

**Official OPP Stormwater Facility Inspection Policy**

**Latest Revision/Review: 5/31/2016**

The Pennsylvania State University owns and maintains approximately 16,000 acres of land in the Centre and Huntingdon Counties, Pennsylvania area around its University Park Campus. The University, in addition to being an education, research, and service institution, also undertakes extensive land development activities to continue to provide the best service possible. As part of the land development process, multiple consultants located around the Country are hired to design facilities, which results in a myriad of different design standards for stormwater facilities. Therefore, the University as a Small Municipal Storm Separate Sewer System (MS4) Permit holder has developed these overriding inspection and maintenance standards for all facilities, regardless of what operations and maintenance schedule may have been independently developed as part of the project. These standards have been developed from years of data and analysis of the University’s systems rather than arbitrary standards recommended by consultants or regulatory agencies.

Additionally, the University has thousands of employees that are continuously inspecting and maintaining the University’s property. The University has established procedures for employees to report any irregularities.

Official Office of Physical Plant Policy Statement:

**The University will inspect stormwater management facilities annually or after extreme runoff events as required. Routine visual inspections and maintenance will be conducted as determined by the University’s Stormwater Management Engineer.**

Additional facilities are inspected as indicated below:

**Dams:**

Dams are inspected by the PaDEP with the University’s stormwater engineer sometimes accompanying the Department staff in accordance with the State’s standards, which for most of the University’s dams is annually. The University hires outside third party consultants to conduct and write the required PaDEP annual inspection. The University also collects continuous water surface elevation for the dams, which is downloaded approximately every quarter at which time the dams are also viewed by OPP staff for any possible problems. University staff that mow the facilities also report any sinkhole or other irregular activity. The University owns five regulated dams in the area.

**Surface Ponds:**

Surface ponds are inspected by OPP staff as indicated above with the exception of ponds at which the University collects continuous water surface elevations. Gage data are downloaded approximately every quarter at which time the ponds are also viewed by OPP staff for any possible problems. The University’s stormwater engineer has instituted a program to improve these facilities using gaged data. University staff that mow the facilities also report any sinkhole or other irregular activity and litter and detritus are cleaned by utility staff. The University owns approximately 32 surface ponds in area.

**Bioswales and Rain Gardens:**

Bioswales and rain gardens are inspected by OPP staff as indicated above. University staff that mow the facilities also report any sinkhole or other irregular activity such as standing water for more than a couples of days. Litter and detritus are cleaned by landscape staff. The University owns approximately 34 bioswales/rain gardens, but has numerous areas that are considered rain garden type areas.

**Subsurface Detention Facilities:**

Subsurface detention facilities require special equipment to inspect and maintain including fall protection and confined entry equipment and training. For this reason OPP and Utility Services conducts annual inspections of all the subsurface facilities over a two or three day period, which is usually conducted in the late summer. Principal spillway outlet clogging has been monitored and the outlets are cleaned following inspection as required using the University’s vacuum truck or hand cleaning as required. The University’s stormwater engineer also is in the process of instituting a program to monitor and improve these facilities using gaged data. The University currently owns 35 of these types of facilities.

**Storm Drains:**

The University currently owns approximately 73 miles of storm drains in the region varying in size from 6” to 72” in diameter. Pipes consist of numerous material types including, RCP, PE, HDPE, CMP, SR, PVC, terracotta, steel, ductile iron, and cast iron. The University has started a program to camera inspect the larger and more critical pipes. Additionally, OPP tracks the age of these pipes and replaces them as required. OPP in general has instituted a policy that new or larger conveyance systems will not be installed and stormwater peaks will be maintained or reduced, with the exception of areas where the storm drains were significantly undersized and cause significant flooding. When possible, storm drains are also camera inspected when new projects occur and pipes are upgraded as required. New storm drains are camera inspected prior to being accepted.

**Specialized Trash Racks:**

In certain areas where significant quantities of floatable debris enter the storm drain system, the University has constructed specialized trash racks to remove these pollutants. These systems are inspected frequently and cleaned as required. Cleaning and debris transport have been found to be correlated to larger runoff events. An agreement has been developed with the Borough of State College for cleaning the Duck Pond trash rack for which the Borough consists of approximately ½ of the drainage area.

**Inlets:**

Inlets are vacuumed cleaned at least once a year during student breaks. Some inlets if found to be clogged or causing flooding may be cleaned at any time.

**Water quality inlets:**

Water quality inlets such as CDS units, stormceptors, etc. have been viewed over a number of years and are cleaned in accordance with the historical findings using the University’s vacuum truck. All are cleaned at a frequency of not less than annually.

**Inspection Reports:**

Because of the extensive facilities owned by the University, the University does not write or fill out inspection reports for any type of facility, other than the regulated dams, unless problems are found. OPP’s stormwater engineer documents most inspections with photographs, which are maintained on computer. Required regulatory inspections such as the MS4 “dry-flow” inspections are also done by this method. The results of the dry flow inspections or other problems such as pollutant spills, etc. are reported as required by law. Inspections of active construction sites for erosion and sediment control are conducted by the contractor (a site co-permittee), the University’s construction representative, the Centre County Conservation District, or the University permit engineer.

**Green Roofs:**

Green Roofs are inspected, weeded, or have plants added by landscape staff during the course of the year. OPP’s stormwater engineer accompanied by faculty from the Penn State Center for Green Roof Research also conducts annual inspections.