

The University of North Carolina at Chapel Hill
NPDES Phase II Permit NCS000441
Orange County, North Carolina
Revised March 23, 2018

Stormwater Management Program Plan

- 1. Population and Estimated Growth Rate:** Approximately 19,700 employees and 29,900 students

The growth rate for employees and students over the past 15 years has been approximately 1% per year.

- 2. Jurisdictional Area:** 6 square miles

- 3. Describe Stormwater Conveyance System:**

The storm sewer system at The University of North Carolina at Chapel Hill (University) and the UNC Hospitals (Hospital) conveys water from six square miles of University owned land into several watersheds. Most of the impervious surface area and the man-made stormwater conveyance system are located on the main University campus. Four watersheds are present on the main University campus including small portions of the Bolin Creek and Morgan Creek watersheds, the headwaters of the Battle Branch watershed, and the majority of the Meeting of the Waters watershed. Most of runoff from main campus flows into Meeting of the Waters Creek.

On main campus, precipitation falls on green spaces, buildings, athletic facilities, parking lots, and roads. For the developed areas the water is collected in swales, drain inlets, and stormwater piping. Water running off campus is carried primarily through stormwater pipes, eventually emerging into open stream channels before exiting University property.

The University owns property surrounding University Lake that is primarily open space and wooded. Rainfall in this area flows into the Morgan Creek watershed.

University property near the Horace Williams Airport is primarily wooded and open space, with some acreage used for maintenance facilities. This area drains into Booker and Bolin Creeks.

The University's Mason Farm property is comprised a golf course, the Mason Farm Biological Reserve, the Botanical Gardens and the Friday Center. Portions of the Mason Farm property are developed with building and parking areas. The Mason Farm Biological Reserve and Botanical Gardens are wooded and undeveloped. Run-off from the Mason Farm property flows into Morgan Creek.

Streams that receive run-off from heavily urbanized portions of campus such as Meeting of the Waters Creek are adversely affected by non-point source pollution. Streams that receive runoff from properties that are primarily wooded or open space do not show significant effects from non-point source pollution.

Carolina Living and Learning Center in Chatham County is located within the Haven Creek watershed. The site is primarily wooded and open space, with a few buildings.

The Chatham County Park and Ride Lot is a parking lot comprised primarily of pervious pavement. This property is in the Wilson Creek watershed.

The University owns and operates the Bingham Facility, which is located west of Chapel Hill in the Collins Creek watershed. This facility consists of a few research buildings and is mostly wooded, or grass covered.

The University’s Institute of Marine Sciences (IMS) is in Morehead City, North Carolina. IMS is comprised mainly of impervious surfaces (buildings and parking lots). The primary receiving stream for this facility is Bogue Sound.

4. Estimated Land Use:

Residential: 3%
 Commercial: 12%
 Industrial: 1%
 Open Space: 84%

5. Identify Receiving Streams:

Receiving Stream Name	Stream Segment	Water Quality Classification	Use Support Rating	Water Quality Issues
Morgan Creek (University Lake)	16-41-2-(1.5)	WS-II; HWQ; NSW	Fully Supporting	Non-point
Phils Creek	16-41-2-2(0.7)	WS-II; HWQ; NSW	Not Rated	Not Known
Price Creek	16-41-2-4	WS-II; HWQ; NSW	Not Rated	Not Known
Pritchards Mill Creek	16-41-2-3(2)	WS-II; HWQ; NSW	Not Rated	Not Known
Chapel Creek	16-41-2-8	WS-IV; NSW	Not Rated	Urban, Non-point
Meeting of the Waters	16-41-2-7	WS-IV; NSW	Non-Supporting	Habitat Degradation from Urban run-off, University, Hospital, Stadium Non-Point Source
Morgan Creek (from Dam to SR 1919)	16-41-2-(5)	C; NSW	Fully Supporting	Non-point
Morgan Creek (from SR 1919 to SR 1726)	16-41-2-(5.5)	WS-IV; NSW	Fully Supporting to Meeting of the Waters, Partially Supporting to SR 1726	Habitat Degradation from Point and Urban Non-point Source
Battle Branch (Tributary to Bolin Creek)	Not Numbered	None	Not Rated	Urban Non-Point

Bolin Creek (from Source to 15-501)	16-41-1-15-1(0.5)	C; NSW	Fully Supporting	Urban Non-point
Bolin Creek (US 15-501 Bus. to Little Creek)	16-41-1-15-1-(4)	WS-IV; NSW	Partially Supporting	Habitat Degradation from Urban Non-point Source
Booker Creek (from US Hwy. 15 to Little Creek)	16-41-1-15-25)	WS-IV; NSW	Partially Supporting	Urban Non-point
Crow Branch	16-41-1-15-2-2	B; NSW	Not Rated	Urban Non-Point
Jolly Branch	16-41-1-15-1-2	C; NSW	Not Rated	Urban Non-Point
Little Creek	16-41-1-15-(0.5)	WS-IV; NSW	Non-Supporting	Habitat Degradation from Urban Non-point Source
Tarbark Branch	16-41-1-15-1-3	C; NSW	Not Rated	Urban Non-Point
Haven Creek	Not Numbered	None	Not Rated	Not Known
Wilson Creek	16-41-2.6	WS-IV; NSW	Data Inconclusive	Not Known
Collins Creek	16-30-(0.5)	WSV; NSW	Data Inconclusive	Not Known
Bogue Sound	20-36-(8.5)a2	SA;HQW	Impaired	Fecal Coliform

6. Identify TMDLs (if applicable):

The University's main campus is located in the Jordan Lake watershed, specifically the Upper New Hope portion of the lake. TMDLs for Upper New Hope arm have been established for Total Phosphorus (TP) (5% reduction) and Total Nitrogen (TN) (35% reduction).

Other UNC facilities within the Jordan Lake watershed are located in the Haw River arm of Jordan Lake. TMDLs nutrient reductions for this portion of the lake are 5% for TP and 8% for TN.

7. Identify Impaired Streams, Likely Sources, and Existing Programs That Address the Impairment (if applicable):

Impaired streams include Meeting of the Waters, Little Creek and Bogue Sound. Meeting of the Waters and Little Creek are impaired by urban, non-point pollution. Bogue Sound is impaired by fecal coliform.

8. List Any Existing Water Quality Programs:

The University goes through master planning on a regular basis to ensure that future, and in some cases past, University development projects implement stormwater control measures to reduce impacts to stream quality. The University seeks opportunities to construct stormwater control measure retrofits.

9. Identify and Describe Any Partnerships and/or Inter-Local Agreements:

The University's Stormwater Utility Manager participates in the Town of Chapel Hill's Stormwater Advisory Board.

10. Describe Any State Programs:

The Erosion and Sedimentation Control Program for the University was delegated to the North Carolina Department of Energy, Mineral and Land Resources (DEMLR) by the NC General Assembly in General Statute 113A-56. The University also has its own operating procedures for erosion and sedimentation control that requires construction sites that are less than one acre in size to implement erosion and sedimentation control measures. The Department of Environment, Health, and Safety (EHS) inspects construction sites for compliance with both State required and University required erosion and sedimentation requirements.

11. Identify Any Other Entity That the Regulated Public Entity Relies on to Implement or Manage Its Stormwater Program:

The University's permit obligation for Sediment and Erosion Control is legally fulfilled by the DEMLR. The contact information for the State program is listed below.

Julie Coco
North Carolina Department of Environmental Quality
Division of Energy, Mining and Land Resources
217 West Jones Street
Raleigh, NC 27603
(919) 707-9215

12. Identify Points of Contact:

Signing Official:
Jonathan Pruitt
Vice Chancellor for Finance and Operations
Phone: (919) 962-2080

Local Government Contact:
Sharon Myers
UNC-CH EHS Environmental Compliance Officer
Phone: (919) 962-9752

Janet Clarke
UNC-CH EHS Environmental Specialist
Phone: (919) 843-0475

Sally Hoyt
UNC-CH Energy Services Stormwater Utility Manager
Phone: (919) 843-8800

Robert Bradley
 UNC-CH Grounds Stormwater Supervisor
 Phone: (919) 962-0789

North Carolina DEMLR
 (See Section 11 for contact information)

Responsible Positions	Public Education & Outreach	Public Participation & Involvement	Illicit Discharge Detection & Elimination	Construction Runoff Controls	Post Construction Run-off Control	Pollution Prevention & Good Housekeeping
Signing Official	X	X	X	X	X	X
Local Contact	X	X	X	X	X	X
Environmental Specialist	X	X	X	X		X
Stormwater Utility Manager	X	X			X	
Stormwater Supervisor					X	X
DEMLR				X		

13. Describe the Public Education and Outreach Program:

Management Measures	Measurable Goals
a. Education and Outreach Plan	The University has an Education and Outreach Plan that describes strategies to inform staff, volunteers, students and contractors of illicit discharges, proper waste disposal and reporting. This plan is in Section B, Tab 1 of the UNC EHS, NPDES Phase II Stormwater Permit Notebook.
b. Pollution Prevention Awareness Education Materials	The University distributes pollution prevention awareness information at public events (such as UNC Sustainability Day) and at Stormwater Awareness training conducted for University employees.
c. Mailers, Brochures and Posters	The University has requested that this requirement be deleted from the new permit. The EHS newsletter is no longer published.
d. Pollution Prevention Awareness Training	The University provides recurring training that includes general stormwater information, identification of stormwater pollutants, prevention of stormwater pollution, appropriate spill response and contacts for reporting spills and illicit discharges.
e. Preconstruction Contractor Education	The University distributes written guidance information at pre-construction project meetings.
f. Website	The University maintains a stormwater public education website.
g. In-House Website Tools	The University provides links to stormwater education materials for employees on the EHS stormwater website.
h. Special Events Participation	The University participates in special events such as Earth Day/Sustainability Day events on campus.
i. Hotline	The University maintains a hotline for communication the campus community. Calls, issues reported and resolution of calls are tracked

	via a database. Information on the hotline is provided in Stormwater Awareness training.
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14. Describe the Public Involvement and Participation Program:

Management Measures	Measurable Goals
a. Faculty and Student Involvement	The University works with student groups and University departments on volunteer stream clean ups. The University also glues 100 drain markers down per year, often with student assistance. The University works with student interns to design stormwater retrofits and educational signage.
b. Hotline	The University maintains a hotline for communication the campus community. The hotline information is provided on the EHS website. Calls, issues reported and resolution of calls are tracked via a database.
c. University Safety and Security Committee (USSC)	The University has asked that this measure be deleted from the new permit. The USSC is a workplace safety committee and does not address stormwater issues.

15. Describe the Illicit Discharge Detection and Elimination Program:

The University inspects and samples outfalls for signs of flow during dry weather and inspects University facilities and floor drains. Reports of stream odors and unusual stream colors that are reported to our hotline by the public are also investigated.

The University uses a combination of dry weather sampling, dry weather outfall inspections, dye testing, building inspections, plan reviews, line inspection techniques and reports from the hotline and University personnel to identify illicit discharges.

The University works in cooperation with OWASA to identify and eliminate illicit discharges from sewer lines. If the discharge is from an OWASA sewer line, OWASA is contacted to eliminate the discharge.

When an illicit discharge or connection is identified, the University, Hospital, or a contractor will make the repairs or changes necessary to eliminate the discharge.

Management Measures	Measurable Goals
a. Illicit Discharge Detection and Elimination Policy	The University's IDDE Policy is in Section D, Tab 13 of the UNC EHS, NPDES Phase II Stormwater Permit Notebook.
b. Educational Information	The University maintains fact sheets for public education and spill management. These are distributed to various campus groups as needed. The fact sheets provide information on what constitutes and illicit discharge how to report suspected illicit discharges.
c. Training	Stormwater Awareness Training provides information on how to recognize and report illicit discharges.

d. Detection and Elimination	The University's Grounds Dept. and EHS Dept. visually inspect campus outfalls. If illicit discharges are suspected, the EHS Dept. may use various analytical testing method, dye testing and/or as-built drawing reviews to identify the source of illicit discharges. The University tracks reports of illicit discharges in an Oracle database.
e. Storm Sewer Mapping	The University maintains a storm sewer system map that contains information on storm drainage system elements.
f. Hotline	The EHS Dept. operates a hotline for reporting of suspected illicit discharges. The calls and their resolutions are logged in an Oracle database.
g. Local Wastewater Program	The University has requested that this requirement be removed from our new permit. OWASA operates and maintains the local wastewater program. The University does not operate a wastewater program.

16. Describe the Post-Construction Stormwater Program:

Structural controls are addressed through the University's Design Specifications (see Section F, Tab 27 of the UNC EHS, NPDES Phase II Stormwater Permit Notebook.). All construction project designs are reviewed by the University's Energy Services Dept. and must meet all applicable State and Local post-construction runoff control regulations. Projects designs are not approved for construction unless they meet the University's Design Specifications.

17. Describe Practices to Inspect and Maintain Structural Stormwater Control Devices:

SCMs are inspected and maintained by the University's Grounds Department. All of the devices are on a regular schedule of preventative maintenance. The inspections and maintenance of structural control devices are conducted according to the University's Stormwater Infrastructure Inspection and Maintenance Manual (see Section F, Tab 27 of the UNC EHS, NPDES Phase II Stormwater Permit Notebook.).

18. Describe Practices to Reduce Polluted Stormwater Runoff from Municipally-Owned Streets, Roads, and Public Parking Lots, Piped and Vegetative Conveyances, Manholes, Cleanouts, Drop Inlets, and Drainage Structures:

The University Grounds Department performs inlet and catch basin cleaning, cleaning of stormwater pipes, open space and curbside leaf removal, parking lot, and road sweeping, and planting and mulching of erosion prone areas.

Describe Any Training Programs for Municipal Staff.

The University's EHS Department provides recurring stormwater awareness training to University maintenance employees. The number of employees trained is tracked in an Oracle training database. Examples of training PowerPoint presentations are provided in Section B, Tab 3 of the UNC EHS, NPDES Phase II Stormwater Permit Notebook).

19. Describe Spill Response Procedures for those at Municipally-Owned and/or Operated Facilities as Well as Those in the Public Right-of-Way:

The University operates its own emergency response team within the EHS Department that responds to University spills and other environmental emergencies.

During normal work hours, calls come directly to the EHS Department. During evening hours and on weekend, personnel from the University's EHS are on call to respond to spills. On evenings and weekends, emergency calls go to the University's Department of Public Safety. Public Safety then contacts the EHS on-call responder.