

Final Draft Stormwater Management Plan
Town of Chapel Hill
NCS000414



Submitted to the North Carolina Department of Environmental Quality

May 5, 2023

Prepared by the
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PART 1: INTRODUCTION

The purpose of this Stormwater Management Plan (SWMP) is to establish and define the means by which the Town of Chapel Hill will comply with its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit and the applicable provisions of the Clean Water Act to meet the federal standard of reducing pollutants in stormwater runoff to the maximum extent practicable.

This SWMP identifies the specific elements and minimum measures that the Town of Chapel Hill will develop, implement, enforce, evaluate and report to the North Carolina Department of Environmental Quality (NCDEQ) Division of Energy, Minerals and Land Resources (DEMLR) in order to comply with the MS4 Permit number NCS000414, as issued by NCDEQ. This permit covers activities associated with the discharge of stormwater from the MS4 as owned and operated by the Town of Chapel Hill and located within the corporate limits of the Town of Chapel Hill.

In preparing this SWMP, the Town of Chapel Hill has evaluated its MS4 and the permit requirements to develop a comprehensive 5-year SWMP that will meet the community's needs, address local water quality issues and provide the minimum measures necessary to comply with the permit. The SWMP will be evaluated and updated annually to ensure that the elements and minimum measures it contains continue to adequately provide for permit compliance and the community's needs.

Once the SWMP is approved by NCDEQ, all provisions contained and referenced in this SWMP, along with any approved modifications of the SWMP, are incorporated by reference into the permit and become enforceable parts of the permit. Any major changes to the approved SWMP will require resubmittal, review, and approval by NCDEQ, and may require a new public comment period depending on the nature of the changes.

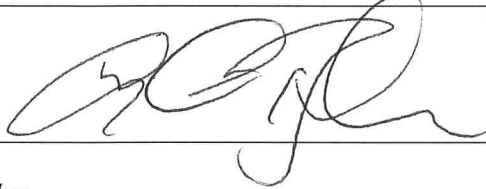
PART 2: CERTIFICATION

By my signature below I hereby certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

I am also aware that the contents of this document shall become an enforceable part of the NPDES MS4 Permit, and that both the Division and the Environmental Protection Agency have NPDES MS4 Permit compliance and enforcement authority.

- I am a ranking elected official.
- I am a principal executive officer for the permitted MS4.
- I am a duly authorized representative for the permitted MS4 and have attached the authorization made in writing by a principal executive officer or ranking elected official which specifies me as (*check one*):
 - A specific individual having overall responsibility for stormwater matters.
 - A specific position having overall responsibility for stormwater matters.

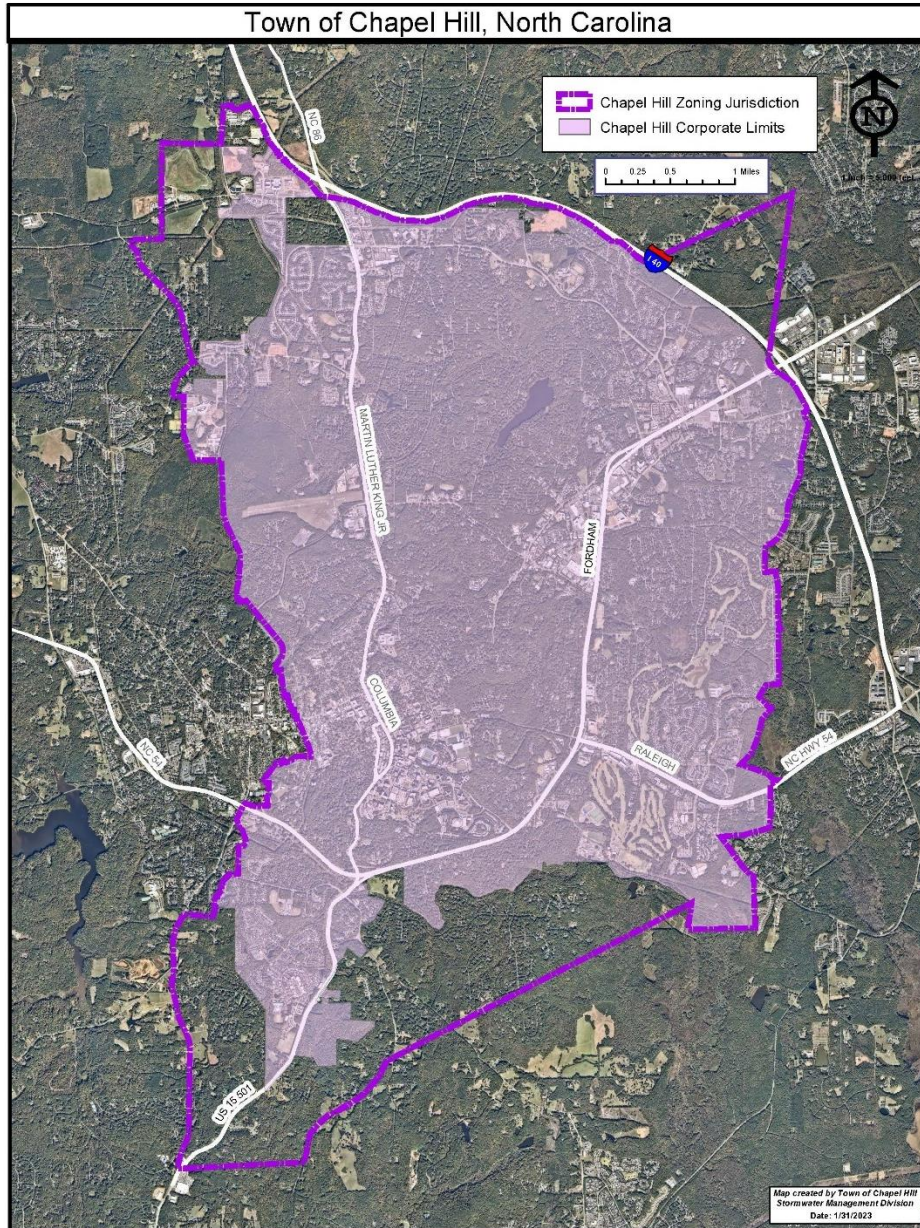
<i>Signature:</i>	
<i>Print Name:</i>	Chris Blue
<i>Title:</i>	Interim Town Manager, Town of Chapel Hill
Signed this 5th day of May 2023.	

PART 3: MS4 INFORMATION

3.1 Permitted MS4 Area

This SWMP applies throughout the corporate limits of the Town of Chapel Hill, including all regulated activities associated with the discharge of stormwater from the MS4. The map below (Figure 1) shows the corporate limits of the Town of Chapel Hill as of the date of this document. The Town's zoning jurisdiction and corporate limits may also be viewed online on the [Town's Interactive Map Viewer](#).

Figure 1. Map of Town of Chapel Hill's MS4 (Corporate) and Zoning Jurisdictions.



3.2 Existing MS4 Mapping

The current MS4 mapping is based on the Town’s stormwater infrastructure geodatabase and includes data for inlets, manholes, junction boxes, pipes, pipe junctions, outfalls, channels, ditches, and bridges, pond structures, as well as difficult access structures. The Town also maintains a comprehensive streams and waterbodies geodatabase, which is regularly updated based on field work associated with stream determinations.

The [Town’s Interactive Map Viewer](#), available to the public online, displays general zoning, streams, waterbodies, Jordan Lake Watershed riparian buffers, the Town’s Watershed Protection District (water supply watershed) boundary, and other data, but does not currently include stormwater infrastructure data. Stormwater infrastructure data are currently only available to Town staff.

The Town of Chapel Hill’s MS4 jurisdiction covers approximately 21.7 square miles. Starting in the late 1990s, GIS mapping of stormwater infrastructure was conducted intermittently across the jurisdiction, and the data collection methods and quality of data varied over time. In 2016, a specific mapping standard was established as the Town began conducting subwatershed studies with comprehensive, systematic MS4 mapping in the Booker Creek watershed. The mapping standard includes flow direction, material type and condition, size/dimensions, as well as other attributes and photos. At this time, 19% of the Town’s jurisdictional area has been mapped using the 2016 data standard. The Town plans to complete mapping of major outfalls and conveyances throughout the MS4 jurisdiction using the established mapping standard within the next MS4 permit cycle (see also Part 7: Illicit Discharge Detection and Elimination below).

Table 1: Summary of Current MS4 Mapping

Percent of MS4 Area Mapped	19	%
No. of Major Outfalls* Mapped	18**	total

**An outfall is a point where the MS4 discharges from a pipe or other conveyance (e.g., a ditch) directly into surface waters. Major outfalls are required to be mapped to meet permit requirements. A major outfall is a 36-inch diameter pipe or discharge from a drainage area > 50-acres; and for industrial zoned areas a 12-inch diameter pipe or a drainage area ≥ 2-acres.*

***Based on current estimate of major outfalls (36 inches in diameter or greater, excluding culvert crossings) mapped in the Lower Booker Creek, Eastwood Lake, and Cedar Fork subwatersheds of the Booker Creek watershed using the Town’s 2016 data standard. These outfalls are all surveyed and inventoried features; however, not all outfalls have been field checked to confirm major outfall status.*

3.3 Receiving Waters

The Town of Chapel Hill MS4 is located within the Cape Fear River Basin and discharges directly into receiving waters as listed in Table 2 below. Applicable water quality standards listed below are compiled from the following NCDEQ sources:

- [Waterbody Classification Map](#)
- [Impaired Waters and TMDL Map](#)
- Most recent NCDEQ Final [303\(d\) List](#)

Table 2: Summary of MS4 Receiving Waters

Receiving Water Name	Stream Index/ AU Number	Water Quality Classification	303(d) Listed Parameter(s) of Interest (2022)
Little Creek	16-41-1-15-(0.5)	WS-IV; NSW	Benthos
Bolin Creek (Hogan Lake)	16-41-1-15-1-(0.5)b	WS-V, C; NSW	Benthos
Bolin Creek	16-41-1-15-1-(4)	WS-IV; NSW	Benthos
Jolly Branch	16-41-1-15-1-2	WS-V; NSW	n/a
Tanbark (Tanyard) Branch	16-41-1-15-1-3	WS-V, C; NSW	n/a
Booker Creek (Eastwood Lake)	16-41-1-15-2-(1)	WS-V, B; NSW	Dissolved Oxygen
Booker Creek	16-41-1-15-2-(4)	WS-V, C; NSW	Benthos
Booker Creek	16-41-1-15-2-(5)	WS-IV; NSW	Benthos
Crow Branch	16-41-1-15-2-2	B; NSW	n/a
Cedar Fork Creek	16-41-1-15-2-3	WS-V, B; NSW	n/a
Old Field Creek	16-41-1-7	WS-V; NSW	n/a
Morgan Creek	16-41-2-(5.5)a	WS-IV; NSW	n/a
Morgan Creek	16-41-2-(5.5)b	WS-IV; NSW	Benthos, Fish Community
Wilson Creek	16-41-2-6	WS-IV; NSW	n/a
Fan Branch Creek	16-41-2-6-1	WS-IV; NSW	n/a
Meeting of the Waters	16-41-2-7	WS-IV; NSW	n/a
Chapel Creek	16-41-2-8	WS-IV; NSW	n/a
Battle Branch	Source to Bolin Creek	C; NSW	n/a

3.4 MS4 Interconnection

The Town of Chapel Hill MS4 is interconnected with another regulated MS4 and directly receives stormwater from the Town of Carrboro and the University of North Carolina – Chapel Hill (UNC-CH) MS4s, and the Town of Chapel Hill MS4 directly discharges stormwater into the Town of Carrboro MS4.

The number of interconnections entering the Town of Chapel Hill MS4 from the University of North Carolina – Chapel Hill MS4 is two (2), as determined by analysis of GIS data from UNC-CH. These two points are where a UNC-CH storm system conveyance (pipe or ditch) of a major outfall size (pipe greater than or equal to 36-inches or a discharge area (DA) greater than or equal to 50 acres) directly connects to the Town’s stormwater system. This does not include places where streams cross from UNC-CH property into the Town of Chapel Hill’s jurisdiction, nor does it include sheet flow where the acreage is less than 50 acres or conveyances (pipes or ditches) that are less than 36 inches in diameter or that convey DA of less than 50 acres.

The number of interconnections entering the Town of Chapel Hill MS4 from the Town of Carrboro MS4 is six (6) and the number of interconnections leaving the Town of Chapel Hill MS4 into Town of Carrboro MS4 is five (5), as determined by analysis of GIS data from Town of Carrboro.

The MS4 does interconnect with the statewide NCDOT MS4 and includes:

- a. The interconnection is receiving stormwater from the NCDOT MS4. The number of interconnections is unknown.
- b. The interconnection is discharging stormwater into the NCDOT MS4. The number of interconnections is unknown.
- c. The Town of Chapel Hill MS4 mapping does not identify interconnections with the NCDOT MS4.
- d. The Town of Chapel Hill MS4 mapping does not include NCDOT MS4 outfalls.

Additional comprehensive mapping within the Town’s MS4 jurisdiction and further coordination with UNC-CH, Town of Carrboro, and NCDOT about interconnections is needed. See Part 7: Illicit Discharge Detection and Elimination below for plans to complete mapping of major outfalls and conveyances within the next permit cycle.

3.5 Total Maximum Daily Loads (TMDLs)

The TMDL(s) listed in Table 3 below have been approved within the MS4 area, as determined by the map and list provided on the [NCDEQ Modeling & Assessment Unit web page](#). The table also indicates whether the approved TMDL has a specific stormwater Waste Load Allocation (WLA) for any watershed directly receiving discharges from the permitted MS4, and whether a Water Quality Recovery Program has been implemented to address the WLA.

Table 3: Summary of Approved TMDLs

Water Body Name	TMDL Pollutant(s) of Concern	Stormwater Waste Load Allocation (Y/N)	Water Quality Recovery Program (Y/N)
Jordan Lake	Nitrogen, Phosphorus, <i>chlorophyll-a</i> , Turbidity, High pH	N	N
Statewide	Mercury	N	N

Source: <https://deq.nc.gov/about/divisions/water-resources/planning/modeling-assessment/tmdls/draft-and-approved-tmdls#CapeFear>

There are no current Total Maximum Daily Load (TMDL) requirements to address water quality impairments within the Town’s jurisdiction as of the date of this document. However, all of Chapel Hill, including the Town’s municipal corporate limits and extraterritorial jurisdiction (ETJ), are tributary to the Upper New Hope Arm of the Jordan Lake (which includes the New Hope Creek and Morgan Creek tributaries to Jordan Lake).

The North Carolina Division of Water Quality (DWQ, now Division of Water Resources or DWR) developed a TMDL for the B. Everett Jordan Reservoir (Jordan Lake) to address *chlorophyll-a* impairments, and the EPA Region 4 approved the TMDL on September 20, 2007. Nutrient controls are the most common focus of management schemes for reducing excessive algal growth and *chlorophyll-a* concentrations. Therefore, the Jordan Lake TMDL was written to address total nitrogen (TN) and total phosphorus (TP) loads to the lake. North Carolina adopted mandatory Jordan Lake Rules in 2009 to reduce the amount of nutrient pollution entering Jordan Lake. Implementation of the nutrient reduction regulations has been delayed by the State Legislature. However, the Town has been complying annually with the Jordan Lake Stage One Adaptive Management Program for Existing Development Requirements. The Town identifies a retrofit opportunity for existing development within the MS4 each year and submits an annual report to NCDWR.

Two addendums to the Jordan Lake TMDL were later developed and approved: one in 2010 to address *chlorophyll-a* impairments in the Haw River (Back Creek and Cane Creek) and Upper New Hope (Morgan Creek (University Lake) arms; and another in 2014 to address turbidity impairments within the Upper New Hope arm (New Hope and Morgan Creek tributaries), and high pH impairments in the Haw River and Upper New Hope (Morgan Creek) arms of the lake.

In addition, the Statewide TMDL for mercury does not require any actions by the Town of Chapel Hill because most mercury in stormwater comes from atmospheric deposition.

For more information on draft and approved TMDLs within the Cape Fear River Basin, see <https://deq.nc.gov/about/divisions/water-resources/planning/modeling-assessment/tmdls/draft-and-approved-tmdls#CapeFear>.

3.6 Endangered and Threatened Species and Critical Habitat

Significant populations of threatened or endangered species and/or critical habitat are identified within the regulated MS4 urbanized area. Based upon a review of the [Endangered and Threatened Species and Species of Concern by County for North Carolina Map](#) and [Listed species believed to or known to occur in North Carolina map](#) as provided by the [U.S. Fish and Wildlife Service](#), the species listed in Table 4 have the potential to occur within the regulated MS4 urbanized area. Of those species listed, Table 4 summarizes the species that may be significantly impacted by the quality of surface waters within their habitat.

Table 4. Potential Federally Listed Species/Habitat Impacted by Surface Water Quality

Scientific Name	Common name	Species Group	Federal Listing Status
<i>Fusconaia masoni</i>	Atlantic Pigtoe	Clam	Threatened

Source: USFWS Consultation Letter 04EN2000-2022-SLI-0297, Species List, November 23, 2021

The Atlantic Pigtoe (*Fusconaia masoni*) is a freshwater mussel species native to the Atlantic Slope drainage in Virginia, North Carolina, South Carolina, and Georgia. The species occurs in streams and rivers, and is dependent on clean, moderately flowing water with high dissolved oxygen content. Historically, the best populations existed in creeks and rivers with excellent water quality, where stream flows were sufficient to maintain clean, silt-free substrates. Because this species prefers more pristine conditions, it typically occurs in headwaters and rural watersheds. It is associated with coarse sand substrates at the downstream edge of riffles, and less commonly occurs in cobble, silt or sand detritus mixtures ([U.S. Fish and Wildlife Service, 2021. Species status assessment report for the Atlantic Pigtoe \(*Fusconaia masoni*\). Version 1.4. June, 2021. Atlanta, GA.](#)).

A small portion of the Town of Chapel Hill’s MS4 drains to a known population of the Atlantic Pigtoe that has been documented within the New Hope Creek watershed of the Cape Fear River Basin.

3.7 Industrial Facility Discharges

The Town of Chapel Hill MS4 jurisdictional area (corporate/municipal limits) includes the following industrial facilities which hold NPDES Industrial Stormwater Permits, as determined from the [NCDEQ Maps & Permit Data web page](#).

Table 5: NPDES Stormwater Permitted Industrial Facilities

Permit Number	Facility Name (Permittee)
NCG110048	Mason Farm WWTP (Orange Water and Sewer Authority)
NCS000201*	UNC-CH Hazardous Material Facility (UNC-Chapel Hill)

Source: <https://deq.nc.gov/about/divisions/energy-mineral-and-land-resources/stormwater/stormwater-program/maps-permit-data>

*NOTE: The UNC-CH Hazardous Material Facility is part of the UNC-CH MS4 jurisdiction (see NPDES MS4 Permit #NCS000441).

3.8 Non-Stormwater Discharges

The water quality impacts of non-stormwater discharges have been evaluated by the Town of Chapel Hill as summarized in Table 6 below. The unpermitted non-stormwater flows listed as incidental do not significantly impact water quality.

The Town of Chapel Hill has not evaluated residential and charity car washing and street washing for possible significant water quality impacts.

Street washing discharges are addressed under the Pavement Management Program in Part 10 of this SWMP. Street washing is performed with a vacuum street sweeping process that removes excess debris/sediment/solids and reduces pollutants associated with street washing; the resulting wash water is disposed of properly along with the other materials collected.

Wash water associated with car washing that does not contain detergents or does not discharge directly into the MS4 is considered incidental. However, these types of non-stormwater discharges that do contain detergents have not been evaluated by the Town of Chapel Hill to determine whether they may significantly impact water quality. To mitigate impacts from car washing, the Town utilizes Public Education and Outreach, IDDE, and Pollution Prevention and Good Housekeeping BMPs to educate residents, commercial businesses, and municipal staff on the possible effects of detergents entering the surface waters.

The Division has not required that other non-stormwater flows be specifically controlled by the Town of Chapel Hill.

In addition, the Town of Chapel Hill has evaluated other non-stormwater discharges, including water line and fire hydrant flushing, air conditioning condensate, and dechlorinated swimming pool discharges, and has determined that these activities may possibly significantly impact water quality. Below is a summary of the Town's evaluation of these activities and the actions taken to prevent these discharges from significantly impacting water quality. Town staff periodically review allowable non-stormwater discharges in the IDDE Ordinance to assess whether they have potential to significantly impact water quality or cause or contribute to a violation of applicable water quality standards. If so, they are regulated as an illicit discharge.

The Orange Water and Sewer Authority (OWASA) updated their Sewer Use Ordinance on January 9, 2020, to allow for discharge from dumpster pads, elevator sumps, pool filter backwash, and condensate from commercial HVAC systems into the sanitary sewer system if the discharge meets the requirements of the ordinance (i.e., does not damage the collection system or interfere with treatment). Formal review and approval by OWASA are required before these discharges may be conveyed to the sanitary sewer system.

Pool Discharge & Backwash

Discharges from swimming pool back-washing, pool discharges that have not been dechlorinated, and saltwater pool discharges are all non-stormwater discharges with the potential to significantly contribute pollutants to the Town's MS4 and waters of the State.

A report of toxicity at one of the Town's benthic monitoring sites in 2015 prompted an investigation into the source of the toxicity, and it was discovered that an outdoor swimming pool at an apartment complex was directly discharging chlorinated pool water and backwash directly into a stream. In

2016, specific conductivity readings obtained by Town staff at several different outfalls that receive swimming pool filter backwash far exceeded 1000uS/cm, indicating that pool backwash was causing potentially significant water quality issues. As a result, the Town's IDDE Ordinance was drafted and approved to allow discharges from *dechlorinated* swimming pools only, and to specifically prohibit pool filter backwash discharge or saltwater pool discharge.

The Town has a working relationship with the Orange Water and Sewer Authority (OWASA) regarding pool discharge allowances. Additionally, pool permits are reviewed by Town staff to ensure that pool discharges do not significantly impact water quality standards. New pool owners receive a [Pool Maintenance brochure](#) that provides information on the IDDE Ordinance and best practices.

Previously permitted pool discharges are also occasionally discovered during field work for stream determinations. If direct discharge to streams is observed, property owners are notified and required to redirect pool backwash discharge to sanitary sewer if possible; if not possible, the Town works with the property owner on alternatives, such as installing a non-discharge cartridge system.

Commercial Air Conditioning Condensate

Scientific research has identified wastewater discharges produced from air conditioning cleaning operations to have high concentration of heavy metals and other pollutant of concern to water quality. Heating, Ventilation, and Air Conditioning (HVAC) companies clean the metal condensation coils and fins of air conditioning units for maintenance and efficiency purposes.

Though the Town's IDDE Ordinance lists commercial AC condensate as an allowed activity, the Town of Chapel Hill prohibits the discharge of HVAC condensate from commercial operations into the Town's MS4 due to its potential to significantly impact water quality. To comply with this requirement, proposed new commercial developments are required to plumb the HVAC unit to sanitary sewer after a plumbing plan has been reviewed and approved by OWASA. Existing commercial buildings with the potential to discharge HVAC condensate into Town's MS4 are provided education about the impact of the HVAC condensate on surface water quality and given some time to plumb the unit to sanitary sewer. Commercial cleaning companies are also required to contain, collect, and properly dispose of their waste into the sanitary sewer system.

Water Line Flushing

To maintain drinking water distribution systems and fire hydrants and to ensure the quality of drinking water being distributed, many activities are conducted that result in the discharge of chlorinated and super-chlorinated water. Activities such as fire hydrant flushing, water line pressure testing and maintenance, water line flushing, and other distribution system discharges release super-chlorinated water into surface water. Super-chlorinated water (i.e., water with chlorine concentrations above 4 mg/l) discharge into surface water is toxic to aquatic life.

The Towns of Chapel Hill and Carrboro and UNC-CH have all worked with OWASA to prevent the discharge of super-chlorinated water during water line and fire hydrant flushing. OWASA has procedures in place to dechlorinate during water line flushing. Using dechlorination tablets, the super-chlorinated/chlorinated water is dechlorinated to 0.1 mg/l total residue chlorine or less prior to discharge to surface waters or the Town's MS4.

Other Prohibited Discharges

Stormwater Management staff have also identified area drains in covered parking lots and elevator sump pumps that drain to the storm sewer system as sources of pollution and have prohibited installation of these types of drains on new and redevelopment projects.

Table 6: Non-Stormwater Discharges

Non-Stormwater Discharge	Water Quality Impacts
Water line and fire hydrant flushing	Possible
Landscape irrigation	Incidental
Diverted stream flows	Incidental
Rising groundwater	Incidental
Uncontaminated groundwater infiltration	Incidental
Uncontaminated pumped groundwater	Incidental
Uncontaminated potable water sources	Incidental
Foundation drains	Incidental
Air conditioning condensate	Possible
Irrigation waters	Incidental
Springs	Incidental
Water from crawl space pumps	Incidental
Footing drains	Incidental
Lawn watering	Incidental
Residential and charity car washing	Possible
Flows from riparian habitats and wetlands	Incidental
Dechlorinated swimming pool discharges	Incidental
Street wash water	Possible
Flows from firefighting activities	Incidental

3.9 Target Pollutants and Sources

In addition to those target pollutants identified above, the Town of Chapel Hill is aware of other significant water quality issues within the permitted MS4 area.

Table 7 (below) summarizes the water quality pollutants identified throughout Part 3 of this SWMP, the likely activities/sources/targeted audiences attributed to each pollutant and identifies the associated SWMP program(s) that address each. In addition, the Town of Chapel Hill has evaluated schools, homeowners and businesses as target audiences that are likely to have significant stormwater impacts. See below for more information about the identified target audiences, which are based on citizen reports, staff investigations, land use data and other information sources.

Table 7: Summary of Target Pollutants and Sources

Target Pollutant(s)	Likely Source(s)/Target Audience(s)	SWMP Program Addressing Target Pollutant(s)/Audience(s)
Sediment	Construction	Construction Site Runoff IDDE
Oil and Grease	Commercial, Residents, Municipal Employees	Public Education & Outreach IDDE Pollution Prevention & Good Housekeeping
Residential & Charity Car Washing	Commercial, Residents, Municipal Employees	Public Education & Outreach IDDE Pollution Prevention & Good Housekeeping
Trash	Commercial, Residents, Municipal Employees, Construction	Public Education & Outreach Public Involvement & Participation IDDE Pollution Prevention & Good Housekeeping
Yard Trimmings	Commercial, Residents, Municipal Employees	Public Education & Outreach Pollution Prevention & Good Housekeeping
Pet Waste	Residents	Public Education & Outreach IDDE
Proper Waste Disposal	Commercial, Residents, Municipal Employees, Construction	Public Education & Outreach IDDE Pollution Prevention & Good Housekeeping
Street Wash Water	Residents, Municipal Employees, Construction	Public Education & Outreach IDDE Construction Site Runoff Pollution Prevention & Good Housekeeping
Sewage	Commercial, Residents, Municipal Employees	Public Education & Outreach IDDE Pollution Prevention & Good Housekeeping

The following are general descriptions of the target audiences listed in Table 7 above:

- **Residents:** Residential land use is approximately 64% of the Town’s jurisdiction. Examples of sub-audiences in this category includes the following audiences:

Homeowner’s Associations (HOAs) and Homeowners: Homeowners are likely to care for a home and property, engaging in yard care, trash disposal, pet ownership, car maintenance, septic system or private sanitary sewer maintenance, and/or reporting pollution. HOAs manage contracts for landscaping and SCM maintenance.

Single-Family Home Renters: Renters also engage in yard care, trash disposal, pet ownership, car maintenance, and/or reporting pollution.

Multi-Family Residential Communities: The Town has a significant population of university students who live in apartments. Educating residents of these complexes about pet waste, litter, and proper waste disposal can be beneficial to water quality. The Town works with property managers to help reach this audience.

Pet Owners: Pet waste pollution is more preventable when the public is informed about the threat it causes to water quality.

School-Aged Children: This target audience has the greatest potential for growing up to be good watershed stewards and influencing the behavior of adults. The Town maintains a youth education program and partners with local schools to deliver information and hands-on experiences that are aligned with the North Carolina Course of Study.

- **Construction:** This target audience has the greatest potential for affecting erosion and sedimentation control at construction sites, which can be a significant contributor of sediment to the Town’s waterways. This industry also has the greatest potential for improper disposal of waste materials such as trash, paint, and concrete.
- **Commercial:** This target audience includes [restaurants](#), landscapers, paint stores/paint contractors, mobile/power washing companies, auto service and other local businesses that can benefit from knowledge of BMPs to prevent pollution that are specific to their business activities.
- **Municipal Employees:** Town staff engage in a variety of activities in Town facilities that can impact water quality. Examples include landscaping, vehicle washing, hazardous waste disposal, and pollution reporting.

PART 4: STORMWATER MANAGEMENT PROGRAM ADMINISTRATION

4.1 Organizational Structure

The Town of Chapel Hill MS4 program is primarily administered by the Public Works Department with some SWMP components implemented by the Parks and Recreation Department and the Fire Department. The Orange County Planning & Inspections Department serves as the delegated authority for the

Construction Site Runoff Control program. See the Public Works organizational chart (Figure 2) and summary of responsible parties (Table 8) below.

Figure 2. Organizational Chart for the Town of Chapel Hill Public Works Department.

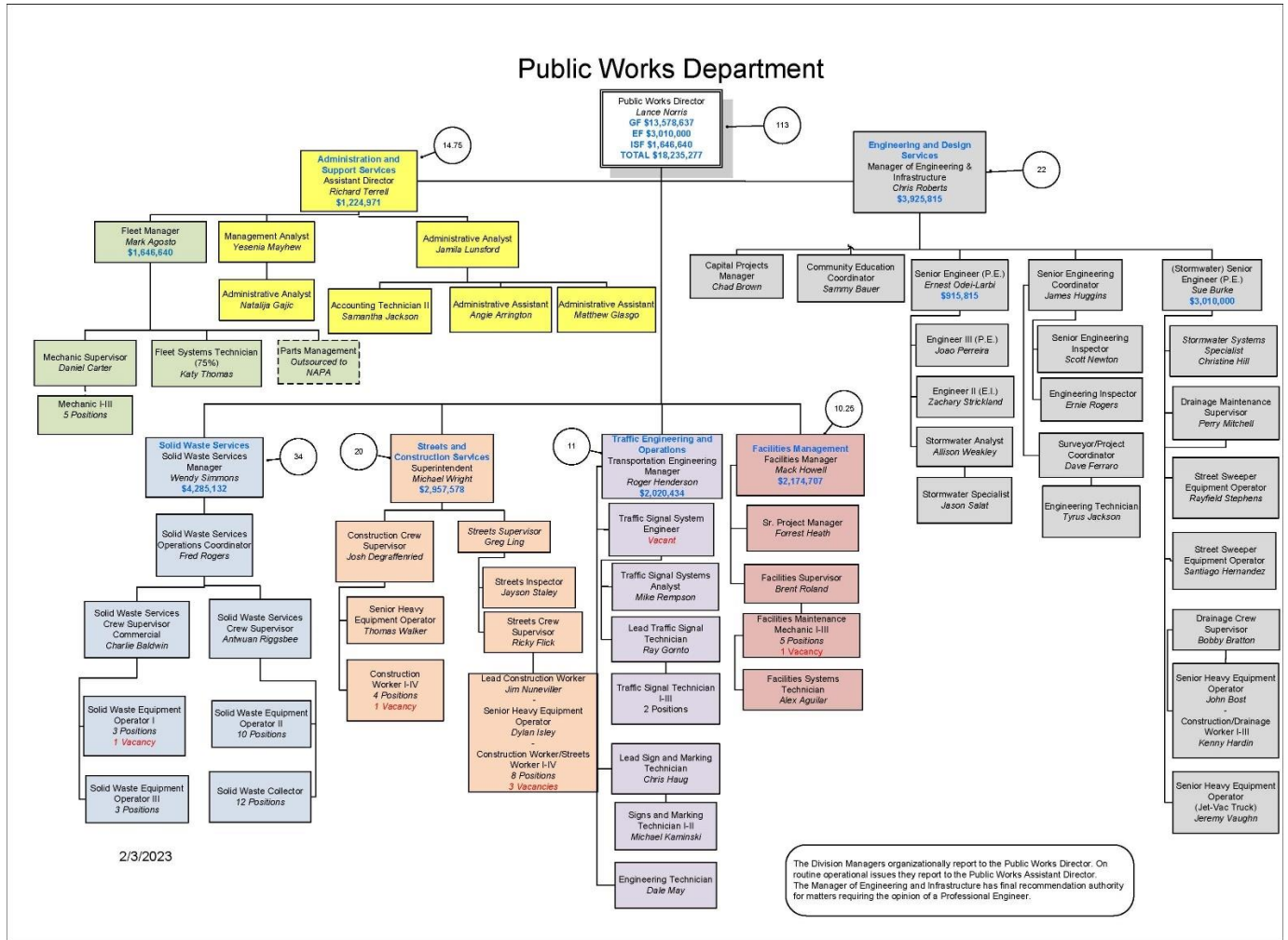


Table 8: Summary of Responsible Parties

SWMP Component	Responsible Position(s)	Staff Name(s)	Department
Stormwater Program Administration	Manager of Engineering & Infrastructure	Chris Roberts	Public Works Department
SWMP Management	Stormwater Analyst	Allison Weakley	Public Works - Stormwater Management Division
Public Education & Outreach	Community Education Coordinator Stormwater Analyst Stormwater Specialist	Sammy Bauer Allison Weakley Jason Salat	Public Works – Stormwater Management Division

SWMP Component	Responsible Position(s)	Staff Name(s)	Department
Public Involvement & Participation	Senior Engineer Community Education Coordinator	Sue Burke Sammy Bauer	Public Works – Stormwater Management Division
Illicit Discharge Detection & Elimination	Stormwater Analyst Stormwater Specialist	Allison Weakley Jason Salat	Public Works – Stormwater Management Division
Construction Site Runoff Control	Orange County Deputy Director Development Services	Patrick R. Mallett	Orange County Planning & Inspections Department
Post-Construction Stormwater Management	Senior Engineer Engineer III Engineer II	Ernest Odei-Larbi Joao Pereira Zach Strickland	Public Works – Stormwater Management Division
Pollution Prevention/Good Housekeeping for Municipal Operations	Senior Engineer Community Education Coordinator Stormwater Specialist	Ernest Odei-Larbi Sammy Bauer Jason Salat	Public Works – Stormwater Management Division
Municipal Facilities Operation & Maintenance Program	Facilities Manager	Mack Howell	Public Works – Facilities Management
Spill Response Program	Manager of Engineering & Infrastructure Assistant Chief Administration	Chris Roberts Stacy Graves	Public Works Department Fire Department
MS4 Operation & Maintenance Program	Senior Engineer Stormwater Maintenance Supervisor	Sue Burke Perry Mitchell	Public Works – Stormwater Management Division
Municipal Stormwater Control Measure (SCM) Operation & Maintenance Program	Senior Engineer Engineer III Engineer II	Ernest Odei-Larbi Joao Pereira Zach Strickland	Public Works – Stormwater Management Division
Pesticide, Herbicide & Fertilizer Management Program	Senior Manager of Planning & Park Operations Park Maintenance Superintendent	Kevin Robinson Tanner Thompson	Parks & Recreation Department
Vehicle Equipment Maintenance & Cleaning Program*	Assistant Chief Administration	Stacy Graves	Fire Department
Pavement Management Program	Streets & Construction Services Superintendent Streets Supervisor Stormwater Maintenance Supervisor	Mike Wright Greg Ling Perry Mitchell	Public Works Department
Total Maximum Daily Load (TMDL) Requirements	Manager of Engineering & Infrastructure	Chris Roberts	Public Works Department

**The Town Operations Center (Public Works Fleet Maintenance & Transit) is located outside of the MS4 permit jurisdiction and is covered by NPDES Permit # NCG080800.*

4.2 Program Funding and Budget

In accordance with the issued permit, the Town of Chapel Hill shall maintain adequate funding and staffing to implement and manage the provisions of the SWMP and comply with the requirements of the NPDES MS4 Permit. The budget includes the permit administering and compliance fee, which is billed by the Division annually.

The Town of Chapel Hill Stormwater Management Program is funded through a stormwater utility fee with a FY22 budget of \$3,009,005. The current budget includes the following breakdown of funding per overall program:

Program Element	FY22 Budget	Percentage Of Total Budget
Street Sweeping	\$325,676	11%
Regulatory Compliance	\$1,062,292	35%
Infrastructure	\$1,621,532	54%
TOTAL BUDGET	\$3,009,500	100%

The Stormwater Management Program budget includes personnel costs, NPDES permit compliance, subwatershed studies, infrastructure maintenance, and capital improvement projects.

The utility fee for each property within the Town’s MS4 is determined by the amount of impervious area within the parcel. A fee of \$34.97 per year is charged for every 1,000 square feet or portion thereof (Equivalent Rate Unit – ERU) of impervious surface for single family and most commercial properties. These fees are billed on the annual County Property Tax Assessment. Information about the Town’s stormwater utility fee is located at:

<https://www.townofchapelhill.org/government/departments-services/public-works/stormwater-management/stormwater-management-utility>.

The following staff/funding gaps have been identified and will be included in a more complete fiscal gap analysis and business plan to address these needs over the next permit cycle (see Program Administration BMP # 3 below):

- Major outfall mapping and data collection,
- Dry weather screening, dependent on completion of major outfall mapping, and
- SCM inspections & maintenance on Town-owned properties.

4.3 Shared Responsibility

The Town of Chapel Hill will share the responsibility to implement the following minimum control measures, which are at least as stringent as the corresponding NPDES MS4 Permit requirement. The Town of Chapel Hill remains responsible for compliance if the other entity fails to perform the permit obligation

and may be subject to enforcement action if neither the Town of Chapel Hill nor the other entity fully performs the permit obligation.

Table 9 below summarizes who will be implementing the component, what the component program is called, the specific SWMP BMP or permit requirement that is being met by the shared responsibility, and whether or not a legal agreement to share responsibility is in place.

Table 9: Shared Responsibilities

SWMP BMP or Permit Requirement	Implementing Entity & Program Name	Legal Agreement (Y/N)
Permit Section 3.5	Orange County Erosion & Sedimentation Control Program	Y
Permit Sections 3.2.2 & 3.2.4	Clean Water Education Partnership (CWEP)	Y

4.4 Co-Permittees

There are no other entities applying for co-permittee status under the NPDES MS4 permit number NCS000414 for the Town of Chapel Hill.

Table 10: Co-Permittee Contact Information

Co-Permittee MS4 Name	Contact Person	Phone & E-Mail	Interlocal Agreement (Y/N)
N/A			

4.5 Measurable Goals for Program Administration

The Town of Chapel Hill will manage and report the following Best Management Practices (BMPs) for the administration of the Stormwater Management Program.

Table 11: Program Administration BMPs				
Permit Ref.	2.1.2 Program Implementation Measures to evaluate the performance and effectiveness of the SWMP program components at least annually. Results shall be used by the permittee to modify the program components as necessary to accomplish the intent of the Stormwater Program.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
1.	Annual Self-Assessment			
	Evaluate the performance and effectiveness of the program components at least annually. Results shall be used to modify the program components as necessary to accomplish the intent of the Stormwater Program.	1. Prepare, conduct and document an annual evaluation of the program components.	1. Annually, Permit Years 1 – 5	1. Yes/No

Table 11: Program Administration BMPs

Permit Ref.	1.6: Permit Renewal Application Measures to submit a permit renewal application no later than 180 days prior to the expiration date of the NPDES MS4 permit.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
2.	Permit Renewal Application			
	Submit a permit renewal application and Draft SWMP no later than 180 prior to permit expiration.	1. Draft SWMP applicable to the proceeding 5 years following permit re-issuance.	1. Permit Year 5	1. Yes/No
		2. Certify the stormwater permit renewal application (Permit renewal application form and Draft SWMP for the next 5-year permit cycle) and submit to NCDEQ at least 180 days prior to permit expiration.	2. Permit Year 5	2. Date of permit renewal application submittal
Permit Ref.	2.1.1: Adequate Funding and Staffing The permittee shall maintain adequate funding and staffing to implement and manage the provisions of the SWMP and meet all requirements of this permit.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
3.	Adequate Funding and Staffing			
	Perform a fiscal analysis and explore options to obtain adequate program funding to fully fund the stormwater program and meet all requirements of the permit. Select and implement a funding strategy for the Phase II Stormwater Program.	1. Complete a documented fiscal gap analysis to ensure the program maintains adequate funding and staffing.	1. Permit Year 1	1. Adequate/Inadequate
		2. Determine available funding mechanisms and evaluate options.	2. Permit Year 1	2. Yes/No/Status
		3. Select a funding mechanism.	3. Permit Year 1	3. Yes/No/Status
		4. Implement funding mechanism.	4. Permit Years 2-5	4. Yes/No/Status

Table 11: Program Administration BMPs

Permit Ref.	2.2.2: Written Procedures The Permittee shall maintain, and make available to the Division upon request, written procedures for implementing the six minimum control measures.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
4.	Maintain Written Procedures			
	Create and maintain written procedures that identify specific action steps, schedules, resources, and responsibilities for implementing the Minimum Control Measures (MCMs).	1. Create written procedures for all MCMs.	1. Permit Year 1	1. Yes/No/Status
		2. Review written procedures for all MCMs and update as needed.	2. Permit Years 2-5	2. Yes/No/Status

PART 5: PUBLIC EDUCATION AND OUTREACH PROGRAM

The Town of Chapel Hill will implement a Public Education and Outreach Program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and steps the public can take to reduce pollutants in stormwater runoff.

The target audiences and identified pollutants listed in Part 3.9 of this SWMP, which will be addressed by the Public Education and Outreach Program, are summarized in Table 12 below. In addition, the Town of Chapel Hill is required to inform businesses and the general public of the hazards associated with illicit discharges, illegal dumping, and improper disposal of waste.

The Town of Chapel Hill has also partnered with the Clean Water Education Partnership (CWEP) to implement public education and outreach. CWEP provides television commercials and radio advertising, movie theater ads, newspaper and print ads, brochures and flyers, curriculum guides for schools, direct education, and promotional items with a logo.

Table 12: Summary of Target Pollutants & Audiences

Target Pollutant(s)	Likely Source(s)/Target Audience(s)
Sediment	Construction
Oil & Grease	Commercial, Residents, Municipal Employees
Residential & Charity Car Washing	Commercial, Residents, Municipal Employees
Trash	Commercial, Residents, Municipal Employees, Construction
Yard Trimmings	Commercial, Residents, Municipal Employees
Pet Waste	Residents
Proper Waste Disposal	Commercial, Residents, Municipal Employees, Construction
Street Wash Water	Residents, Municipal Employees, Construction
Sewage	Commercial, Residents, Municipal Employees

The Town of Chapel Hill will manage, implement, and report the following public education and outreach BMPs.

Table 13: Public Education and Outreach BMPs				
Permit Ref.	3.2.2 and 3.2.4: Outreach to Targeted Audiences Measures to identify the specific elements and implementation of a Public Education and Outreach Program to share educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and how the public can reduce pollutants in stormwater runoff. The permittee shall provide educational information to identified target audiences on pollutants/sources identified in table 12 above, and shall document the extent of exposure of each media, event or activity, including those elements implemented locally or through a cooperative agreement.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
5.	Stormwater Activities			
	Conduct at least <u>one activity</u> for a target audience that discusses pollution prevention and/or general stormwater. Examples of activities include, but are not limited to, presentations, canvassing campaigns, and targeted videos.	1. Select a target audience to provide educational information on target pollutants.	1. Annually, Permit Years 1-5	1. Yes/No/Status
		2. Develop or identify one activity to cover target pollutants for the selected target audiences.	2. Annually, Permit Years 1-5	2. Yes/No/Status
		3. Provide the activity to the selected target audiences.	3. Annually, Permit Years 1-5	3. Number of participants and/or contact hours
6.	Town-Sponsored Event			
	Continue to distribute information on stormwater during at least one Town-sponsored event or festival a year (in person or virtually).	1. Develop or identify one interactive activity at the event that addresses general stormwater and/or a target pollutant or pollutants.	1. Annually, Permit Years 1-5	1. Yes/No/Status
		2. Staff an event/festival and perform the activity.	2. Annually, Permit Years 1-5	2. Name of the event, number of participants and/or contact hours
7.	Partnership with Clean Water Education Partnership (CWEP)			
	Continue to engage with CWEP on education and outreach efforts. Outreach mechanisms include television, movie, online, and radio ads, newspaper and print ads, handouts, promotional items, and events.	1. Monitor CWEP activities to ensure partnership commitments are met.	1. Annually, Permit Years 1-5	1. Total audience reached

Table 13: Public Education and Outreach BMPs

Permit Ref.	2.1.7, 3.2.3 and 3.6.5(c): Web Site Measures to provide a web site designed to convey the program’s message(s) and provide online materials including ordinances, or other regulatory mechanisms, or a list identifying the ordinances or other regulatory mechanisms, providing the legal authority necessary to implement and enforce the requirements of the permit and SWMP. The web page shall also provide developers with all relevant post-construction requirements, design standards, checklists and/or other materials.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
8.	Stormwater Web Pages			
	Continue to maintain the stormwater web pages with information on relevant ordinances, post-construction requirements, design standards, pollution prevention, education and involvement, and Orange County’s household hazardous waste disposal program.	1. Maintain web pages.	1. Annually, Permit Years 1-5	1. Yes/No
		2. Monitor engagement.	2. Annually, Permit Years 1-5	2. Number of web page visits
9.	Social Media Coverage			
	Continue to distribute pollution prevention and general stormwater information on the Town’s Facebook and the Town’s Stormwater Facebook accounts.	1. Choose a target pollutant or general stormwater information to share.	1. Quarterly, Permit Years 1-5	1. Yes/No
		2. Share posts via social media.	2. Quarterly, Permit Years 1-5	2. Dates of posts
Permit Ref.	3.2.5: Stormwater Hotline Measures for a stormwater hotline/helpline for the purpose of public education and outreach.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
10.	Stormwater Hotline			
	Maintain and promote the 919-969-RAIN (7246) hotline for community members to report pollution. The hotline is advertised online and on printed materials.	1. Maintain the stormwater hotline.	1. Continuously, Permit Years 1-5	1. Yes/No/Status
		2. Publicize hotline in developed materials and on web site.	2. Continuously, Permit Years 1-5	2. Yes/No Status

PART 6: PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM

This SWMP identifies the minimum elements and implementation of a Public Involvement and Participation Program that complies with applicable State, Tribal and local public notice requirements. The Town of Chapel Hill will manage, implement, and report the following public involvement and participation BMPs.

Table 14: Public Involvement and Participation BMPs				
Permit Ref.	3.3.1: Public Input Mechanisms for public involvement that provide for input on stormwater issues and the stormwater program.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
11.	Stormwater Management Utility Advisory Board (SMUAB)			
	Continue to receive feedback and recommendations on the Town’s stormwater program from the Stormwater Management Utility Advisory Board (SMUAB). The Board’s composition is residential, business, and university. Residents can also provide feedback at these public meetings.	1. Attend and provide staff support for SMUAB meetings.	1. Quarterly, Permit Years 1-5	1. Number of meetings
12.	Stormwater Email			
	Maintain stormwater@townofchapelhill.org to receive public input on stormwater programming.	1. Publicize email in educational materials and on web site.	1. Continuously, Permit Years 1-5	1. Yes/No/Status
Permit Ref.	3.3.2: Volunteer Opportunities Measures to provide volunteer opportunities designed to promote ongoing citizen participation.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
13.	Annual Town-Wide Cleanup Event			
	Organize event for community members to pick up trash around the community.	1. Identify public area(s) for cleanup event.	1. Annually, Permit Years 1-5	1. Yes/No/Status
		2. Coordinate cleanup event.	2. Annually, Permit Years 1-5	2. Number of participants, estimated tonnage or number of bags of litter/trash removed
<i>Continued on next page</i>				

Table 14: Public Involvement and Participation BMPs

14.	Additional Volunteer Opportunities			
	Provide and promote one non-cleanup opportunity for volunteers to engage with the Stormwater Program.	1. Identify an activity/event for volunteers.	1. Annually, Permit Years 1-5	1. Yes/No/Status, name of activity
		2. Engage with volunteers on selected activity/event.	2. Annually, Permit Years 1-5	2. Number of participants, volunteer hours logged

PART 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

The Town of Chapel Hill will develop, manage, implement, document, report and enforce an Illicit Discharge Detection and Elimination Program which shall, at a minimum, include the following illicit discharge detection and elimination BMPs.

Table 15: Illicit Discharge Detection and Elimination BMPs				
Permit Ref.	3.4.1: MS4 Map Measures to develop, update and maintain a municipal storm sewer system map including stormwater conveyances, flow direction, major outfalls and waters of the United States receiving stormwater discharges.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
15.	Updates to the MS4 Map			
	Continue to develop and maintain the MS4 map with information including existing and newly constructed stormwater conveyances, outfalls, flow direction and receiving waters.	1. Develop process for collecting digital as-built data and incorporating those data into the existing map.	1. Permit Year 1	1. Yes/No/Status
		2. Add existing and new conveyances/outfalls to the map when they are located or constructed	2. Annually, Permit Years 1 -5	2. Total number of major outfalls mapped
		3. Complete mapping of existing major outfalls and conveyances	3. Permit Year 5	3. Yes/No/Status
Permit Ref.	3.4.2: Regulatory Mechanism Measures to provide an IDDE ordinance or other regulatory mechanism that provides legal authority to prohibit, detect, and eliminate illicit connections and discharges, illegal dumping and spills into the MS4, including enforcement procedures and actions.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
16.	Maintain Adequate Legal Authority			
	Ensure the continued applicability, accuracy, and legal standing of the IDDE provisions in the Town’s Code of Ordinances (Chapter 23, Article V).	1. Evaluate the IDDE Ordinance and revise as necessary.	1. Annually, Permit Years 1-5	1. Yes/No/Status

Table 15: Illicit Discharge Detection and Elimination BMPs

Permit Ref.	3.4.3: IDDE Plan			
	Measures to maintain and implement a written IDDE Plan to detect and address illicit discharges, illegal dumping and any non-stormwater discharges identified as significant contributors of pollutants to the MS4. The plan shall provide standard procedures and documentation to:			
	<ul style="list-style-type: none"> a) Locate priority areas likely to have illicit discharges, b) Conduct routine dry weather outfall inspections, c) Identify illicit discharges and trace sources, d) Eliminate the source(s) of an illicit discharge, and e) Evaluate and assess the IDDE Program. 			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
17.	Maintain IDDE Plan			
	Maintain a written IDDE plan to detect and address illicit discharges, illegal dumping and non-stormwater discharges identified as significant contributors of pollutants to the MS4, including provisions for program assessment and evaluation and associated documents.	1. Maintain and implement the written IDDE plan.	1. Continuously, Permit Years 1-5	1. Yes/No/Status
		2. Conduct review of IDDE Plan, standard documentation, forms, procedures and SOPs; make changes as necessary.	2. Annually, Permit Years 1-5	2. Yes/No/Status
18.	Dry Weather Outfall Screening Inspections			
	Implement and maintain a program to conduct and track dry weather outfall inspections per the IDDE Plan to proactively identify illicit discharges and connections.	1. Develop plan and schedule to complete outfall mapping within the MS4 jurisdiction.	1. Permit Year 1	1. Yes/No/Status
		2. Perform inspections of 20% of currently mapped major outfalls as described in the IDDE Plan.	2. Annually, Permit Years 1-5	2. Number of outfalls inspected, and % of currently mapped outfalls inspected
Permit Ref.	3.4.4: IDDE Tracking			
	Measures for tracking and documenting the date(s) an illicit discharge, illicit connection or illegal dumping was observed, the results of the investigation, any follow-up of the investigation, the date the investigation was closed, the issuance of enforcement actions, and the ability to identify chronic violators.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
<i>Continued on next page</i>				

Table 15: Illicit Discharge Detection and Elimination BMPs

19.	IDDE Tracking Database			
	<p>Maintain the existing IDDE tracking spreadsheet to track investigations and document illicit discharges.</p> <p>Investigations are documented as they occur. Tracking records are evaluated and reported annually (see BMP #19 above).</p>	<p>1. Track all IDDE investigations and document the date(s) the illicit discharge or connection was observed; the results of the investigation; any follow-up of the investigation or enforcement actions; and the date the investigation was closed.</p>	<p>1. Continuously, Permit Years 1-5</p>	<p>1. Yes/No/Status</p>
		<p>2. Review IDDE investigation reports and database, and identify chronic violators, issues, and/or “hot-spot” areas.</p>	<p>2. Annually, Permit Years 1-5</p>	<p>2. Number of investigations, number of verified illicit discharges, number of illicit discharges remedied, number of Notices of Violation issued, number of chronic violators and/or hot spots identified</p>
Permit Ref.	<p>3.4.5: Staff IDDE Training Measures to provide training for municipal staff and contractors who, as part of their normal job responsibilities, may observe an illicit discharge, illicit connection, illegal dumping or spills. Training shall include how to identify and report illicit discharges, illicit connections, illegal dumping and spills. Each staff training event shall be documented, including the agenda/materials, date, and number of staff participating.</p>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
20.	Staff Training			
	<p>Continue to provide annual training to educate Town staff about indicators of potential illicit discharges and connections and illegal dumping, and the appropriate avenues through which to report suspected illicit discharge.</p>	<p>1. Implement and document a training program for appropriate municipal staff, who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system.</p>	<p>1. Annually, Permit Years 1-5</p>	<p>1. Number of staff trained</p>

Table 15: Illicit Discharge Detection and Elimination BMPs

Permit Ref.	3.4.6: IDDE Reporting Measures for the public and staff to report illicit discharges, illegal dumping and spills. The mechanism shall be publicized to facilitate reporting and shall be managed to provide rapid response by appropriately trained personnel.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
21.	Reporting hotline			
	Maintain the 919-969-RAIN (7246) hotline for community members to report pollution.	1. Maintain the stormwater hotline. 2. Track the number of calls received by the hotline that result in investigations in the IDDE Tracking Database.	1. Continuously, Permit Years 1-5 2. Continuously, Permit Years 1-5	1. Yes/No/Status 2. Number of calls received by the hotline to report pollution, number of discharges remedied because of hotline calls

PART 8: CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

In accordance with 15A NCAC 02H .0153, the Town of Chapel Hill relies upon the North Carolina Sedimentation Pollution Control Act (SPCA) of 1973 as a qualifying alternative program to meet a portion of the NPDES MS4 Permit requirements for construction site runoff control measures. The SPCA requirements include reducing pollutants in stormwater runoff from construction activities that result in land disturbance of greater than or equal to one acre, and includes any construction activity that is part of a larger common plan of development that would disturb one acre or more. The state SPCA Program is either delegated to a city/town, delegated to a county, or implemented by NCDEQ in non-delegated areas.

The Town’s [Soil Erosion and Sedimentation Control Ordinance \(Town Code of Ordinances Chapter 5, Article V\)](#), was originally adopted in 1986 to address soil erosion and sedimentation control and prevent degradation of area waterways, and was last updated in 2001. Orange County is the delegated authority to implement and enforce the Town’s Erosion and Sedimentation Control Ordinance, per an interlocal agreement between the Town of Chapel Hill and Orange County that was last updated in September 2021.

Table 16: Qualifying Alternative Program Components for Construction Site Runoff Control Program

Permit Reference	State or Local Program Name	Legal Authority	Implementing Entity
3.5.1 - 3.5.4	Orange County Erosion Control Delegated SPCA Program*	15A NCAC Chapter 04	Orange County Erosion Control

* The local delegated SPCA Program ordinance(s)/regulatory mechanism(s) can be found at: https://library.municode.com/nc/chapel_hill/codes/code_of_ordinances?nodeId=CO_CH5BUBURE_ARTVSOERSECO.

The Town of Chapel Hill also implements the following BMPs to meet NPDES MS4 Permit requirements.

Table 17: Construction Site Runoff Control BMPs				
Permit Ref.	3.5.6: Public Input Measures to provide and promote a means for the public to notify the appropriate authorities of observed erosion and sedimentation problems.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
22.	Municipal Staff Training			
	Train municipal staff who receive calls from the public on the protocols for referral and tracking of construction site runoff control complaints.	1. Train municipal staff on proper handling of construction site runoff control complaints.	1. Annually, Permit Years 1-5	1. Number of staff trained
23.	Stormwater Hotline			
	Maintain and promote the 919-969-RAIN (7246) hotline for community members to report pollution.	1. Maintain the stormwater hotline. 2. Publicize hotline in developed materials and on web site.	1. Continuously, Permit Years 1-5 2. Continuously, Permit Years 1-5	1. Yes/No/Status 2. Yes/No/Status
Permit Ref.	3.5.5: Waste Management Measures to require construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impact to water quality.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
24.	Contractor Education			
	Communicate waste management requirements to construction site operators.	1. Develop fact sheet to share at preconstruction meetings.	1. Permit Year 3	1. Yes/No/Status
2. Add fact sheet to website.			2. Permit Year 3	2. Yes/No/Status

PART 9: POST-CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

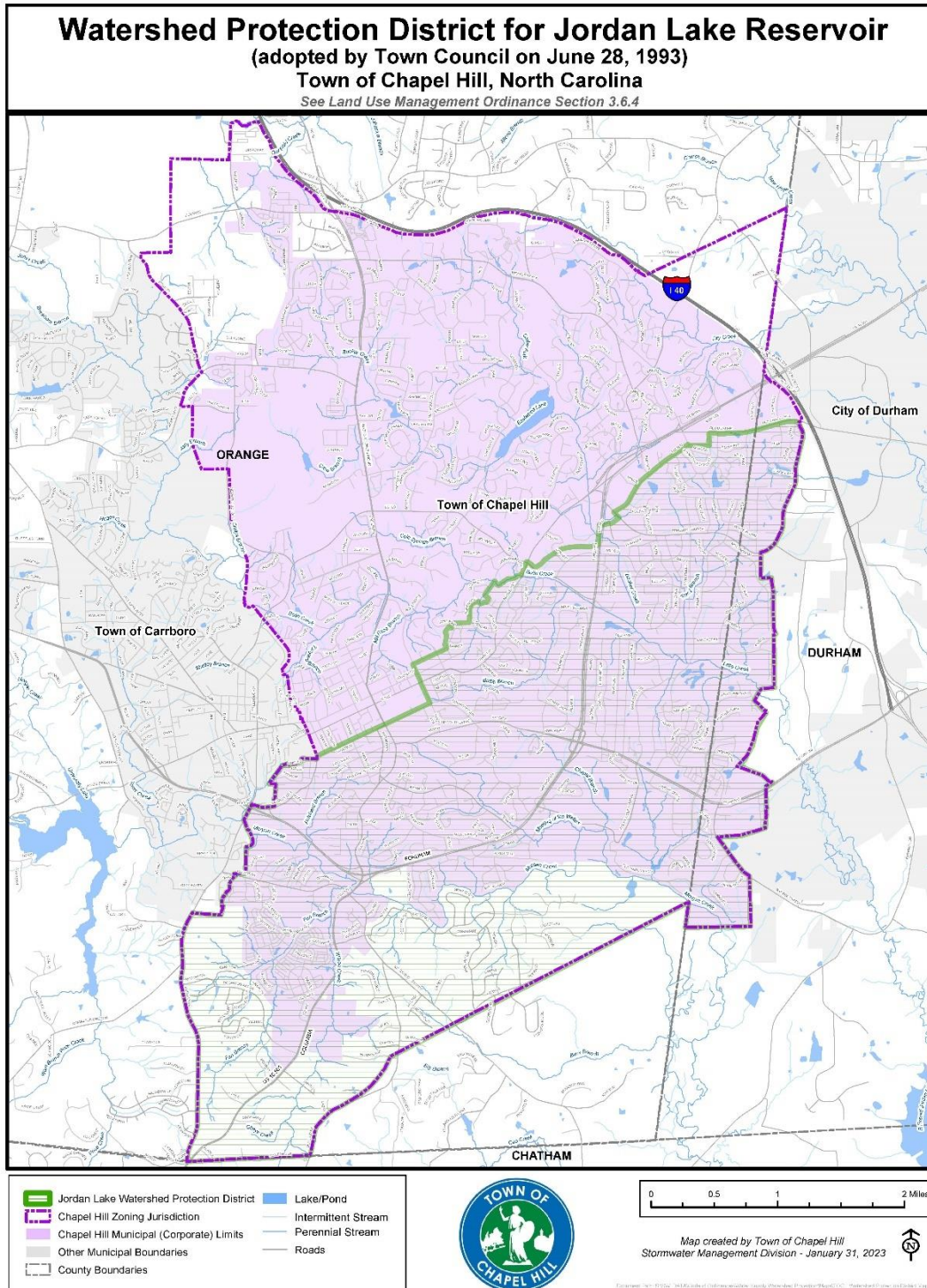
This SWMP identifies the minimum elements to develop, implement and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that are located within the Town of Chapel Hill and discharge into the MS4. These elements are designed to minimize water quality impacts utilizing a combination of structural Stormwater Control Measures (SCMs) and/or non-structural BMPs appropriate for the community and ensure adequate long-term operation and maintenance of SCMs.

In accordance with 15A NCAC 02H .0153 and .1017, the Town of Chapel Hill implements the following State post-construction program requirements, which satisfy the NPDES Phase II MS4 post-construction site runoff control requirements as Qualifying Alternative Programs (QAPs) in the MS4 area where they are implemented. See Figure 3 below for a map that shows the boundaries of the Town’s Watershed Protection District where Water Supply Watershed (WS-IV) requirements are implemented by local ordinance.

Table 18: Qualifying Alternative Program(s) for Post-Construction Site Runoff Control Program

State QAP Name	State Requirements	Local Ordinance / Regulatory Mechanism Reference
Water Supply Watershed (WS-IV)	15A NCAC 2B .0620 - .0624	Land Use Management Ordinance (LUMO) Section 3.6.4

Figure 3. Map of Town of Chapel Hill's Watershed Protection District.



The Town of Chapel Hill has existing requirements other than Qualifying Alternative Program(s) for implementation of the NPDES Phase II MS4 post-construction program requirements. These existing requirements are codified in local ordinance(s), and implementation is further defined in guidance, manuals and/or standard operating procedure(s) as summarized in Table 19 below.

Table 19: Summary of Existing Post-Construction Program Elements

Permit Requirements for Plan Review and Approval	Municipal Ordinance/Code Reference(s) and/or Document Title(s)	Date Adopted
3.6.2(a) Authority	1. Land Use Management Ordinance (LUMO) 1.2 2. LUMO 5.4.1-5.4.2	1. January 27, 2003 2. January 27, 2003
3.6.3(a) & 15A NCAC 02H.0153(c) Federal, State & Local Projects	3. LUMO 1.2, 5.4.1-5.4.2 4. Flood Damage Prevention Ordinance (Code of Ordinances Chapter 5 Article IV Section 5-55)	3. January 27, 2003 4. January 8, 2007
3.6.3(b) Plan Review	5. LUMO 4.9, 5.4.3-5.4.7 6. Public Works Engineering Design Manual 7. Zoning Compliance Permit Application	5. January 27, 2003 6. January 2004 7. April 9, 2020 (last updated)
3.6.3(c) O&M Agreement	8. LUMO 5.4.8	8. January 27, 2003
3.6.3(d) O&M Plan	9. LUMO 5.4.8	9. January 27, 2003
3.6.3(e) Deed Restrictions/Covenants	10. LUMO 5.4.8	10. January 27, 2003
3.6.3(f) Access Easements	11. LUMO 5.4.8	11. January 27, 2003
Permit Requirements for Inspections and Enforcement	Municipal Ordinance/Code Reference(s) and/or Document Title(s)	Date Adopted
3.6.2(b) Documentation	12. LUMO 5.4.8	12. January 27, 2003
3.6.2(c) Right of Entry	13. LUMO 5.4.9	13. January 27, 2003
3.6.4(a) Pre-CO Inspections	14. LUMO 4.9.7 15. Standard Zoning Compliance Permit Stormwater Conditions	14. January 27, 2003 15. May 2020 (last update)
3.6.4(b) Compliance with Plans	16. LUMO 4.9.7 17. LUMO 4.6.12 18. Standard Zoning Compliance Permit Stormwater Conditions	16. January 27, 2003 17. January 27, 2003 18. May 2020 (last update)
3.6.4(c) Annual SCM Inspections	19. LUMO 5.4.8 20. SCM O&M Templates	19. January 27, 2003 20. July 10, 2020
3.6.4(d) Low Density Inspections	21. LUMO 4.9.7 22. LUMO 5.4.9	21. January 27, 2003 22. January 27, 2003
3.6.4(e) Qualified Professional	23. SCM O&M Templates 24. LUMO 5.4.8	23. July 10, 2020 24. January 27, 2003
Permit Requirements for Fecal Coliform Reduction	Municipal Ordinance/Code Reference(s) and/or Document Title(s)	Date Adopted
3.6.6(a) Pet Waste	25. Town Code of Ordinances Chapter 23, Article V	25. November 14, 2016
3.6.6(b) On-Site Domestic Wastewater Treatment	26. Orange County Regulations for Wastewater Treatment and Disposal Systems	26. February 26, 2015

The annual reporting metrics for the post construction program are provided in Table 20: Post Construction Site Runoff Control BMPs below.

Table 20: Post Construction Site Runoff Control BMPs				
Permit Ref.	3.6.5(a), 3.6.5(b), and 4.1.3: Minimum Post-Construction Reporting Requirements Measures to document activities over the course of the fiscal year (July 1 – June 30) including appropriate information to accurately describe progress, status, and results.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
25.	Standard Reporting			
	Implement standardized tracking, documentation, inspections, and reporting mechanisms to compile appropriate data for the annual self-assessment process. Data shall be provided for each Post-Construction/Qualifying Alternative Program being implemented as listed in Tables 18 and 19.	1. Track number of low density and high density plan reviews performed.	1. Continuously, Permit Years 1-5	1. Number of plan reviews
		2. Track number of low density and high density plans approved.	2. Continuously, Permit Years 1-5	2. Number of plan approvals
		3. Maintain a current inventory of low density projects and constructed SCMs including SCM type or low density acreage, location and last inspection date.	3. Continuously, Permit Years 1-5	3. Summary of number and type of SCMs added to the inventory; and number and acreage of low density projects constructed
		4. Track number of SCM inspections performed.	4. Continuously, Permit Years 1-5	4. Number of SCM inspections
		5. Track number and type of enforcement actions taken.	5. Continuously, Permit Years 1-5	5. Number of enforcement actions issued
Permit Ref.	2.3 and 3.6: Qualifying Alternative Program(s) (QAP) Measures to develop, implement and enforce additional BMPs in order to comply with the QAP state program requirements.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
26.	Watershed Protection District Program Update			
	Update local ordinances, SOPs, and permit processes related to current Water Supply Watershed (WS-IV) rules.	1. Revise Watershed Protection District (WPD) ordinance (LUMO 3.6.4) to comply with 15A NCAC 02B .0620-.0624 and NCGS 143-214.5; submit to DEQ for review; submit to Town Council for adoption.	1. Permit Year 1	1. Yes/No/Status

Table 20: Post Construction Site Runoff Control BMPs

		2. Develop internal SOPs for implementing and enforcing the revised WPD ordinance, from project permitting through closeout.	2. Permit Year 2	2. Yes/No/Status
		3. Train staff and implement WPD SOPs.	3. Permit Year 3	3. Yes/No/Status
Permit Ref.	<p>3.6.2: Legal Authority Measures to maintain adequate legal authorities through ordinance or other regulatory mechanism to: (a) review designs and proposals for new development and redevelopment to determine whether adequate stormwater control measures will be installed, implemented, and maintained, (b) request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Post-Construction Stormwater Management Program, and (c) enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater discharges to determine whether there is compliance with the Post-Construction Stormwater Management Program.</p>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
	This permit requirement is fully met by the existing post-construction program, see references provided in Table 19.			
Permit Ref.	<p>3.6.3: Plan Review and Approval Measures to maintain plan review and approval authority, standards and procedures to: (a) Require Federal, State, and local government projects to comply with Post-Construction Program requirements throughout the entire MS4 permitted area, unless the entity is subject to its own NPDES MS4 permit or a qualifying alternative program, (b) Conduct site plan reviews of all new development and redeveloped sites that disturb greater than or equal to one acre, and sites that disturb less than one acre that are part of a larger common plan of development or sale for compliance with 15A NCAC 02H .1017 and the qualifying alternative programs that apply within your jurisdiction, (c) Ensure that each project has an Operation and Maintenance Agreement that complies with 15A NCAC 02H .1050(12), (d) Ensure that each project has an Operation and Maintenance Plan that complies with 15A NCAC 02H .1050(13), (e) Ensure that each project has recorded deed restrictions and protective covenants, that require the project to be maintained consistent with approved plans, and (f) Ensure that each SCM and associated maintenance accesses be protected in a permanent recorded easement per 15A NCAC 02H 1050 (9) and (10).</p>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
	This permit requirement is fully met by the existing post-construction program, see references provided in Table 19.			

Table 20: Post Construction Site Runoff Control BMPs

Permit Ref.	3.6.4: Inspections and Enforcement Measures to maintain inspection and enforcement authority, standards and procedures to: (a) Conduct post-construction inspections prior to issuing a Certificate of Occupancy or a Temporary Certificate of Occupancy. Alternatively, the project owner may provide a surety bond to guarantee compliance with the approved plan(s), (b) Ensure that the project has been constructed in accordance with the approved plan(s), (c) Ensure annual inspection of each permitted SCM to ensure compliance with the approved Operation and Maintenance Agreement, (d) Ensure inspection of low density projects at least once during the permit term, and (e) Require that inspections be conducted by a qualified professional.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
	This permit requirement is fully met by the existing post-construction program, see references provided in Table 19.			
Permit Ref.	3.6.6: Fecal Coliform Reduction Measures to control, to the maximum extent practicable, sources of fecal coliform per 15A NCAC 02H .1017(7). At a minimum, the program shall include: (a) A pet waste management component, which may be achieved by revising an existing litter ordinance, and (b) An on-site domestic wastewater treatment system component, if applicable, which may be coordinated with local county health department, to ensure proper operation and maintenance of such systems.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
	This permit requirement is fully met by the existing post-construction program, see references provided in Table 19.			

PART 10: POLLUTION PREVENTION AND GOOD HOUSEKEEPING PROGRAMS

This SWMP provides a comprehensive pollution prevention and good housekeeping strategy for the Town of Chapel Hill municipal facilities and operations. Pollution prevention and good housekeeping is accomplished through the implementation of seven required programs, which collectively address the ultimate goal of preventing or reducing pollutant runoff from municipal operations such as parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, and municipal storm sewer system maintenance.

Pollution prevention and good housekeeping for municipal operations includes the following programs:

1. Municipal Facilities Operation and Maintenance Program
2. Spill Response Program
3. MS4 Operation and Maintenance Program
4. Municipal SCM Operation and Maintenance Program
5. Pesticide, Herbicide and Fertilizer Management Program
6. Vehicle and Equipment Maintenance Program*
7. Pavement Management Program

**The Town’s Vehicle and Equipment Maintenance Program is located outside the Town of Chapel Hill’s MS4 (Corporate) limits at 6850 Milhouse Road and has coverage under NPDES Stormwater Permit NCG080800.*

The Town of Chapel Hill will manage, implement, and report the pollution prevention and good housekeeping BMPs as specified in Table 21 below for each required program.

Table 21: Pollution Prevention and Good Housekeeping BMPs				
Permit Ref.	3.7.1: Municipal Facilities Operation and Maintenance Program Measures to manage facilities that are owned and operated by the permittee and have the potential for generating polluted stormwater runoff. The permittee shall maintain a current inventory of municipal facilities; perform facility inspections and routine maintenance; establish specific frequencies, schedules, and standard documentation; provide staff training on general stormwater awareness and implementing pollution prevention and good housekeeping practices.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
27.	Facility Inspections			
	Maintain a current inventory of municipal facilities; perform facility inspections and routine maintenance; establish specific frequencies, schedules, and standard documentation.	1. Identify facilities not included in the Town’s 2021 facility assessment; add to facility inventory; develop site-specific Stormwater Pollution Prevention Plan (SWPPP) for each new facility.	1. Annually, Permit Years 1-5	1. Number of new facilities added to inventory

Table 21: Pollution Prevention and Good Housekeeping BMPs

		2. Inspect all Town facilities for compliance with each site-specific SWPPP and correct maintenance issues.	2. Annually, Permit Years 1-5	2. Yes/No/Status, Number of inspections
		3. Review and update the inspection checklist, operations and maintenance plan for all Town facilities.	3. Annually, Permit Years 1-5	3. Yes/No/Status
		4. Review and update site-specific SWPPPs for all facilities.	4. Annually, Permit Years 1-5	4. Yes/No/Status
28.	Staff Training			
	Review, update and implement general stormwater pollution prevention and site-specific facility training programs offered to Town staff.	1. Evaluate and update existing general and site-specific training programs.	1. Permit Year 1	1. Yes/No/Status
		2. Train staff to implement the SWPPP during site-specific training.	2. Permit Years 2-5	2. Number of staff trained
		3. Train staff on general stormwater pollution prevention.	3. Permit Years 1-5	3. Number of staff trained
Permit Ref.	3.7.2: Spill Response Program Measures for facilities and operations that store and/or use materials that have the potential to contaminate stormwater runoff if spilled. The permittee shall maintain written spill response procedures and train staff on spill response procedures.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
29.	Spill Response Plan and Procedures			
	Maintain and implement a written spill response procedure for all Town facilities that store or use materials with the potential to spill and contaminant stormwater runoff.	1. Update list of Town facilities with spill potential and review general spill response procedures.	1. Annually, Permit Years 1-5	1. Yes/No/Status
		2. Review and update site-specific spill response plans for Town facilities with potential to produce spills.	2. Annually, Permit Years 1-5	2. Yes/No/Status
		3. Update and revise spill response plans as facilities operations change.	3. Annually, Permit Years 1-5	3. Yes/No/Status

Table 21: Pollution Prevention and Good Housekeeping BMPs

30.	Spill Response Training			
	Develop and implement spill response training for appropriate Town staff as part of the site-specific facility training program.	1. Develop spill response training for facilities staff.	1. Permit Year 1	1. Yes/No/Status
		2. Provide staff training to facilities staff in spill response and prevention procedure.	2. Permit Years 2-5	2. Number of staff trained
Permit Ref.	3.7.3: MS4 Operation and Maintenance Program Measures to minimize pollutants in the stormwater collection system. The permittee shall provide operation and maintenance staff training on stormwater awareness and pollution prevention, perform MS4 inspections, maintain the collection system including catch basins and conveyances; and establish specific frequencies, schedules, and standard documentation.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
31.	MS4 Operation and Maintenance Plan			
	Review and update the Town’s MS4 Operation and Maintenance (O&M) Plan.	1. Ensure the MS4 O&M Plan complies with current NPDES regulations.	1. Annually, Permit Years 1-5	1. Yes/No/Status
32.	MS4 Inspections and Maintenance			
	Maintain and implement Standard Operating Procedures (SOP) for MS4 system inspections and maintenance. The protocol will include specific frequencies, schedules, and standard inspection documentation.	1. Review and update existing SOP that describes proactive and reactive inspection schedules, frequencies, prioritization, standard documentation, staff responsibilities, proper maintenance training, and evaluate funding options.	1. Permit Year 1	1. Yes/No/Status
		2. Perform regular inspections of the MS4 system in accordance with the SOP.	2. Permit Years 2-5	2. Number of inspections
		3. Verify, document, and prioritize maintenance activities based on inspections or reports from the public.	3. Permit Years 1-5	3. Number of maintenance activities performed
Permit Ref.	3.7.4: Municipal SCM Operation and Maintenance Program Measures to manage municipally-owned, operated, and/or maintained structural stormwater control measures (SCMs) that are installed for compliance with the permittee’s post-construction program. The permittee shall maintain a current inventory of SCMs, perform SCM inspections and maintenance, and shall establish specific frequencies, schedules, and documentation.			

Table 21: Pollution Prevention and Good Housekeeping BMPs

BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
33.	Municipal SCM Inventory			
	Document and maintain inventory of municipally-owned structural SCMs.	1. Update inventory of municipally-owned structural SCMs	1. Annually, Permit Years 1-5	1. Yes/No/Status
34.	SCM Inspection and Maintenance			
	Perform and document regular inspections and maintenance of municipally-owned SCMs.	1. Perform SCM inspections following the Town SCM O&M Plan.	1. Annually, Permit Years 1-5	1. Number of SCMs inspected
		2. Perform necessary maintenance on Town SCMs.	2. Annually, Permit Years 1-5	2. Number of SCMs maintained
Permit Ref.	3.7.5: Pesticide, Herbicide and Fertilizer Management Program Measures to minimize water quality impacts from the use of landscape chemicals. The permittee shall provide routine pollution prevention and chemical use, storage and handling training, and shall ensure compliance with permits and applicator certifications.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
35.	Pesticide, Herbicide, Fertilizer Management Program			
	Ensure Town staff who apply landscape chemicals are trained in pollution prevention, chemical use, and storage and handling, to minimize water quality impacts from pesticides, herbicides, and fertilizers.	1. Maintain applicator certifications for appropriate Town staff and contractors.	1. Continuously, Permit Years 1-5	1. Number of pesticide certificates of Town staff and contractors
		2. Develop Town pollution prevention and chemical use, storage and handling training program.	2. Permit Year 1	2. Yes/No/Status
		3. Provide Town staff training in pollution prevention and chemical use, storage and handling training.	3. Permit Years 2-5	3. Number of staff trained
Permit Ref.	3.7.6: Vehicle and Equipment Maintenance Program Measures to prevent and minimize contamination of stormwater runoff from areas used for municipal vehicle and equipment maintenance and/or cleaning. The permittee shall ensure that municipal industrial facilities subject to NPDES industrial permitting comply with those permit requirements, provide routine pollution prevention training to staff, perform routine inspections, and establish specific frequencies, schedules, and documentation.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric

Table 21: Pollution Prevention and Good Housekeeping BMPs

	This requirement is covered under NPDES Permit NCG080800 for the Town Operations Center, which is located outside of the Town’s MS4 jurisdiction.			
Permit Ref.	3.7.7: Pavement Management Program Measures to reduce pollutants in stormwater runoff from municipally-owned streets, roads, and parking lots within the permittee’s corporate limits. The permittee shall implement measures to control litter, leaves, debris, particulate and fluid pollutants associated with vehicles, and establish specific frequencies, schedules, and documentation.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
36.	Street Sweeping			
	Street sweeping will follow a regular schedule to reduce pollutants from Town owned and maintained streets.	1. Conduct street sweeping per MS4 O&M SOP.	1. Permit Years 1-5	1. Number of curb miles swept, tons of debris removed.
37.	Yard Waste Collection			
	Periodically collect leaves and debris from streets, roads, and parking lots to reduce pollutants and clogging of storm sewer inlets.	1. Continue to collect yard trimmings and loose leaves.	1. Seasonally, per current Town procedures	1. Tons of debris collected.