**At least 90% affected staff training completion. Annual based requirement.*

1.5 Required Reporting

- a. Construction site operator training with printed materials
- b. Physical Facilities <https://www.binghamton.edu/physical-facilities/>
- c. Environmental Health and Safety <http://www.binghamton.edu/ehs/>
- d. Student program which monitors outfall characteristics to University Downtown Center

2. Campus Community /INVOLVEMENT

2.1 Description of Minimum Control Measure

The Public Involvement/Participation minimum control measure consists of Best Management Practices (BMPs) that focus on involving the local public

in development and implementation of the SWMP. Binghamton University must comply with State and local public notice requirements to facilitate public participation. The BMPs include a number of practices designed to seek public input on the SWMP and Annual Report accomplishments

2.2 General Permit Requirements (Not applicable since entity is not a municipality.)

2.3 Methodology for Compliance with Permit Requirements

- a. Binghamton University communicates with public and campus communities on stormwater related subjects through various channels such as:
 - Dateline (electronic) announcements on construction activities
 - Project town hall style meetings open to general public
 - Website information posting
 - Committee on University Environment (CUE) meetings involving interest parties
 - Annual Compliance training
- b. BU's Environmental Health and Safety (BU, EHS) is the point of contact for all stormwater related issues.

2.4 Required SWMP Reporting

BU as a continuing covered entity will report on the items below:

i. annual report presentation information (date, time, attendees) or information about how the annual report was made available for comment;

ii. comments received and intended responses (as an attachment);

iii. public involvement I participation activities (for example stream cleanups including the number of people participating, the number of calls to a water quality hotline, the number and extent of storm drain stenciling); and

iv. report on effectiveness of program, BMP and measurable goal assessment.

2.4.1 Identify key individuals and groups who are interested in/or affected by the permitting program

Committee on University Environment (CUE)

2.4.2 Public Participation o/Stormwater Management Program

Provide the public with an opportunity to participate in the development, implementation, review and revision of the SWMP Plan, The University will make the SWMP Plan available on campus during normal working hours and on the internet.

2.4.3 Public Involvement/Participation Activities

Inform and encourage Students about opportunities to participate in campus cleanup events. Events include recycling and other waste management

2.4.4 Identify Local Stormwater Public Contact

Establish a "Stormwater Management Coordinator" that is responsible for the management of the MS4's stormwater management program. J. Kelly Donovan is designated the Management Officer.

2.4.5 Goals

- 1) Annual report availability on the EHS website.
- 2) Comments received and followed up on. Inspection and investigation.

2.4.5.a Measures

*Annual report published on EHS webpage, due July 1.

*Comments received to be posted at least annually with annual report.

3 ILLICIT DISCHARGE DETECTION & ELIMINATION

3.1 Description of Minimum Control Measure

The Illicit Discharge Detection and Elimination minimum control measure consists of Best Management Practices (BMPs) that focus on the detection and elimination of illicit discharges into the MS4. The BMPs describe outfall mapping and update procedures; the legal authority mechanism that will be used to effectively prohibit illicit discharges; enforcement procedures and actions to ensure that the regulatory mechanism is implemented; the dry weather screening program and procedures for tracking down and locating the source of an illicit discharge; procedures for locating priority areas; and procedures for removing the source of the illicit discharge.

3.2 General Permit Requirements

An MS4 must, at a minimum:

- a. Develop, implement and enforce a program to detect and eliminate illicit discharges

- b. Develop and maintain a map within the covered entity's jurisdiction in the urbanized area and additionally designated area, at a minimum, and showing the location of all outfalls and the names and locations of all surface waters of the State that receive discharges from those outfalls;
- c. Field verify outfall locations;
- d. Conduct outfall reconnaissance inventory, as described in the EPA publication entitled *Illicit Discharge Detection and Elimination within Campus* at least once every five years, with reasonable progress every year;
- e. Map new outfalls as they are constructed or newly discovered within the urbanized area and additionally designated area;
- f. Prohibit through a law, ordinance, or other regulatory mechanism, illicit discharges into the small MS4 and implement appropriate enforcement procedures and actions. The law, ordinance or other regulatory mechanism must be equivalent to the State's model IDDE local law "NYSDEC Model Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer Systems" developed by the State, as determined and certified to be equivalent by the attorney representing the small MS4;
- g. Develop and implement a program to detect and address non-stormwater discharges, including illegal dumping. The program must include procedures for identifying priority areas of concern (geographic, audiences, or otherwise) for the IDDE program; description of priority areas of concern, available equipment, staff, funding, etc.; procedures for identifying and locating illicit discharges (track down); procedures for eliminating illicit discharges; and procedures for documenting actions;
- h. Inform the public of hazards associated with illegal discharges and improper disposal of waste, and maintain records of notification;
- i. Address the categories of non-stormwater discharges or flows (listed in Section 1.2 of this document) as necessary;
- j. Develop, record and periodically assess, and modify as needed, measurable goals; and
- k. Select and implement appropriate IDDE BMPs and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.

3.3 Methodology for Compliance with the Permit Requirements

Binghamton University has mapped the outfalls for the Campus in accordance with their annual inspections.

To prohibit illicit discharges to the MS4 and establish enforcement procedures, the University has regulations and procedures equivalent to NYS' s Model Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer System,

3.4 Best Management Practices

3.4.1 Outfall Mapping

Once an illicit discharge is detected at a specific outfall, the existing basin information and boundaries will be used to define the potential area where the source is located,

Measurable Goals

Update the outfall map as necessary with additional outfalls that have been added or changes made to the system by MS4 request.

3.4.2 Outfall Reconnaissance Inventory (ORI)

The University will conduct an Outfall Reconnaissance Inventory, essentially a dry weather, routine, visual inspection of every mapped outfall and interconnection. The ORI is intended to detect illicit discharges and will be conducted according to procedures set forth in the WNYSC's Illicit Discharge

Track Down Protocol and Sampling Procedure guidance document which is based on EPA guidance. Inherent in the ORI process are opportunities for the MS4 to field verify outfall locations (required), update existing data, add outfalls that are newly discovered or newly constructed (required) and prioritize outfalls for illicit discharge follow up. The University will schedule inspections so that a portion of the outfalls/interconnections will be inspected yearly based on geographic location and all outfalls/interconnections are visually inspected twice a year.

3.4.3 Local Ordinance Prohibiting illicit Discharges into the MS4

A stormwater management ordinance to prohibit illicit discharges and implement enforcement procedures and actions is required under GP-0-10-002. The University has procedures to Prohibit Illicit Discharges, Activities and Collections to Separate Storm Sewer System.

3.4.4 Pollutant Source Tracking Procedures

Binghamton University has an IDDE plan to investigate potential discharge water quality issues at interconnections or outfalls based on indicating parameters evaluated during outfall inspections performed annually or due to complaints received by the public or adjoining municipalities.

Measurable Goals

Continue to evaluate outfalls and complaints for potential discharge water quality issues. (Refer to Section 3.4.3) Set up a program to perform periodic random sampling to establish baselines.

3.4.5 Public Education of Hazards Associated with Illegal Discharges

Employee training programs, particularly the Pollution Prevention and training, include instruction on the hazards of illegal discharges as well as identification and prevention.

3.4.6 Addressing Categories of Non-Stormwater Discharges

The following discharges are exempt from discharge prohibitions established by local law unless the NYSDEC or the municipality has determined them to be substantial contributors of pollutants: water line flushing, landscape irrigation, diverted stream flows, rising ground water, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated groundwater, discharges from potable water sources, foundation drains, air conditioning condensate, irrigation water, spring, water from crawl space or basement sump pumps, footing drain, lawn and landscape watering runoff provided that all pesticides and fertilizers have been applied in accordance with the manufacturer's product label, water from individual residential car washing, flows from riparian habitat or wetlands, dechlorinated swimming pool discharges, residual street wash water, discharges or flows from firefighting activities, dechlorinated water reservoir discharges, and any SPDES permitted discharge.

3.5 Required Reporting

- a. Number and percent of outfalls mapped;
- b. Number of illicit discharges detected and eliminated;
- c. Percent of outfalls for which an outfall reconnaissance inventory has been performed;
- d. Status of system mapping;
- e. Activities in and results from informing public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste;

3.5.1 Goals

- 1) Assure that all illicit discharges are recorded (either in direct report or referred by UPD) and investigated.
- 2) 100 % outfall reconnaissance per the PF self inspection report.
- 3) Ensure that any illicit discharges are also posted alongside the annual report on the EHS website.

3.5.1.a Measures

*IDDE reports received will be reviewed/reported after EHS/PF discussion. Annually.

*Documented training for UPD (University Police) and EHS regarding intake of reports, annually.

4. CONSTRUCTION SITE RUNOFF CONTROL

4.1 Description of Minimum Control Measure

The Construction Site Runoff minimum control measure consists of Best Management Practices (BMP's) that focus on the reduction of pollutants to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre will be considered if it is part of a larger common plan of development or sale that would disturb one acre or more. The BMPs describe the legal authority mechanism that will be used to require erosion and sediment controls; enforcement procedures and actions to ensure compliance; requirements for construction site operators to implement appropriate erosion and sediment control BMPs; requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site; procedures for site plan review which incorporate the consideration of potential water quality impacts; procedures for receipt and consideration of information submitted by the public; and procedures for site inspection and enforcement of control measures. The stormwater regulations for Construction Site Runoff Control apply to both privately owned and managed projects, and MS4-owned and managed projects.

4.2 General Permit Requirements

An MS4 must, at a minimum:

Develop, implement, and enforce a program that:

- a. provides equivalent protection to the NYS SPDES General Permit for Stormwater Discharges from Construction Activities
- b. addresses stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Control of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more;
- c. Incorporates mechanisms for construction runoff requirements from new development and redevelopment projects to the extent allowable under State and local law.
- d. allows for sanctions to ensure compliance to the extent allowable by State law;
- e. describes procedures for receipt and follow up on complaints or other information submitted by the public regarding construction site stormwater runoff;

Procedures have been developed to receive public comments/complaints via calls to the University Police Department. Spill reports and notifications are received and logged on a designated report form and forwarded to the stormwater coordinator in EHS for tracking/resolution.

- f. educates construction site owner/ operators, design engineers, staff and other individuals to whom these regulations apply about the construction requirements in the covered entity's jurisdiction including

the procedures to submit a SWPP Plan, construction site inspections and any other procedures associated with control of construction stormwater;

g. ensures that construction site operators have received erosion and sediment control training including the trained contractors as defined in the SPDES General Permit for Construction before they do work within the covered entity's jurisdiction:

h. establishes and maintains an inventory of active construction sites, including the location of the site, owner I operator contact information;

i. develop, record, periodically assess and modify measurable goals as needed;

4.3 Methodology for Compliance with Permit Requirements

The University enforces a program that reduces pollutant runoff from construction sites. The University will review SWMPP Plans and enforce the regulations as necessary. Construction coordinators review SWMPP submitted along with construction documentation. "Add to copy SWMPP to EHS".

Physical Facilities coordinators responsible for construction sites have been trained to follow the requirements of the DEC inspection manual (Dated 8/27/07, version 1.05) to conduct regular inspections. Inspections are reviewed as developed with on-site construction management. All inspection reports are kept on file for the duration of the project.

Inspections will use the form listed in the manual or its equivalent.

Any irregularity or failed inspection shall be referred to the stormwater coordinator in the EHS department for further action. Actions may include: conference with the contractor, meeting with BU and contract reps up to and including notification of the DEC contact for this region.

4.4 Best Management Practices

4.4.1 Local Ordinance for Stormwater Management and Erosion & Sediment Control

The University's regulations establish minimum stormwater management requirements and controls to protect the general health, safety, and welfare of the public. The regulation addresses issues relating Erosion and Sediment Control, Stormwater Design Requirements, Construction Requirements and Fees for municipal services relating to SWPPP reviews, inspections

4.4.2 Design Requirements

Evaluate existing in-house practices related to review of project planning and design criteria for required changes based on compliance with local, state and/or federal construction stormwater regulations. Develop project planning and design requirements, and communicate requirements to the design and construction communities. Many MS4- owned

and managed projects have special conditions which make implementation of standard pollution prevention practices, as defined in the NYS Stormwater Management Design Manual, impractical to implement. Such projects include road reconstruction, waterline construction, and other linear type construction. Acceptable design criteria for these special condition projects must be approved by the MS4 or NYSDEC, as applicable, on a project-by-project basis, and the owner's preparation of the GP-0-15-001 Stormwater Pollution Prevention Plan (SWPPP) or Notice of Intent (NOI) is the mechanism by which accepted/equivalent practices are evaluated by approving agency.

4.4.3 Construction Plan Review

Develop a set of criteria to be utilized by the municipality to verify construction plan compliance with local, state, and/or federal construction stormwater regulations. Prepare a checklist of items that must be verified by the reviewer for each construction plan review. Develop internal procedures for tracking new and on-going construction activities. Maintain records of plans reviewed and approved for construction under this program. Provide training for staff engineers, building department staff, and other University representatives involved with construction design, inspection or compliance.

Measurable Goals

Review projects for applicability to this MCM and keep records. Inspect University construction projects in the MS4 area according to the individual SWPPP for each project.

4.5 Required Reporting

At a minimum, the covered entity shall report on the items below:

- a. Number and type of sanctions employed;
- b. Status of regulatory mechanism - certify that mechanisms will assure compliance with the NYS SPDES General Permit for Stormwater Discharges from Construction Activities;
- c. Number of construction sites authorized for disturbances of one acre or more; and
- d. Report on effectiveness of program, BMP and measurable goal assessment.

4.5.1 Goals

- 1) Ensure that covered construction activities are inspected (per standard checklist) weekly throughout the term of the project.
- 2) All non-compliant inspections referred to stormwater coordinator for investigation.
- 3) Ensure construction activities all have on file a reviewed SWMPP.

4.5.1.a Measures

*Construction projects are inspected weekly.

*Ensure construction projects have current SWMPP, annually.

5. POST-CONSTRUCTION STORMWATER MANAGEMENT

5.1 Description of Minimum Control Measure

The Post-Construction Stormwater Management minimum control measure consists of Best Management Practices (BMP's) that focus on the prevention or minimization of water quality impacts from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that discharge into the MS4. The BMP's describe structural and/or non-structural practices; the legal authority mechanism that will be used to address post-construction runoff from new development and redevelopment projects; and procedures to ensure long term operation and maintenance of BMP's.

5.2 General Permit Requirements

An MS4 must, at a minimum:

- a. Develop, implement, and enforce a program that:
 - i. provides equivalent protection to the NYS SPDES General Permit for Stormwater Discharges from Construction
 - ii. addresses stormwater runoff from new development and redevelopment projects even on University owned property from projects that result in a land disturbance of greater than or equal to one acre.
 - iii. includes a combination of structural or non-structural management practices (according to standards defined in the most current version of the NYS Stormwater Management Design Manual) that will reduce the discharge of pollutants to the MEP. In the development of environmental plans such as watershed plans, open space preservation programs, local laws, and ordinances covered entities must incorporate principles of Low Impact Development (LID), Better Site Design (BSD) and other Green Infrastructure practices to the MEP. Covered entities must consider natural resource protection, impervious area reduction, maintaining natural hydrologic conditions in developments, buffers or set back distances for protection of environmentally sensitive areas such as streams, wetlands, and erodible soils in the development of environmental plans.
 - iv. establish and maintain an inventory of post construction stormwater management practices.
- b. Develop, implement, and provide adequate resources for a program to inspect development and redevelopment sites by trained staff and to enforce and penalize violators;
- c. Develop, record, annually assess and modify as needed measurable goals; and

d. Select appropriate post-construction stormwater BMPs and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.

5.3 Methodology for Compliance with Permit Requirements

The University has regulations similar to a has adopted a modified version of NYS's Sample Local Law for Stormwater Management and Erosion & Sediment Control which includes provisions to enforce a program that reduces pollutant runoff according to NYSDEC standards.

5.4 Best Management Practices:

5.4.1 Local Ordinance for Stormwater Management and Erosion & Sediment Control

A stormwater management ordinance is required under GP-0-15-003. The stormwater management ordinance establishes minimum stormwater management requirements and controls to protect the general health, safety, and welfare of the public. The ordinance addresses issues relating to:

Erosion and Sediment Control
Stormwater Design Requirements
Construction Requirements

Measurable Goals

Maintain an inventory of University owned post-construction devices. Review qualifying construction projects for use of post-construction stormwater management/ control devices.

5.4.3 Maintenance/or Existing Storm Drainage Facilities

Develop an inventory, inspection and maintenance program for post construction facilities in the University. Inventory will summarize practices, inspection dates and associated required maintenance. Identify the location of each storm drainage facility including:

Measurable Goals

Identify the existing post construction facilities.
Inspect a storm facility according to manufacturer's recommendations.
Develop and maintain the prioritized list of necessary improvements.

- 1) Number of failed inspections per site.

- 2) Match PM activity (stormwater control item) to each physical location.
- 3) Inspect 100% of facilities quarterly.

5.5 Required Reporting

At a minimum, the covered entity shall report on the items below:

- a. Number and type of sanctions;
- b. Number and type of post-construction stormwater management practices;
- c. Number and type of post-construction stormwater management practices inspected;
- d. Number and type of post-construction stormwater management practices maintained;
- e. Status of regulatory mechanism, equivalent mechanism, that regulatory mechanism is equivalent; and
- f. Report on effectiveness of program, BMP and measurable goal assessment, and implementation of banking and credit system, if applicable.

5.5.1.a Measures

- * Inspect/maintain all post construction controls, annually.**
- * Ensure all post construction controls are in PM programming, annually.**

6. POLLUTION PREVENTION/ GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

6.1 Description of Minimum Control Measure

The Pollution Prevention/Good Housekeeping minimum control measure consists of Best Management Practices (BMP's) that focus on training and on the prevention or reduction of pollutant runoff from municipal operations. The BMPs describe the training program for specific municipal employees responsible for operations impacted by the proposed operation and maintenance programs; inspection activities for buildings, and roads within the MS4 area; implementation of BMPs for facilities or activities; screening for BMP applicability for additional activities such as salt storage, and equipment operation.

6.2 General Permit Requirements

An MS4 must, at a minimum:

- a. Develop and implement a pollution prevention/ good housekeeping program for municipal operations and facilities that:
 - addresses municipal operations and facilities that contribute or potentially contribute to POCs.

- includes the performance and documentation of a self-assessment of all University operations to determine the sources of pollutants potentially generated by the covered entity's operations and facilities and identify the municipal operations and facilities that will be addressed by the pollution prevention and good housekeeping program.
 - addresses pollution prevention and good housekeeping priorities;
 - include an employee pollution prevention and good housekeeping training program and ensures that staff receive and utilize training;
- The covered entity must also perform monitoring and record keeping in accordance with Part IV of the MSGP.
- b. Consider and incorporate cost effective runoff reduction techniques and green infrastructure in the routine upgrade of the existing stormwater conveyance systems and municipal properties to the MEP. Some examples include replacement of closed drainage with grass swales, replacement of existing islands in parking lots with rain gardens, or curb cuts to route the flow through below grade infiltration areas or other low-cost improvements that provide runoff treatment or reduction.
 - c. Develop, record and periodically assess and modify as needed measurable goals; and
 - d. Select and implement appropriate pollution prevention and good housekeeping BMPs and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.
 - e. Adapt techniques to reduce the use of fertilizers, pesticides, and herbicides, as well as their potential impact to surface water.

6.3 Methodology for Compliance with Permit Requirements

The University has identified the BMP's to reduce and prevent discharge of pollutants to the maximum extent practicable from campus activities. These documents are reviewed annually to identify changes in operations that affect stormwater runoff, and develop / implement new BMPs or modify existing BMPs to better prevent the discharge of pollutants from campus operations. Monitoring and maintenance programs are adjusted as necessary.

6.4 Best Management Practices

Implement Pollution Prevention I Good Housekeeping BMPs

Checklists are completed by Maintenance Department supervisory employees. The documents are reviewed and updated to maintain reduction to the MEP.

Stormwater System Evaluation

The University is responsible for roads, grounds and buildings in the MS4 area. The University evaluates their stormwater systems, including catch basins, culverts, and ditches, to check the condition of facilities, structural integrity, and accumulation of debris and/or sediment. Evaluations generally occur during dry weather and are coordinated with

outfall inspections. Results of the evaluations are summarized and transmitted to the appropriate department for follow up.

Municipal Training Program

Develop and implement a program that provides training to each member of the University whose work may potentially impact stormwater. This includes engineering, roadway, buildings and grounds, maintenance, and recreation departments. Training programs include: Pollution Prevention and Good Housekeeping for Municipal Operations, Performing and Environmental Self-Assessment of Municipal Operations and Facilities, Evaluating Green Infrastructure and Low Impact Development.

6.5 Goals

- 1) Perform an annual self assessment of all elements of the stormwater system.
- 2) Ensure that all affected employees have completed annual refresher training

6.5.1 Measures

- * Using checklist developed by PF; perform self assessment annually.
- * Document at least 90% training of affected employees, annually.

A GUIDANCE DOCUMENT OF BEST MANAGEMENT PRACTICES AND INSPECTION CHECKLISTS

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INTRODUCTION

This group of (II) Pollution Prevention/Good Housekeeping Best Management Practices and Inspection checklists that relate to University operations and their potential effects on stormwater have been developed and assembled by a group of municipal officials that have a wealth of experience pertaining to operations and maintenance within campus. The information that has been formulated as guidance material for implementation of the Stormwater Phase II Municipal Separate Storm Sewer System Permit has not been designed to be comprehensive in all aspects of each topic. Permittees should be "flexible" in their use of this information as pertains to their own unique municipal operations.

LANDSCAPING AND LAWN CARE

POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)
 - Nutrient loading (nitrogen and phosphorous) from fertilizer runoff can cause excessive aquatic plant growth
2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE
 - Biochemical Oxygen Demand
3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)
 - Purchase only enough lawn care products necessary for one year- store properly to avoid waste generation (spills, leaks)
 - Use slow release or naturally derived (organic) fertilizers
 - Train employees in the proper application of lawn care products
 - Develop zero input/low input lawns
 - Consider alternative landscape techniques (i.e. nature scaping, xeriscaping)

- Plant trees away from sewer lines or other underground utilities
- Use drip irrigation techniques for landscaping

4. INSPECTION PROCEDURES

- Routinely monitor lawns to identify problems during their early stages
- Identify nutrient/water needs of plants, inspect for problems by testing soils

5. MAINTENANCE PROCEDURES

- Minimize/eliminate fertilizer application
- Leave grass clippings on lawn, or mulch clippings into lawn
- Limit watering as necessary to supplement rainwater (1 inch/week is adequate; except for athletic areas)
- Mow with sharpened blades set high (3 inches) - remove only the top 1/3 of the grass
- Water plants in the early A.M.

6. ADVISORY

- Refer to the Cornell University website (Dept. of Horticulture)

SPILL RESPONSE AND PREVENTION

POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY MATERIALS THAT IMPACT STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Liquids associated with vehicle/equipment maintenance products (oils, fuels, antifreeze, etc.)
- Rock salt
- Chemicals (fertilizers, pesticides)

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity
- Biochemical oxygen demand

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Keep all materials properly stored in closed, labeled containment systems
- Use secondary containment systems where appropriate
- Obtain spill recovery materials for immediate response to a spill

4. INSPECTION PROCEDURES

- Inspect secondary containment systems, oil/water separators periodically
- Inspect containers for leaks, areas near storm receiver inlets and outlets, floor drains for indications of spills

5. MAINTENANCE PROCEDURES

- Use reusable spill cleanup materials (sponge mops, oil absorbent pads, etc.)

- Pump out oil water separators as needed
 - Protect drains with oil absorbent materials
 - Clean out receivers on regular schedule
 - Remove spilled salt from salt loading area
6. ADVISORY • Report to Environmental Health and Safety (607 777-2211)
University Police (607-777-2222) Off Hours

VEHICLE/EQUIPMENT MAINTENANCE

POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Trace amounts of metals/hydrocarbons are found in materials (i.e. fuels, antifreeze, batteries, motor oils, grease, parts cleaning solvents) that are typically used in maintenance operations

PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity
- Biochemical oxygen demand

IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)

- Conduct maintenance work indoors- if work must be performed outside, guard against spillage of materials that could discharge to storm receivers
- Seal floor drains that discharge directly to the environment, if possible
- Initiate single purpose use of vehicle bays -dedicate one (or more) bays that have no (or sealed) floor drains for repairs/maintenance
- Clean up spilled materials immediately, using "dry" methods
- Install pretreatment systems (oil/water separators) where necessary in sewer lines to capture contaminants (oil, grit), and maintain as needed
- Never leave vehicles unattended while refueling
- Identify appropriate recycling/disposal options for wastes

INSPECTION PROCEDURES

- Inspect (for maintenance purposes) floor drain systems, oil/water separators
- Monitor "parked" vehicles/equipment for leaks

MAINTENANCE PROCEDURES

- Maintain a clean work area - remove contaminants from floors, drains, catch basins, using "dry" methods

- Use non-hazardous cleaners. Use non-chlorinated solvents instead of chlorinated solvents
- Repair or replace any leaking containers
- Use steam cleaning /pressure washing instead of solvent for parts cleaning
- Store waste fluids in properly capped, labeled storage containers
- Store batteries in leak-proof, compatible (i.e. non-reactive) containers
- Rinse grass from lawn care equipment on permeable (grassed) areas
- Protect against pollution if outside maintenance is necessary (cover storm receivers, use secondary containment vessels, etc.)

ADVISORY

- Report petroleum spills (as necessary) to the NYSDEC (1-800-457-7362)

VEHICLE/EQUIPMENT WASHING

POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Nutrients (biodegradable soaps)
- Metals
- Petroleum based wastes (organic pollutants)

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Biochemical oxygen demand from nutrient sources
- Toxicity
- Hydraulic loading

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)

- Initiate single purpose use of vehicle bays - dedicate only one bay for washing (with floor drain system)
- Perform cleaning with pressurized cold water, without the use of soaps, if wastewaters will flow to a storm sewer system
- Use minimal amounts of biodegradable soaps only if wastewaters will discharge to a sanitary sewer system
- Rinse with hoses that are equipped with automatic shutoff devices and spray nozzles
- Steam clean (without soap) where wastes can be captured for proper disposal (i.e. oil/water separator)

4. INSPECTION PROCEDURES

- Inspect floor drain systems regularly - use only those that discharge to a sanitary sewer, identify the need for cleaning of catch basins, oil/water separators

5. MAINTENANCE PROCEDURES

- Map storm drain locations accurately to avoid illegal discharges

- Perform steam cleaning or pressure washing where wastes can be captured for proper disposal
 - Take precautions against excess use of/spillage of detergents
6. ADVISORY• Report to Environmental Health and Safety (607 777-2211) UPD (607-777-2222) Off Hours

ROADWAY AND BRIDGE MAINTENANCE

POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Road salt components - sodium, calcium, and chlorides
- Hydrocarbons
- Particulates - such as dry paint or abrasive compounds, road debris
- Debris

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Particulate matter
- Toxicity (paint- may contain metals such as lead, barium, cadmium)

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)

- Incorporate preventive maintenance and planning for regular operations & maintenance activities
- Pave in dry weather only.
- Stage road operations and maintenance activity (patching, potholes) to reduce spillage. Cover catch basins and manholes during this activity.
- Clean up fluid leaks or spills from paving equipment/materials immediately
- Restrict the use of herbicides/pesticide application to roadside vegetation
- Use porous asphalt for pothole repair and shoulder work
- Sweep and vacuum paved roads and shoulders to remove debris and particulate matter
- Maintain roadside vegetation; select vegetation with a high tolerance to road salt
- Control particulate wastes from bridge sandblasting operations
- Clean out bridge scuppers and catch basins regularly
- Direct water from bridge scuppers to vegetated areas
- Mechanically remove (i.e. sweep) debris from bridge deck and structure prior to washing

4. INSPECTION PROCEDURES

- Inspect paving, sweeping, vacuuming, and all other maintenance vehicles/equipment as appropriate
- Inspect roads and bridges for implementation of applicable BMP's

5. MAINTENANCE PROCEDURES

- Clean bridge scuppers routinely and keep free of debris

- Direct runoff water from bridges to vegetated areas
- Install catch basins in place of bridge scuppers
- Use tarps, booms, and vacuums during painting or blasting activities (refer to reference information to control/capture particulate matter)
- Repair leaking/defective containers or equipment on paving equipment

6. ADVISORY

- Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)

ALTERNATIVE DISCHARGE OPTIONS FOR CHLORINATED WATER POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Discharge of chlorinated (i.e. swimming pool, POTW) waters to surface waters can injure or kill aquatic life

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity-very low levels of chlorine can detrimentally affect aquatic life
- Hydraulic loading

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)

- Dechlorinate pool water before any discharge, be it over land or to the sanitary sewer, or allow the "disinfectant" to dissipate with sunlight, use, etc. prior to discharge

- Backwash water should be discharged to the sanitary sewer, if available - if not available, discharge water over vegetated areas, not to surface waters

Note that: Hydrant flushing is exempt from this practice.

4. INSPECTION PROCEDURES

- Check chlorine residuals prior to discharge.
- Do not discharge wastewaters into the sanitary sewer system during periods of high flow.

5. MAINTENANCE PROCEDURES

- Maintain proper levels of chlorine residuals in pool.
- Allow disinfectant to dissipate prior to discharge of pool waters.

6. ADVISORY

- Report to Environmental Health and Safety (607 777-2211) UPD (607-777-2222) Off Hours
- Obtain permission from the municipal POTW prior to discharging any chlorinated pool waters to a sanitary sewer system.

HAZARDOUS AND WASTE MATERIALS MANAGEMENT POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Lube oils
- Coatings and their compatible solvents (paints, thinners, etc.)
- Anti-freeze
- Cleaning agents
- Fuels (gas, diesel, kerosene)

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Biochemical oxygen demand
- Toxicity to aquatic plants and wildlife
- Particulate loading

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Ensure that all materials are stored in closed, labeled containers - if stored outside, drums should be placed on pallets, away from storm receivers - inside storage areas should be located away from floor drains
- Eliminate floor drain systems that discharge to storm drains, if possible
- Use a pretreatment system to remove contaminants prior to discharge
- Reduce stock of materials "on hand" - use "first in/first out" management technique
- Use the least toxic material (i.e. non hazardous) to perform the work
- Install/use secondary containment devices where appropriate
- Eliminate wastes by reincorporating coating/solvent mixtures into the original coating material for reuse
- Recycle materials if possible, or ensure proper disposal of wastes

4. INSPECTION PROCEDURES

- Physical on-site verification of sealed floor drains (or redirected to sanitary sewer)
- Regular inspection of material storage areas (inside and outside)
- Regular inspection and cleaning of oil/water separators by qualified contractor
- Inspect stormwater discharge locations regularly (for contaminants, soil staining, plugged discharge lines)

5. MAINTENANCE PROCEDURES

- Repair or replace any leaking/defective containers, and replace labels as necessary
- Maintain caps and/or covers on containers
- Maintain aisle space for inspection of products/wastes

6. ADVISORY

- Report to Environmental Health and Safety (607 777-2211)
- Abide by NYSDEC regulations (6NYCRR Part 372) and OSHA regulations (29 CFR Part 1910) pertaining to these topics
- Refer to NYSDOT guidance information (Environmental Handbook for Transportation Operations)

CATCH BASIN AND STORM DRAIN SYSTEM CLEANING POLLUTION PREVENTION/ GOOD HOUSEKEEPING PRACTICES

IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Catch basins capture grit and debris, which, if not removed in a timely fashion, can discharge toxic and biological pollutants during rain and/or snow melt events
- Storm drainage systems, while not designed for capture of solid materials can perform in the same manner with similar results.
- Storm ditches, if stripped of vegetation during cleaning, can result in silt deposition in receiving waters

PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity-heavy metals, organic compounds, etc.
- Biochemical oxygen demand
- Sediment loading

IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

. catch basins and floor drain systems inside of buildings should be either:

- sealed to prevent discharge
- "permitted" by NYSDEC
- discharged to sanitary sewers
- Contaminated wastewaters should not be discharged to a catch basin/street receiver/ditch
- Increase frequency of cleaning, as necessary
- Repair/replace storm drain receiver and catch basin receiver grates as necessary

INSPECTION PROCEDURES

- Physical inspection - prioritize storm drain systems and catch basins
 - catch basins on steep grades may need more frequent cleaning
- Clean catch basin when depth of deposits are > 1/3 the depth from the bottom of the basin to the invert of the lowest pipe/opening into or out of basin - Institute temporary street parking bans to facilitate access to catch basins
- Ditch inspections - ID problems while traveling to job site
- Storm event inspection- identify pollution problems (i.e. sediments) to determine the need for additional protective measures
- Post storm event inspection - ID problems (i.e. blockages)

MAINTENANCE PROCEDURES

- Catch basins/storm sewer pipe- cleaning in spring to remove sand/grit/salt from winter road maintenance, cleaning in fall to remove leaves/silt/debris

- Established ditch:
 - Maintain proper slope
 - Maintain vegetation by cutting (to capture sediment) - Do not allow vegetation to grow to a height that would impair sight lines of drivers of motor vehicles
 - Remove obstacles/ debris - (i.e. trash, tree branches, brush, cut vegetation)
 - Excavation/ditch scraping- if necessary, use devices (i.e. hay bales, silt fence) to capture sediment prior to stormwater discharge into receiving waters, reseed ditch
- New installation -- capture particulate matter- install sediment basins/other devices in ditch
- Proper disposal of debris

ADVISORY• Report to Environmental Health and Safety (607 777-2211) UPD (607-777-2222) Off Hours

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATER (SURFACE WATERS)

- Poorly maintained streets allow for a "build up" of trash, grit, and debris, from which sediment and toxic/biological pollutants can be "washed out" during rain and /or snow melt events.
- Street repair/paving processes use materials that can contaminate receiving waters if they interact with stormwater.

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Particulate matter - can cause sediment loading
- Biochemical oxygen demand
- Toxicity to aquatic plants and wildlife

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Street sweeping/vacuuming - at regular intervals, and "'as needed)'
- Perform operations such as paving in dry weather only.
- Prior to road reconstruction, consider/evaluate the use of "shouldered roads" instead of "curbed roads"
- Maintain roadside vegetation; select plants/trees that can withstand the action of road salt. Direct runoff to these areas.

4. INSPECTION PROCEDURES

- Inspect streets, and plan (as needed) for maintenance/repairs
- Prioritize - some streets (i.e. those with high traffic flows, on flat grades, or with many trees) may need more frequent cleaning

5. MAINTENANCE PROCEDURES

- Spring sweeping/vacuuming - remove salt/sand residues
- Fall sweeping, collection of leaves at appropriate time intervals
- Dry sweep or vacuum streets during dry weather
- Initiate temporary street by street parking bans to allow access for cleaning
- Maintain equipment - check for/repair fluid leaks

- Stage road operations and maintenance activity (patching, pothole repair) to reduce spillage of materials. Cover catch basins and manholes during activity

6. ADVISORY• Report to Environmental Health and Safety (607 777-2211) UPD (607-777-2222) Off Hours

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Salt is very soluble in water, and, in high concentrations, can have a deleterious effect on plants and aquatic life.

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Toxicity

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Require covered facility for salt storage (prevents Jumping and run-off loss), and size properly for seasonal needs

- Store salt on highest ground elevation to allow for infiltration of stormwater

- Calibrate salt spreaders for proper application

- Consider alternative deicing materials (i.e. calcium chloride, magnesium chloride)

- Use a wetting agent with salt to minimize "bouncing" during application

- Cover salt loading area, or build into storage shed

- Unload salt deliveries directly into storage facility, or if not possible, move inside immediately

4. INSPECTION PROCEDURES

- Look for physical evidence of problems:

- inspect salt storage shed for leaks, structural problems

- inspect salt piles for proper coverage, tarps for leaks or tears

- inspect salt application equipment

- inspect salt regularly for lumping or water contamination

- inspect surface areas for evidence of runoff- salt stains on ground near and around the salt shelter, loading area, or downslope

- inspect for excessive amounts of salt on roads

5. MAINTENANCE PROCEDURES

- Service trucks and calibrate spreaders regularly to ensure accurate, efficient distribution of salt

- Educate and train operators on hazards of over-salting to roads and environment

- Repair salt storage shed -- structural problems can lead to salt spillage

- Repair/replace tarps

6. ADVISORY• Report to Environmental Health and Safety (607 777-2211) UPD (607-777-2222) Off Hours

1. IDENTIFY IMPACTS TO/ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)

- Sediment runoff (i.e. silt, debris) can affect fish reproduction and habitat
- Removal of shade trees from stream banks can increase water temperature which can result in reduced dissolved oxygen content in streams

2. PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS, PRIORITIZE

- Particulate matter - can cause sediment loading
- Biochemical oxygen demand - increases with temperature, depletes oxygen

3. IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMP's)

- Plan the construction and/or land clearing activities so that soil is not exposed for long periods of time
- Minimize compaction of soils and impervious cover
- Maximize opportunities for infiltration
- Install sediment control devices before disturbing soil
- Limit grading to small areas
- Stabilize site to protect against sediment runoff
- Protect against sediment flowing into storm drains
- Maintain native vegetation (especially near waterways)
- Install sediment barriers on slopes or divert stormwater

4. INSPECTION PROCEDURES

- Regularly scheduled inspections (of sediment control devices, erosion safeguards)
- Inspect during storm or snow melt events

5. MAINTENANCE PROCEDURES

- Check/repair all devices that have been installed to ensure protection against erosion

6. ADVISORY • Report to Environmental Health and Safety (607 777-2211) UPD (607-777-2222) Off Hours

LANDSCAPING AND LAWN CARE-Checklist

INSPECTION PROCEDURES

- Routinely monitor lawns to identify problems during their early stages
- Identify nutrient/water needs of plants, inspect for problems by testing soils

MAINTENANCE PROCEDURES

- Minimize/eliminate fertilizer application
- Leave grass clippings on lawn, or mulch clippings into lawn
- Limit watering as necessary to supplement rainwater (1 inch/week is adequate)
- Mow with sharpened blades set high (3 inches) - remove only the top 1/3 of the grass
- Water plants in the early A.M.

Signature_____

Date_____

SPILL RESPONSE AND PREVENTION - Checklist

INSPECTION PROCEDURES

- Inspect secondary containment systems, oil/water separators periodically
- Inspect containers for leaks, areas near storm receiver inlets and outlets, floor drains for indications of spills

MAINTENANCE PROCEDURES

- Use reusable spill cleanup materials (sponge mops, oil absorbent pads, etc.)
- Pump out oil water separators as needed
- Protect drains with oil absorbent materials
- Clean out receivers on regular schedule
- Remove spilled salt from salt loading area

Signature_____ Date_____

VEHICLE/EQUIPMENT MAINTENANCE - Checklist

INSPECTION PROCEDURES

- Inspect (for maintenance purposes) floor drain systems, oil/water separators
- Monitor "parked" vehicles/equipment for leaks

MAINTENANCE PROCEDURES

- Maintain a clean work area - remove contaminants from floors, drains, catch basins, using "dry" methods
- Use non-hazardous cleaners. Use non-chlorinated solvents instead of chlorinated solvents
- Repair or replace any leaking containers
- Use steam cleaning /pressure washing instead of solvent for parts cleaning
- Store waste fluids in properly capped, labeled storage containers
- Store batteries in leak-proof, compatible (i.e. non-reactive) containers
- Rinse grass from lawn care equipment on permeable (grassed) areas
- Protect against pollution if outside maintenance is necessary (cover storm receivers, use secondary containment vessels, etc.)

Signature_____

Date_____

VEHICLE/EQUIPMENT WASHING - Checklist

INSPECTION PROCEDURES

- Inspect floor drain systems regularly - use only those that discharge to a sanitary sewer, identify the need for cleaning of catch basins, oil/water separators

MAINTENANCE PROCEDURES

- Map storm drain locations accurately to avoid illegal discharges
- Perform steam cleaning or pressure washing where wastes can be captured for proper disposal
- Take precautions against excess use of/spillage of detergents

Signature _____ Date _____

ROADWAY AND BRIDGE MAINTENANCE - Checklist

INSPECTION PROCEDURES

- Inspect paving, sweeping, vacuuming, and all other maintenance vehicles/equipment as appropriate
- Inspect roads and bridges for implementation of applicable BMP's

MAINTENANCE PROCEDURES

- Clean bridge scuppers routinely and keep free of debris
- Direct runoff water from bridges to vegetated areas
- Install catch basins in place of bridge scuppers
- Use tarps, booms, and vacuums during painting or blasting activities (refer to reference information to control/capture particulate matter)
- Repair leaking/defective containers or equipment on paving equipment

Signature_____

Date_____

ALTERNATIVE DISCHARGE OPTIONS FOR CHLORINATED WATER - Checklist

INSPECTION PROCEDURES

- Check chlorine residuals prior to discharge.
- Do not discharge wastewaters into the sanitary sewer system during periods of high flow.

MAINTENANCE PROCEDURES

- Maintain proper levels of chlorine residuals in pool.
- Allow disinfectant to dissipate prior to discharge of pool waters.

Signature_____

Date_____

HAZARDOUS AND WASTE MATERIALS MANAGEMENT - Check list

. INSPECTION PROCEDURES

- Physical on-site verification of sealed floor drains (or redirected to sanitary sewer)
- Regular inspection of material storage areas (inside and outside)
- Regular inspection and cleaning of oil/water separators by qualified contractor
- Inspect stormwater discharge locations regularly (for contaminants, soil staining, plugged discharge lines)

MAINTENANCE PROCEDURES

- Repair or replace any leaking/defective containers, and replace labels as necessary
- Maintain caps and/or covers on containers
- Maintain aisle space for inspection of products/wastes

Signature_____

Date_____

CATCH BASIN AND STORM DRAIN SYSTEM CLEANING - Checklist

INSPECTION PROCEDURES

- Physical inspection - prioritize storm drain systems and catch basins - catch basins on steep grades may need more frequent cleaning
- Clean catch basin when depth of deposits are > 1/3 the depth from the bottom of the basin to the invert of the lowest pipe/opening into or out of basin - Institute temporary street parking bans to facilitate access to catch basins
- Ditch inspections - ID problems while traveling to job site
- Storm event inspection - identify pollution problems (i.e. sediments) to determine the need for additional protective measures
- Post storm event inspection - ID problems (i.e. blockages)

MAINTENANCE PROCEDURES

- Catch basins/storm sewer pipe - cleaning in spring to remove sand/grit/salt from winter road maintenance, cleaning in fall to remove leaves/silt/debris
- Established ditch:
 - Maintain proper slope
 - Maintain vegetation by cutting (to capture sediment) -- Do not allow vegetation to grow to a height that would impair sight lines of drivers of motor vehicles
 - Remove obstacles/ debris - (i.e. trash, tree branches, brush, cut vegetation)
 - Excavation/ditch scraping- if necessary, use devices (i.e. hay bales, silt fence) to capture sediment prior to stormwater discharge into receiving waters, reseed ditch
- New installation - capture particulate matter- install sediment basins/other devices in ditch
- Proper disposal of debris

Signature_____ Date_____

STREET CLEANING AND MAINTENANCE - Checklist

INSPECTION PROCEDURES

- Inspect streets, and plan (as needed) for maintenance/repairs
- Prioritize - some streets (i.e. those with high traffic flows, on flat grades, or with many trees) ma more frequent cleaning

MAINTENANCE PROCEDURES

- Spring sweeping/vacuuming - remove salt/sand residues
- Fall sweeping, collection of leaves at appropriate time intervals
- Dry sweep or vacuum streets during dry weather
- Initiate temporary street by street parking bans to allow access for cleaning
- Maintain equipment - check for/repair fluid leaks
- Stage road operations and maintenance activity (patching, pothole repair) to reduce spillage of materials.
- Cover catch basins and manholes during activity

Signature_____

Date_____

ROAD SALT STORAGE AND APPLICATION - Checklist

INSPECTION PROCEDURES

- Look for physical evidence of problems:
 - inspect salt storage shed for leaks, structural problems
 - Inspect salt piles for proper coverage, tarps for leaks or tears
 - inspect salt application equipment
 - inspect salt regularly for lumping or water contamination
 - inspect surface areas for evidence of runoff - salt stains on ground near and around the salt shelter, loading area, or downslope
 - inspect for excessive amounts of salt on roads

MAINTENANCE PROCEDURES

- Service trucks and calibrate spreaders regularly to ensure accurate, efficient distribution of salt
- Educate and train operators on hazards of over-salting to roads and environment
- Repair salt storage shed - structural problems can lead to salt spillage
- Repair/replace tarps

Signature_____ Date_____

CONSTRUCTION AND LAND DISTURBANCE - Checklist

INSPECTION PROCEDURES

- Regularly scheduled inspections (of sediment control devices, erosion safeguards)
- Inspect during storm or snow melt events

MAINTENANCE PROCEDURES

- Check/repair all devices that have been installed to ensure protection against erosion

Signature_____

Date_____

COMPLAINT
ILLCIT DISCHARGE REPORTING FORM

Name:

Contact Phone Number:

Date:

Time Discharge

Discovered:

Date of Last Rain Event:

Estimated Quantity of Rain: in.

LOCATION OF DISCHARGE (indicate nearby street intersections, addresses, and/or landmarks for reference):

WHERE WAS DISCHARGE FOUND? OPEN DITCH STREAM PIPE OUTFALL
OTHER:

WAS WATER FLOW OBSERVED? NO YES .

WAS FLOW SOLID OR PULSING? SOLID PULSING

WAS A PHOTO TAKEN? NO YES (Please attach a copy to form)

ODOR: NONE MUSTY SEWAGE ROTTEN EGGS SOUR MILK OTHER:

COLOR: CLEAR RED YELLOW BROWN GREEN GREY OTHER:

CLARITY: CLEAR CLOUDY OPAQUE

WAS THERE AN: OILY SHEEN YES NO
GARBAGE/SEWAGE YES NO
OTHER:

ADDITIONAL INFORMATION TO ASSIST IN THE INVESTIGATION:

May 10, 2013

To: Tim Faughnan

Dave Hubeny

From: Kelly Donovan

BU EHS Department

Re: Student/Employee/Public Stormwater/Runoff Complaint

To comply with federal regulations, in the event that the UPD dispatch or officers are to receive a complaint regarding stormwater, they are to collect information from the caller. This information will include name, phone number, date/time, location and a description of the event.

Once this information is collected, please contact EHS at 777-6834 during regular business hours (M-F, 8am to 4pm). During off hours the information can be faxed to 777-4444.

EHS will log the call and provide follow up to the complainant if necessary.

May 10, 2013

To: Mile Kukawa, Physical Facilities

Wayne Schneider, Dave Stone

From: Kelly Donovan

BU EHS Department

Re: Student/Employee/Public Stormwater/Runoff Complaint

To comply with federal regulations, in the event that the BU Physical Facilities dispatchers receive a complaint regarding stormwater, they are to forward or refer the caller to UPD dispatch at 777-2393.

UPD will collect information which will include name, phone number, date/time, location and a description of the event.

EHS will log the call and provide follow up to the complainant if necessary.

MURK 6 (03/14) Metric English

SPDES STORMWATER INSPECTION REPORT

JOB STAMP

Date: _____

Day of Week:

S	M	T	W	T	F	S
---	---	---	---	---	---	---

Sheet No. ____ of ____

	AM	PM
Weather		
Temperature	° F	° F
Soil Condition		

This form is to be used on contracts covered by the SPDES General Permit for Stormwater Discharges from Construction Activity. The completed form must be filed in the Engineer's Field Office and distributed to contractors.

- Reason for this Inspection:**
- 7-calendar day inspection 30-day inspection (temporary shut-down)
- Second inspection in 7-calendar-day period due to soil disturbance exceeding 5 Acres

Codes for Erosion and Sediment control measures and Stormwater Management Practices to be inspected: (1) mulch, (2) seed and mulch, (3) check dams, (4) straw bales, (5) silt fence, (6) sediment trap, (7) turbidity curtains, (8) pipe slope drains, (9) drainage structure inlet protection, (10) rolled erosion control products, (11) soil stabilizers, (12) construction access/exits, (13) pipe inlet/outlet protection, (14) water diversion structures, (15) sedimentation basins, (16) coffer dams, (17) staging area, (18) stockpile stabilization, (19) Other _____

List **ONLY** those practices that require repair, maintenance, reinstallation or replacement. Attach COLOR copies of photographs to this report with **accurate date stamp** that shows the condition of practices **identified** as needing corrective action within 7 calendar days of the inspection. Attach COLOR copies of photographs to this report with **accurate date stamp** showing the condition of the practice(s) after completion of the corrective actions that document the completion of the **corrective** actions within a reasonable timeframe after the inspection.

ID	Location of Practice (Use stations or descriptions)	Practice		Remarks (Describe Specific Maintenance Required)(Including sediment removal, replacement, replacement or installation of practice)
		Code #	Temp or Perm? (T or P)	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

SPDES STORMWATER INSPECTION REPORT

JOB STAMP

Date: _____

Day of Week: S M T W T F S

Sheet No. ____ of ____

	AM	PM
Weather		
Temperature	° F	° F
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