

NPDES STORMWATER PERMIT RENEWAL APPLICATION FORM

This application form is for use by Local Governments seeking NPDES stormwater permit coverage for Regulated Public Entities (RPE) pursuant to Title 15A North Carolina Administrative Code 2H .0126. A complete application package includes this form and one copy of a Narrative of The Stormwater Management Program. The required Narrative of The Stormwater Management Program is described in Section VII of this form.

I. NAME OF LOCAL GOVERNMENT, PERMIT NUMBER, AND EXPIRATION DATE

Name of Local Government	Town of Knightdale
Permit Number	NCS000460
Expiration Date	11/30/2016

II. CO-PERMIT APPLICATION STATUS INFORMATION

(Complete this section only if co-permitting)

a. Do you intend to co-permit with another regulated public entity?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
b. If yes, name of regulated public entity	N/A
c. If yes, have legal agreements been finalized between the co-permittees?	<input type="checkbox"/> Yes <input type="checkbox"/> No

III. RELIANCE ON ANOTHER ENTITY TO SATISFY ONE OR MORE OF YOUR PERMIT OBLIGATIONS (If more than one, attach additional sheets)

a. Do you intend that another entity perform one or more of your permit obligations?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
b. If yes, identify each entity and the element they will be implementing	
• Name of Entity	Wake County Environmental Services
• Element they will implement	Construction Site Stormwater Runoff Control
• Contact Person	Glenn Johnson
• Contact Address	337 S. Salisbury St. Raleigh, NC 27602
• Contact Telephone Number	(919) 868-6411
c. Are legal agreements in place to establish responsibilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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IV. DELEGATION OF AUTHORITY (OPTIONAL)

The signing official may delegate permit implementation authority to an appropriate staff member. This delegation must name a specific person, their title/position. Documentation of board action delegating permit authority to this person/position must be provided.

a. Name of person to which permit authority has been delegated	
b. Title/position of person above	

V. SIGNING OFFICIAL'S STATEMENT

If authority for the NPDES stormwater permit has been appropriately delegated through board action and documented in this permit application, the person/position listed in Section IV above may sign the official statement below.

I 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.

Signature	
Name	Hal Mason
Title	Interim Town Manager
Street Address	950 Steeple Square Court
PO Box	
City	Knightdale
State	North Carolina
Zip	27545
Telephone	(919) 217--2202
E-Mail	hal.mason@knightdalenc.gov

VI. LOCAL GOVERNMENT CONTACT INFORMATION

Provide the following information for the person/position that will be responsible for day to day implementation and oversight of the stormwater program.

a. Name of Contact Person	Robbie Worrell
b. Title	
c. Street Address	950 Steeple Square Court
d. PO Box	
e. City	Knightdale
f. State	North Carolina
g. Zip	27545
h. Telephone Number	(919) 217-2250
j. E-Mail Address	robbie.worrell@knightdalenc.gov

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VII. NARRATIVE STORMWATER MANAGEMENT PROGRAM

Attach one copy of a narrative describing the stormwater management program. The report must be presented in the following order.

1. Population and Estimated Growth Rate
2. Jurisdictional Area
3. Describe Stormwater Conveyance System
4. Estimated Land Use
5. Identify the Receiving Streams
6. Identify TMDLs (if applicable)
7. Identify impaired streams, likely sources, and existing programs that address the impairment (if applicable)
8. List any existing water quality programs
9. Identify and describe any partnerships and/or inter-local agreements
10. Describe any state programs
11. Identify any other entity that the regulated public entity relies on to implement or manage its stormwater program.
12. Identify points of contacts
13. Describe the public education and outreach program
14. Describe the public involvement and participation program.
15. Describe the Illicit Discharge Detection and Elimination Program.
16. Describe the post-construction stormwater program
Describe practices to inspect and maintain municipally-owned facilities
17. Describe practices to inspect and maintain structural stormwater control devices
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.
19. Describe any training programs for municipal staff.
20. Describe spill response procedures for those at Municipally Owned and/or Operated Facilities as well as those in the public right-of-way.

1. Storm Sewer Information

1.1. Population Served: 14,256

1.2. Growth Rate: 11.10%

1.3. Jurisdictional and MS4 Service Areas:

- Corporate Limits: 7.48 sq. mi.
- Extraterritorial Jurisdiction: 17.71 sq. mi.

1.4. MS4 Conveyance System:

The conveyance system for the MS4 consists primarily of collection in swales, ditches, curb & gutter and underground piping with direct discharge to buffers and streams. However, since the advent of the Town of Knightdale's Phase II Permit in 2005, we have required at least the detention of the 1-year, 24hr. storm in designed structural BMPs (wetponds, dry detention basins, wetlands etc.) prior to discharging into a receiving stream or conveyance system already described.

1.5. Land Use Composition Estimates

- Commercial: 4.71%
- Industrial: 1.4%
- Residential: 20.65%
- Open Space: 73.23%

1.6. TMDL Identification

2. Receiving Streams

Receiving Stream Name	Stream Segment	Water Quality Classification	Use Support Rating	Water Quality Issues	303(d) List
Beaver Dam Creek	27-29	C:NSW			Not Listed
Milburnie Creek	27-31	C:NSW			Not Listed
Mango Creek	27-32	C:NSW			Not Listed
Poplar Creek	27-35	C:NSW			Not Listed
Marks Creek (Lake Myra)	27-38	C; NSW			Not Listed

3. Existing Local Water Quality Programs

3.1 Local Programs

Please find the table below as a summary of the locally implemented water quality initiatives in the Town of Knightdale.

TABLE 3.1

Summary of Existing Local Programs - Town of Knightdale, North Carolina

Program	Summary
<p>Open Space Protection UDO Chapter 7.2, 7.3, 7.5, and 2.4 Environmental Survey - UDO Chapter 16.2</p>	<p>Allows for the usage of centrally located, unencumbered land as neighborhood open spaces. Significant stands of trees, stream bed areas, and other valuable topographic features will be preserved within the recreational open space areas where practical. Areas noted on any adopted Master Plan as open space will be preserved and dedicated where practical and feasible and may be left unimproved.</p> <p>Chapter 7.3 outlines a matrix to calculate the amount of recreational open space that must be dedicated, which varies, with the base amount being 580 square feet per bedroom. Up to half of the recreational open space must be for passive recreation. Open space credits are provided for streets with development on one side and recreation on other; also provided for historic property preservation.</p> <p>The Bike Route and Greenway Plan outlines planned bike routes and future greenways.</p> <p>The Open Space Preserve District is intended to protect areas that are permanently preserved as natural and/or environmentally significant lands. Such areas include rural parks, wetlands, and areas placed in a conservation easement.</p> <p>The Open Space and Greenway Plan is a comprehensive approach to link green space lands and corridors to residential, commercial, institutional and central business areas of the community, to define a concise set of strategies for protecting and conserving these corridors and identify parcels and corridors in need of protection.</p> <p>Knightdale’s UDO Chapter 16.2 outlines requirements for environmental survey associated with development activity which allows for the identification of resources for protection.</p> <p>Water Allocation Policy provides incentives to exceed open space dedication requirements.</p>
<p>Riparian Buffer Protection UDO Chapter</p>	<p>Neuse Buffer Rules apply.</p> <p>Built-upon area to be 50 feet from perennial and intermittent streams.</p> <p>The environmental survey requires the identification of watercourses and buffers for preservation.</p>

6.3 and 6.5

Floodplain Protection UDO Chapter 6.5	FEMA requirements apply; ordinance applies to future flood elevations. Areas of Special Flood Hazard are those identified by FEMA in its Flood Insurance Rate Map(s) for the Town of Knightdale dated March 3, 1992. The FIRM maps have been updated as of May 2, 2006. Structures must be located 2 feet above base flood elevation.
Erosion and Sediment Control UDO Chapter 6.2	The Town of Knightdale has a contract with Wake County under which the County oversees, administers, implements and enforces the erosion and sediment control program for the Town. Mass grading in residential developments is not allowed. The initial clearing and grading of major residential subdivisions shall be limited to dedicated public rights-of-way and easements for the installation of streets, utilities, and other infrastructure.
Stormwater and Impervious Surface Limitations UDO Chapter 6.3 and 16.13	Low-density development (<24 percent impervious) must implement stormwater measures that control and treat the difference in stormwater volume between pre- and post- development conditions for the 1-year, 24-hour storm. High-density projects must also remove 85 percent of total suspended solids. Approval of stormwater permits requires enforceable restriction on property usage to ensure that future development/redevelopment maintains the site consistent with the approved project plans. Ordinance requires annual maintenance and inspection of stormwater BMPs. Homeowners Associations must establish escrow account for repair of BMPs. Member of NC Clean Water Education Partnership (CWEP) providing stormwater education. CWEP ran educational TV ads on proper use of lawn chemicals and vehicle maintenance.

3.2 State Programs

There are currently no state administered water quality programs within the Town of Knightdale's MS4 service area.

4. Permitting Information

4.1 Responsible Party Contact List

Measurable Goal	Contact
Public Education & Outreach	Robbie Worrell
Public Involvement & Education	Public Works Director
Illicit Discharge Detection and Elimination	Phone: 919-217-2250
Post Construction Stormwater Management in New Development and Redevelopment	Fax: 919-217-2249 e-mail: robbie.worrell@knightdalenc.gov
Pollution Prevention/Good Housekeeping for Municipal Operations	
Construction Site Stormwater Runoff Control	Glenn Johnson Wake County Environmental Services Phone: 919-856-5706 Fax: 919-743-7407 e-mail: egjohnson@wakegov.com

- 4.2 Organizational Chart - See Enclosure (1)
- 4.3 Signing Official – Hal Mason, Interim Town Manager
- 4.4 Duly Authorized Representative - None

5. Co-Permitting Information – Not Applicable

6. Reliance on Other Government Entity

- 6.1 Name of Entity – Wake County Environmental Services
- 6.2 Measure Implemented – Construction Site Stormwater Runoff Control
- 6.3 Contact Information:

Glenn Johnson
Sedimentation & Erosion Control Section
Wake County Environmental Services
336 Fayetteville Street
Raleigh, NC 27602
Phone: 919-856-5706
Fax: 919-743-7407
e-mail: egjohnson@wakegov.com

7. Stormwater Management Program

7.1 Public Education and Outreach

A. Objectives for Public Education and Outreach

- Distribute educational materials to the community
- Conduct public outreach activities
- Raise public awareness on the causes and impacts of stormwater pollution
- Inform the public on steps they can take to reduce or prevent stormwater pollution.

B. Target Pollutant Sources:

- Lawn & Gardening
- Vehicle Washing
- Stream Buffers
- Litter

C. Target Audiences

- Homeowners/HOAs- Account for over 78% of the developed acreage within Town Limits.
- Developers – Construction activities and offsite sedimentation lead to stream water degradation.
- Civic Organizations – The action component of the stormwater through community programs for stormwater.

D. BMPs

BMP	Measurable Goal
(a) Distribute Educational Material	Utilize Knightdale E-Views to distribute stormwater information
	Provide Stormwater Kiosk for at least 2 public events per yer
	Set up display at Inspections front window with signs and pahmplets about stormwater
	Run stormwater ad campaings on East Wake TV
(b) Community Events	Organize at least one stream or litter cleanup per year with volunteers from local organizations
(c) Outreach	Organize and participate in four classroom events per year for the purpose of stormwater education

7.2 Public Involvement and Participation

A. Objectives for Public Involvement & Participation

- Provide Opportunities for the public to participate in program development and implementation
- Comply with applicable state and local notice requirements.

B. BMPs

BMP	Measurable Goal
(a) Public Meetings	Hold at least one public meeting per year to review the Town's stormwater plan
(b) Public Involvement	Establish Stormwater Steering Committee

7.3 Illicit Discharge Detection and Elimination

A. Objectives for Illicit Discharge Detection and Elimination

- Detect and eliminate illicit discharges, including spills and illegal dumping.
- Address significant contributors of pollutants to the MS4.
- Implement appropriate enforcement procedures and actions.
- Develop a storm sewer system map showing all outfalls and waters receiving the discharges.
- Inform employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.

B. Storm Sewer Base Map

In 2013, the Town of Knightdale contracted Withers & Ravenel to complete a stormwater system map. This map is scalable and will be maintained by receiving as-built drawings of all new stormwater infrastructure.

C. Regulatory Mechanism: Town of Knightdale Unified Development Ordinance Adopted on November 16th, 2005, Chapter 6 and 18.

D. Enforcement

Any person or entity found to be responsible for an Illicit Discharge will first be notified with a Correction Letter outlining the violation and specific time period allowed to correct the violation. If the violation is not corrected within specified time, the Land Use Administrator may act to impose one or more of the penalties outlined in UDO Section 18.4

E. Detection and Elimination

The Town of Knightdale's Illicit Discharge Detection and Elimination Program is in its infancy, and relies heavily on input and reports from the Citizenry. In order to proactively manage an inspection program, the storm drainage network must first be identified. The Town currently lacks mapping necessary to develop such a comprehensive and proactive approach to managing illicit discharges.

F. Outreach

Training on Illicit Discharges for public employees will be integrated into the Pollution Prevention & Good Housekeeping component of the Phase II permit. The general public will receive information through public meetings, advertisements and the Town's website as part of the Public Education component of the Phase II permit.

G. BMPs

BMP	Measurable Goal
(a) Stormwater Map	Develop a digital, GIS based stormwater map scalable to the needs of Knightdale as it expands
(b) Illicit Discharge Police	Develop a written illicit discharge procedure that amplifies the guidance in the Knightdale UDO
(c) Implement illicit discharge detection procedures	Implement an inspection program to detect dry weather flows at system outfalls.
(d) Conduct Employee Cross Training	Conduct training for municipal staff on detecting and reporting illicit discharges
(e) Provide Public Education	Inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste
(f) Tracking Database	Establish database to capture the geographic location of and the disposition of all public complaints and/or reports of illicit discharges.

7.4 Construction Site Stormwater Runoff Control

A. Objectives for Construction Site Runoff Controls

- Reduce pollutants in stormwater runoff from construction activities disturbing more than one acre of land surface and those activities less than one acre that are part of a larger development.
- Provide procedures for public input, sanctions to ensure compliance, requirements for construction site operators to implement appropriate erosion and sediment control practices, review site plans which incorporate consideration of potential water quality impacts, and procedures for site inspection and enforcement of control measures.
- Establish requirements for construction site operators to control waste such as discarded building materials, concrete truck washouts, chemicals, litter and sanitary waste at the construction site that may cause adverse impacts to water quality.
- Implement appropriate enforcement procedures and actions.
- Develop a storm sewer system map showing all outfalls and waters receiving the discharges.
- Inform employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.

B. Regulatory Mechanism

Wake County performs the Town of Knightdale's sedimentation and erosion control permitting, inspections and site management.

7.5 Post Construction Stormwater Management in New Development and Redevelopment

A. Objectives for Construction Site Runoff Controls

- Manage stormwater runoff from new development / redevelopment that drains into the MS4 and disturbs an acre or more of the land surface, including project less than an acre that are part of a larger common plan of development or sale.
- Provide a mechanism to require long term operation and maintenance of BMPs.
- Ensure controls are in place to minimize water quality impacts.

B. Regulatory Mechanism

Post Construction Stormwater Management in New Development and Redevelopment is regulated through the Town of Knightdale's Unified Development Ordinance adopted November 16th, 2005 and the state BMP Manual.

C. Operation and Maintenance

Prior to Certificate of Occupancy - The Town of Knightdale ensures long term operation and maintenance of BMPs through the requirement of executed and recorded operation and maintenance agreements and the posting of a maintenance surety prior to the issuance of final Certificate of Occupancy and acceptance of the BMP into service.

Post Construction – The Town of Knightdale requires surety renewals and BMP inspections done by certified professionals to be conducted on each anniversary of the acceptance of the BMP for service. The Town's Engineering Staff also performs routine and informal inspections at least twice a year and notifies the owner operator of items needing immediate correction.

D. Natural Resource Protection – Please see Table 3.1

E. Open Space Protection – Please see Table 3.1

F. Tree Preservation – Please see Table 3.1

G. Redevelopment

The Town of Knightdale encourages infill development through the use of our Water Allocation Policy (WAP). The WAP grants access to water through the awarding of points assigned to development criteria selected to be important to the Town. Infill development and development of Brownfield sites gains the most points in the WAP.

H. Development in Areas with Existing Infrastructure

The Town of Knightdale requires more intense zoning districts in areas where existing infrastructure exists to proactively give direction to new development. The Town also uses Extraterritorial Jurisdiction expansion to proactively impose zoning in areas within our annexation boundaries.

I. Mixed-Use Development

The Town of Knightdale’s UDO is form based code, which by definition, encourages mixed-use development and co-location of transit services.

J. Street Design

The Town of Knightdale’s standard street sections incorporate planted median sections with dedicated left turn lanes at designated, and high priority intersections with appropriate tapers, rather than continuous center turn lanes. This practice reduces impervious area, while still allowing for appropriate traffic flow and turning movements.

K. Green Infrastructure Elements and Street Design

The Town of Knightdale encourages green infrastructure elements through our Water Allocation Policy (WAP). The WAP grants access to water through the awarding of points assigned to development criteria, selected to be important to the Town. Green infrastructure elements included in the WAP include, LEED Site Credits, Cistern use for irrigation and Grey water use for toilets and urinals.

L. Reduced Parking Requirements

The Town of Knightdale’s UDO prescribes a maximum parking requirement for each use. In the event that the owner/developer would like to exceed the maximum allowance for parking, the request must be approved by Town Council, and all parking spaces in excess of the maximum must be constructed of a pervious pavement system.

M. Transportation Demand Management Alternatives

The Town of Knightdale’s UDO encourages alternatives though requiring parking lots of 100 spaces or more to formally dedicate a percentage of parking spaces as park & ride as well as all parking spaces in excess of the maximum must be constructed of a pervious pavement system.

N. Minimizing Stormwater from Parking Lots

The Town of Knightdale’s UDO requires bays of parking be no larger than 36 spaces and separated by a planted island, each parking space within 60’ of a tree, any parking in excess of the specified maximum must be within 30’ of a tree, and a 10’ Type A buffer screen the parking facility.

O. BMPs

BMP	Measurable Goal
(a) Stormwater Management	Continue to actively manage the Town's Stormwater management plan in accordance with the requirements of the UDO
(b) Maintenance & Inspections	Establish town initiated post construction inspection program for BMPs

P. Fawn Ridge Stream Restoration

- The Town has executed a construction contract to restore a tributary to Mingo Creek into its original banks. The Town’s contractor will perform the work which will help to minimize the risk of property damage and further erosion.
- This is the first project conducted under the Town’s Stormwater Utility Fund. The project costs are approximately \$170,000.

7.6 Pollution Prevention/Good Housekeeping for Municipal Operations

A. Objectives for Pollution Prevention/Good Housekeeping

- Reduce or prevent stormwater pollution from Municipal Operations

B. BMPs

BMP	Measurable Goal
(a) Develop an Operation and Maintenance Program	Develop and Operation and Maintenance Program with the ultimate goal of reducing or preventing pollutant runoff from municipal operations
(b) Inspection and Evaluation of Facilities, Operations, and the MS4 System and associated structural BMPs	Develop an inventory of all facilities and operations owned and operated by the permittee with the potential for generating stormwater runoff, including the MS4 system and associated structural BMPs.
(c) Conduct Staff Training	Conduct Staff Training once per year on Good Houskeeping Practices and Pollution Prevention