Public Services
Engineering
212 Operations Center Drive
Wilmington, NC 28412
910 341-7807
910 341-5881 fax
wilmingtonnc.gov
Dial 711 TTY/Voice

COMPREHENSIVE STORMWATER MANAGEMENT PERMIT

HIGH DENSITY DEVELOPMENT

SECTION 1 – APPROVAL

Having reviewed the application and all supporting materials, the City of Wilmington has determined that the application is complete and the proposed development meets the requirements of the City of Wilmington's Comprehensive Stormwater Ordinance.

PERMIT HOLDER: **Saxon Place, LLC**
PROJECT: **Saxon Place**
ADDRESS: **3525 Lancelot Lane**
PERMIT #: **2014012R1**
DATE: **June 24, 2020**

Therefore, the above referenced site is hereby approved and subject to all conditions set forth in Section 2 of this approval and all applicable provisions of the City of Wilmington Comprehensive Stormwater Management Ordinance.

This permit shall be effective from the date of issuance until June 24, 2030 and shall be subject to the following specified conditions and limitations:

Section 2 - CONDITIONS

1. This approval is valid only for the stormwater management system as proposed on the approved stormwater management plans dated June 12, 2020.

2. The project will be limited to the amount and type of built-upon area indicated in Section IV of the Stormwater Management Application Form submitted as part of the approved stormwater permit application package, and per the approved plans.

3. This permit shall become void unless the facilities are constructed in accordance with the approved stormwater management plans, specifications and supporting documentation, including information provided in the application and supplements.

4. The runoff from all built-upon area within any permitted drainage area must be directed into the permitted stormwater control system for that drainage area.

5. The permittee shall submit a revised stormwater management application packet to the City of Wilmington and shall have received approval prior to construction, for any modification to the approved plans, including, but not limited to, those listed below:
    a. Any revision to any item shown on the approved plans, including the stormwater management measures, built-upon area, details, etc.
    b. Redesign or addition to the approved amount of built-upon area or to the drainage area.
    c. Further subdivision, acquisition, lease or sale of any part of the project area.
    d. Filling in, altering, or piping of any vegetative conveyance shown on the approved plan.
    e. Construction of any permitted future areas shown on the approved plans.

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6. A copy of the approved plans and specifications shall be maintained on file by the Permittee.

7. During construction, erosion shall be kept to a minimum and any eroded areas of the system will be repaired immediately.

8. If the stormwater system was used as an Erosion Control device, it must be restored to design condition prior to operation as a stormwater treatment device, and prior to issuance of any certificate of occupancy for the project.

9. All areas must be maintained in a permanently stabilized condition. If vegetated, permanent seeding requirements must follow the guidelines established in the North Carolina Erosion and Sediment Control Planning and Design Manual unless an alternative is specified and approved by the City of Wilmington.

10. All applicable operation & maintenance agreements and easements pertaining to each stormwater treatment system shall be referenced on the final plat and recorded with the Register of Deeds upon final plat approval. If no plat is recorded for the site the operation and maintenance agreements and easements shall be recorded with the Register of Deeds so as to appear in the chain of title of all subsequent purchasers under generally accepted searching standards.

11. The stormwater management system shall be constructed in its entirety, vegetated and operational for its intended use prior to the construction of any built-upon surface unless prior approval is obtained. City Staff must be notified of any deviation prior to construction of the built-upon surface. Any deviation request shall include justification and must propose an alternative timeline or construction sequence. Notification shall not constitute approval. Any alternative timeline approved by City staff shall become an enforceable component of this permit.

12. The permittee shall at all times provide the operation and maintenance necessary to assure the permitted stormwater system functions at optimum efficiency. The approved Operation and Maintenance Agreement must be followed in its entirety and maintenance must occur at the scheduled intervals including, but not limited to:
    a. Scheduled inspections (interval noted on the agreement).
    b. Sediment removal.
    c. Mowing and revegetation of slopes and the vegetated areas.
    d. Maintenance of landscape plants, including those within the landscape buffer and on the vegetated shelf.
    e. Immediate repair of eroded areas, especially slopes.
    f. Debris removal and unclogging of outlet structure, orifice device, flow spreader, catch basins and/or piping.
    g. Access to the outlet structure must be available at all times.

13. Records of inspection, maintenance and repair for the permitted stormwater system must be kept by the permittee for at least 5 years from the date of record and made available upon request to authorized personnel of the City of Wilmington. The records will indicate the date, activity, name of person performing the work and what actions were taken.

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14. Upon completion of construction, before a Certificate of Occupancy shall be granted, and prior to operation or intended use of this permitted facility, the applicant shall submit to the City of Wilmington as-built plans for all stormwater management facilities. The plans shall show the final design specifications and the field location, type, depth, invert and planted vegetation of all measures, controls and devices, as installed. A certification shall be submitted, along with all supporting documentation that specifies, under seal that the as-built stormwater measures, controls and devices are in compliance with the approved stormwater management plans. A final inspection by City of Wilmington personnel will be required prior to issuance of a certificate of occupancy or operation of the permitted facility.

15. This permit is not transferable except after application and approval by the City of Wilmington. In the event of a change of ownership, name change or change of address the permittee must submit a completed Name/Ownership Change form to the City of Wilmington at least 30 days prior to the change. It shall be signed by all applicable parties and be accompanied by all required supporting documentation. Submittal of a complete application shall not be construed as an approved application. The application will be reviewed on its own merits by the City of Wilmington and may or may not be approved. The project must be in compliance with the terms of this permit in order for the transfer request to be considered. The permittee is responsible for compliance with all permit conditions until such time as the City of Wilmington approves the transfer request. Neither the sale of the project nor the conveyance of common area to a third party should be considered as an approved transfer of the permit.

16. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to enforcement action by the City of Wilmington, in accordance with Sections 18-52 and 18-53 and any other applicable section of the Land Development Code.

17. The City of Wilmington may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the City of Wilmington for modifying the site to meet minimum requirements. The permittee shall provide copies of revised plans and certification in writing to the City of Wilmington that the changes have been made.

18. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances, which may be imposed by other government agencies (local, state, and federal) having jurisdiction.

19. In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective action, including those as may be required by the City of Wilmington, such as the construction of additional or replacement stormwater management systems.

20. The permittee grants City of Wilmington Staff permission to enter the property during normal business hours for the purpose of inspecting all components of the permitted stormwater management facility.

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21. The permit issued shall continue in force and effect until revoked or terminated by the City of Wilmington. The permit may be modified, revoked and reissued or terminated for cause. The filing of a request for a permit modification, revocation and re-issuance or termination does not stay any permit condition.

22. The approved stormwater management plans and all documentation submitted as part of the approved stormwater management permit application package for this project are incorporated by reference and are enforceable parts of the permit.

23. The permittee shall submit a renewal request with all required forms and documentation at least 180 days prior to the expiration date of this permit.

24. If any one or more of the conditions of this permit is found to be unenforceable or otherwise invalidated, all remaining conditions shall remain in full effect.

Stormwater Management Permit issued this the 24th day of June, 2020.

Richard Christensen
_____
for Sterling Cheatham, City Manager
City of Wilmington

CITY OF WILMINGTON
NORTH CAROLINA

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STORMWATER MANAGEMENT PERMIT APPLICATION FORM
(Form SWP 2.3)

NT #19004

I. GENERAL INFORMATION

1. Project Name (subdivision, facility, or establishment name - should be consistent with project name on plans, specifications, letters, operation and maintenance agreements, etc.):
   Saxon Place

2. Location of Project (street address):
   3525 Lancelot Lane

   City: Wilmington County: New Hanover Zip: 28403

II. PERMIT INFORMATION

1. Specify the type of project (check one): ☐ Low Density ☑ High Density
   ☐ Offsite Stormwater System ☐ Drainage Plan ☐ Redevelopment ☐ Other
   If the project drains to an Offsite System, list the Stormwater Permit Number(s):
   City of Wilmington: _____ State – NCDEQ/DEMLR: _____

2. Is the project currently covered (whole or in part) by an existing City or State (NCDEQ/DEMLR) Stormwater Permit? ◉ Yes ○ No
   If yes, list all applicable Stormwater Permit Numbers:
   City of Wilmington: SWP 2011017 State – NCDEQ/DEMLR: SW8 060605
   SWP 2014012

3. Additional Project Permit Requirements (check all applicable):
   ☐ CAMA Major ☑ Sedimentation/Erosion Control ☐ 404/401 Permit

III. CONTACT INFORMATION

1. Print Applicant / Signing Official's name and title (the developer, property owner, lessee, designated government official, individual, etc. who owns the project):
   Applicant / Organization: Saxon Place, LLC
   Signing Official & Title: Chris Buffalino, Manager

a. Contact information for Applicant / Signing Official:

Address: 439 Whitebridge Road

City: Hampstead State: NC Zip: 28443

Phone: 910-795-8674 Email: chrisbuffalino@gmail.com

b. Please check the appropriate box. The applicant listed above is:

- (•) The property owner/Purchaser (Skip to item 3)
- ( ) Lessee (Attach a copy of the lease agreement and complete items 2 and 2a below)
- ( ) Developer (Complete items 2 and 2a below.)

2. Print Property Owner's name and title (if different from the applicant).

Property Owner / Organization: _____

Signing Official & Title: _____

a. Contact information for Property Owner:

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

3. (Optional) Other Contact name and title (such as a construction supervisor) who would like to be copied on all correspondence:

Other Contact Person / Organization: _____

Signing Official & Title: _____

a. Contact information for person listed in item 3 above:

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

4. Agent Authorization: Complete this section if you wish to designate authority to another individual and/or firm (such as a consulting engineer and /or firm) so that they may provide information on your behalf for this project (such as addressing requests for additional information).

Consulting Engineer: T. Jason Clark, P.E.

Consulting Firm: Norris & Tunstall Consulting Engineers, P.C.

a. Contact information for consultant listed above:

Mailing Address: 2602 Iron Gate Drive, Suite 102

City: Wilmington State: NC Zip: 28412

Phone: 910-343-9653 Email: jclark@ntengineers.com

& anorris@ntengineers.com

NT #19004
(Revised 05-05-2020)

CITY OF WILMINGTON ENGINEERING

IV. PROJECT INFORMATION

1. Total Property Area: 194604 square feet
2. Total Coastal Wetlands Area: 17424 square feet
3. Total Surface Water Area: 0 square feet
4. Total Property Area (1) – Total Coastal Wetlands Area (2) – Total Surface Water Area (3) = Total Project Area: 177180 square feet.
5. Existing Impervious Surface within Project Area: 35967 square feet
6. Existing Impervious Surface to be Removed/Demolished: 8649 square feet
7. Existing Impervious Surface to Remain: 27318 square feet
8. Total Onsite (within property boundary) Newly Constructed Impervious Surface (in square feet):

Buildings/Lots	29893
Impervious Pavement	20145
Pervious Pavement (total area / adjusted area w credit applied)	0 / 0
Impervious Sidewalks	6681
Pervious Sidewalks (total area / adjusted area w credit applied)	0 / 0
Other (Describe)	0
Future Development	2000
Total Onsite Newly Constructed Impervious Surface	58719

9. Total Onsite Impervious Surface
(Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) 86037 square feet
10. Net Change in Onsite Impervious Surface (+ for net increase, - for net decrease) 50070 square feet
11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = 48.6 %
12. Total Offsite Newly Constructed Impervious Area (*in square feet*):

Impervious Pavement	377
Pervious Pavement (total area / adjusted area w credit applied)	0 / 0
Impervious Sidewalks	0
Pervious Sidewalks (total area / adjusted area w credit applied)	0 / 0
Other (Describe)	0
Total Offsite Newly Constructed Impervious Surface	377

Driveways in ROW Bldg. 3

NT #19004
(Revised 05-05-2020)

CITY OF WILMINGTON ENGINEERING

13. Complete the following information for each Stormwater SCM drainage area. Low Density and Drainage Plan projects (with no permeable pavements) may omit this section and skip to Section V.

Basin Information	Type of SCM SCM # 1 **Wet Pond**	Type of SCM SCM # 2 **Infiltration Trench**	Type of SCM SCM #
Receiving Stream Name	Burnt Mill Creek	Burnt Mill Creek	
Receiving Stream Index Number	18-74-63-2	18-74-63-2	
Stream Classification	C; Sw	C; Sw	
Total Drainage Area (sf)	152460	23389	
On-Site Drainage Area (sf)	102825	23389	
Off-Site Drainage Area (sf)	49635	0	
Buildings/Lots (sf)	22516	7377	
Impervious Pavement (sf)	7231	12914	
Pervious Pavement (total / adjusted) (sf)	0 / 0	0 / 0	/
Impervious Sidewalks (sf)	4769	1797	
Pervious Sidewalks (total / adjusted) (sf)	0 / 0	0 / 0	/
Other (sf)	0	0	
Future Development (sf)	1000	1000	
Existing Impervious to remain (sf)	27318	0	
Offsite (sf)	40516	0	
Total Impervious Area (sf)	103350	23088	
Percent Impervious Area (%)	68%	98.7%	

Basin Information	Type of SCM SCM #	Type of SCM SCM #	Type of SCM SCM #
Receiving Stream Name			
Receiving Stream Index Number			
Stream Classification			
Total Drainage Area (sf)			
On-Site Drainage Area (sf)			
Off-Site Drainage Area (sf)			
Buildings/Lots (sf)			
Impervious Pavement (sf)			
Pervious Pavement (total / adjusted) (sf)	/	/	/
Impervious Sidewalks (sf)			
Pervious Sidewalks (total / adjusted) (sf)	/	/	/
Other (sf)			
Future Development (sf)			
Existing Impervious to remain (sf)			
Offsite (sf)			
Total Impervious Area (sf)			
Percent Impervious Area (%)			

V. SUBMITTAL REQUIREMENTS

Only complete application packages will be accepted and reviewed by the City. A complete package includes all of the items listed below. Copies of forms, deed restrictions, checklists as well as detailed instructions on how to complete this application form may be downloaded from the City of Wilmington Plan Review website below:

https://www.wilmingtonnc.gov/departments/engineering/plan-review/stormwater-permits

The complete application package should be submitted to the following address:

City of Wilmington – Engineering
Plan Review Section
212 Operations Center Dr.
Wilmington, NC 28412

Please indicate that the following required information have been provided by initialing in the space provided for each item.

		Initials
1.	One completed Stormwater Management Permit Application Form.	JPC | ASN
2.	One completed Supplement Form for each SCM proposed (signed, sealed and dated).	JPC | ASN
3.	One completed Operation & Maintenance agreement for each type of SCM.	JPC | ASN
4.	Proposed Deed Restrictions and Restrictive Covenants (for all subdivisions)	N/A
5.	Appropriate stormwater permit review fee.	JPC | ASN
6.	Minimum requirements identified on the Engineering Plan Review Checklist have been addressed.	JPC | ASN
7.	One set of calculations (sealed. signed and dated).	JPC | ASN
8.	A detailed narrative (one to two pages) describing the stormwater treatment/management system for the project.	JPC | ASN
9.	A USGS map identifying the site location. If the receiving stream is reported as class SA or the receiving stream drains to class SA waters within ½ mile of the site boundary, include the ½ mile radius on the map.	JPC | ASN
10.	A copy of the soils report, if applicable. Must meet NCDEQ SCM Manual and MDC requirements for the type of SCM proposed. The report must include boring logs and a map of boring locations.	JPC | ASN
11.	One full set of plans folded to 8.5" x 14".	JPC | ASN
12.	A map delineating and labeling the drainage area for each SCM proposed.	JPC | ASN
13.	A map delineating and labeling the drainage area for each inlet and conveyance proposed.	JPC | ASN
14.	A digital copy of the entire submittal package (can be submitted via flash drive, CD, email, dropbox or other file sharing system).	JPC | ASN

CITY OF WILMINGTON ENGINEERING

VI. PROPERTY OWNER AUTHORIZATION (If Section III(2) has been filled out, complete this section)

I, _____, certify that I own the property identified in this permit application, and thus give permission to _____ with _____ to develop the project as currently proposed. A copy of the lease agreement or pending property sales contract has been provided with the submittal, which indicates the party responsible for the operation and maintenance of the stormwater system.

As the legal property owner I acknowledge, understand, and agree by my signature below, that if my designated agent _____dissolves their company and/or cancels or defaults on their lease agreement, or pending sale, responsibility for compliance with the City of Wilmington Stormwater Permit reverts back to me, the property owner. As the property owner, it is my responsibility to notify the City of Wilmington immediately and submit a completed Name/Ownership Change Form within 30 days; otherwise I will be operating a stormwater treatment facility without a valid permit. I understand that the operation of a stormwater treatment facility without a valid permit is a violation of the City of Wilmington Municipal Code of Ordinances and may result in appropriate enforcement including the assessment of civil penalties.

Signature: _____ Date: _____

SEAL

I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this day of _____, _____, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

_____

My commission expires: _____

VII. APPLICANT'S CERTIFICATION

I, Chris Buffalino, Manager certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans, that the required deed restrictions and protective covenants will be recorded, and that the proposed project complies with the requirements of the applicable rules under the City's Comprehensive Stormwater Ordinance.

Signature: _____ Date: 3-25-2020

SEAL

AMY S. NORRIS NOTARY PUBLIC NEW HANOVER CO., NC

I, Amy S. Norris, a Notary Public for the State of North Carolina, County of New Hanover, do hereby certify that Chris Buffalino personally appeared before me this 25th day of March, 2020 and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

_____

My commission expires: 05-06-24

SUPPLEMENT-EZ COVER PAGE

NT #19004

FORMS LOADED

PROJECT INFORMATION		
1	Project Name	**Saxon Place**
2	Project Area (ac)	4.47
3	Coastal Wetland Area (ac)	0
4	Surface Water Area (ac)	0
5	Is this project High or Low Density?	High
6	Does this project use an off-site SCM?	no

COMPLIANCE WITH 02H .1003(4)		
7	Width of vegetated setbacks provided (feet)	N/A
8	Will the vegetated setback remain vegetated?	
9	Is BUA other that as listed in .1003(4)(c-d) out of the setback?	
10	Is streambank stabilization proposed on this project?	No

NUMBER AND TYPE OF SCMs:		
11	Infiltration System	1
12	Bioretention Cell	0
13	Wet Pond	1
14	Stormwater Wetland	0
15	Permeable Pavement	0
16	Sand Filter	0
17	Rainwater Harvesting (RWH)	0
18	Green Roof	0
19	Level Spreader-Filter Strip (LS-FS)	0
20	Disconnected Impervious Surface (DIS)	0
21	Treatment Swale	0
22	Dry Pond	0
23	StormFilter	0
24	Silva Cell	0
25	Bayfilter	0
26	Filterra	0

FORMS LOADED

DESIGNER CERTIFICATION		
27	Name and Title:	T. Jason Clark, P.E.
28	Organization:	Norris & Tunstall Consulting Engineers, P.C.
29	Street address:	2602 Iron Gate Drive, Suite 102
30	City, State, Zip:	Wilmington, NC 28403
31	Phone number(s):	910-343-9653
32	Email:	jclark@ntengineers.com

Certification Statement:
I certify, under penalty of law that this Supplement-EZ form and all supporting information were prepared under my direction or supervision; that the information provided in the form is, to the best of my knowledge and belief, true, accurate, and complete; and that the engineering plans, specifications, operation and maintenance agreements and other supporting information are consistent with the information provided here.

Designer

Seal

Signature of Designer

3-26-20

Date

DRAINAGE AREAS

NT #19004
(Revised
05-05-2020)

1	Is this a high density project?	Yes
2	If so, number of drainage areas/SCMs	2
3	Is all/part of this project subject to previous rule versions?	No

FORMS LOADED

DRAINAGE AREA INFORMATION		Entire Site	1	2
4	Type of SCM		Wet Pond	Infiltration Trench
5	Total BUA in project (sq ft)	194604 sf	103350 sf	23389 sf
6	New BUA on subdivided lots (subject to permitting) (sq ft)			
7	New BUA outside of subdivided lots (subject to permitting) (sf)	58867 sf	35516 sf	23088 sf
8	Offsite - total area (sq ft)	377 sf	49635 sf	
9	Offsite BUA (sq ft)	377 sf	40516 sf	
10	Breakdown of new BUA outside subdivided lots:			
	- Parking (sq ft)	21450 sf	7231 sf	12914 sf
	- Sidewalk (sq ft)	6524 sf	4769 sf	1797 sf
	- Roof (sq ft)	29893 sf	22516 sf	7377 sf
	- Roadway (sq ft)			
	- Future (sq ft)	1000 sf	1000 sf	1000 sf
	- Other, please specify in the comment box below (sq ft)			
11	New infiltrating permeable pavement on subdivided lots (sq ft)			
12	New infiltrating permeable pavement outside of subdivided lots (sq ft)			
13	Exisitng BUA that will remain (not subject to permitting) (sq ft)			
14	Existing BUA that is already permitted (sq ft)	35967 sf	35967 sf	
15	Existing BUA that will be removed (sq ft)	8649 sf	8649 sf	
16	Percent BUA	49%	68%	~~99%~~ 98.1%
17	Design storm (inches)	1.5	1.5	1.5
18	Design volume of SCM (cu ft)		12616 cf	2764 cf
19	Calculation method for design volume		Simple	Simple

ADDITIONAL INFORMATION	
20	Please use this space to provide any additional information about the drainage area(s):

WET POND

NT #19004
(Revised
05-05-2020)

1	Drainage area number	1
2	Design volume of SCM (cu ft)	12616 cf
GENERAL MDC FROM 02H .1050		
3	Is the SCM sized to treat the SW from all surfaces at build-out?	Yes
4	Is the SCM located away from contaminated soils?	Yes
5	What are the side slopes of the SCM (H:V)?	3:1, 6:1
6	Does the SCM have retaining walls, gabion walls or other engineered side slopes?	Yes
7	Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes
8	Is there an overflow or bypass for inflow volume in excess of the design volume?	Yes
9	What is the method for dewatering the SCM for maintenance?	Pump (preferred)
10	If applicable, will the SCM be cleaned out after construction?	Yes
11	Does the maintenance access comply with General MDC (8)?	Yes
12	Does the drainage easement comply with General MDC (9)?	Yes
13	If the SCM is on a single family lot, does (will?) the plat comply with General MDC (10)?	
14	Is there an O&M Agreement that complies with General MDC (11)?	Yes
15	Is there an O&M Plan that complies with General MDC (12)?	Yes
16	Does the SCM follow the device specific MDC?	Yes
17	Was the SCM designed by an NC licensed professional?	Yes
WET POND MDC FROM 02H .1053		
18	Method used	SA/DA
19	Has a stage/storage table been provided in the calculations?	Yes
20	Elevation of the excavated main pool depth (bottom of sediment removal) (fmsl)	23.00
21	Elevation of the main pool bottom-(top of sediment removal) (fmsl)	23.50
22	Elevation of the bottom of the vegetated shelf (fmsl)	31.50
23	Elevation of the permanent pool (fmsl)	31.50
24	Elevation of the top of the vegetated shelf (fmsl)	32.50
25	Elevation of the temporary pool (fmsl)	33.25
26	Surface area of the main permanent pool (square feet)	5300
27	Volume of the main permanent pool (cubic feet)	24185 cf
28	Average depth of the main pool (feet)	4.56 ft
29	Average depth equation used	Equation 2
30	If using equation 3, main pool perimeter (feet)	
31	If using equation 3, width of submerged veg. shelf (feet)	
32	Volume of the forebay (cubic feet)	4559 cf
33	Is this 15-20% of the volume in the main pool?	Yes
34	Clean-out depth for forebay (inches)	24 in
35	Design volume of SCM (cu ft)	12616 cf
36	Is the outlet an orifice or a weir?	Orifice
37	If orifice, orifice diameter (inches)	1.75 in
38	If weir, weir height (inches)	
39	If weir, weir length (inches)	
40	Drawdown time for the temporary pool (days)	2.34
41	Are the inlet(s) and outlet located in a manner that avoids short-circuiting?	Yes
42	Are berms or baffles provided to improve the flow path?	No
43	Depth of forebay at entrance (inches)	78 in
44	Depth of forebay at exit (inches)	72 in
45	Does water flow out of the forebay in a non-erosive manner?	Yes
46	Width of the vegetated shelf (feet)	6 ft
47	Slope of vegetated shelf (H:V)	6:1
48	Does the orifice drawdown from below the top surface of the permanent pool?	Yes
49	Does the pond minimize impacts to the receiving channel from the 1-yr, 24-hr storm?	Yes
50	Are fountains proposed? (If Y, please provide documentation that MDC(9) is met.)	No
51	Is a trash rack or other device provided to protect the outlet system?	Yes
52	Are the dam and embankment planted in non-clumping turf grass?	Yes
53	Species of turf that will be used on the dam and embankment	bermuda grass
54	Has a planting plan been provided for the vegetated shelf?	Yes

ADDITIONAL INFORMATION	
55	Please use this space to provide any additional information about the wet pond(s):

INFILTRATION SYSTEM

NT #19004 (Revised 05-05-2020)

1	Drainage area number	2
2	Design volume of SCM (cu ft)	2764 cf
GENERAL MDC FROM 02H .1050		
3	Is the SCM sized to treat the SW from all surfaces at build-out?	Yes
4	Is the SCM located away from contaminated soils?	Yes
5	What are the side slopes of the SCM (H:V)?	1:1
6	Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No
7	Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes
8	Is there an overflow or bypass for inflow volume in excess of the design volume?	Yes
9	What is the method for dewatering the SCM for maintenance?	Pump (preferred)
10	If applicable, will the SCM be cleaned out after construction?	Yes
11	Does the maintenance access comply with General MDC (8)?	Yes
12	Does the drainage easement comply with General MDC (9)?	Yes
13	If the SCM is on a single family lot, does (will?) the plat comply with General MDC (10)?	
14	Is there an O&M Agreement that complies with General MDC (11)?	Yes
15	Is there an O&M Plan that complies with General MDC (12)?	Yes
16	Does the SCM follow the device specific MDC?	Yes
17	Was the SCM designed by an NC licensed professional?	Yes
INFILTRATION SYSTEM MDC FROM 02H .1051		
18	Proposed slope of the subgrade surface (%)	0%
19	Are terraces or baffles provided?	No
20	Type of pretreatment:	Other
Soils Data		
21	Was the soil investigated in the footprint and at the elevation of the infiltration system?	Yes
22	SHWT elevation (fmsl)	29.40
23	Depth to SHWT per soils report (in)	60.00
24	Ground elevation at boring in soils report (fmsl)	34.40
25	Is a detailed hydrogeologic study attached if the separation is between 1 and 2 feet?	no
26	Soil infiltration rate (in/hr)	19.50
27	Factor of safety (FS) (2 is recommended):	1.63
Elevations		
29	Bottom elevation (fmsl)	31 ft
30	Storage elevation (fmsl)	34. ft
31	Bypass elevation (fmsl)	34 ft
For Basins Only		
32	Bottom surface area, ft^2:	2654 ft
33	Storage elevation surface area (ft^2)	2654. ft
For Trenches Only		
34	Length (ft)	105 ft
35	Width (ft)	25 ft
36	Perforated pipe diameter, if applicable (inches)	18 in
37	Number of laterals	8
38	Total length of perforated piping	100 ft
39	Stone type, if applicable	No 57
40	Stone void ratio (%)	40%
41	Is stone free of fines?	Yes
42	Is the stone wrapped in geotextile fabric?	Yes
43	Has at least one infiltration port been provided?	Yes
Volumes/Drawdown		
44	Design volume of SCM (cu ft)	2764 cf
45	Time to drawdown (hours)	1.04 hrs

ADDITIONAL INFORMATION	
46	Please use this space to provide any additional information about the infiltration system(s):

Permit Number: _____
(to be provided by City of Wilmington)
SCM Drainage Basin #: 1

N&T #19004

Wet Detention Basin Operation and Maintenance Agreement

I will keep a maintenance record on this SCM. This maintenance record will be kept in a log in a known set location. Any deficient SCM elements noted in the inspection will be corrected, repaired or replaced **immediately**. These deficiencies can affect the integrity of structures, safety of the public, and the pollutant removal efficiency of the SCM.

The wet detention basin system is defined as the wet detention basin, pretreatment including forebays and the vegetated filter if one is provided.

This system (*check one*):
☐ **does** ☑ **does not** **incorporate a vegetated filter at the outlet.**

Important maintenance procedures:

- Immediately after the wet detention basin is established, the plants on the vegetated shelf and perimeter of the basin should be watered twice weekly if needed, until the plants become established (commonly six weeks).
- No portion of the wet detention pond should be fertilized after the first initial fertilization that is required to establish the plants on the vegetated shelf.
- Stable groundcover should be maintained in the drainage area to reduce the sediment load to the wet detention basin.
- If the basin must be drained for an emergency or to perform maintenance, the flushing of sediment through the emergency drain should be minimized to the maximum extent practical.
- Once a year, a dam safety expert should inspect the embankment.

After the wet detention pond is established, it should be inspected **once a month and within 24 hours after every storm event greater than 1.5 inches**. Records of operation and maintenance should be kept in a known set location and must be available upon request.

Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

SCM element:	Potential problem:	How to remediate the problem:
The entire SCM	Trash/debris is present.	Remove the trash/debris.
The perimeter of the SCM	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary, to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
	Vegetation is too short or too long.	Maintain vegetation at a height of approximately six inches.

Permit Number: _____
(to be provided by City of Wilmington)
SCM Drainage Basin #: 1

SCM element:	Potential problem:	How to remediate the problem:
The inlet device:	The pipe is clogged.	Unclog the pipe. Dispose of the sediment off-site.
	The pipe is cracked or otherwise damaged.	Replace the pipe.
	Erosion is occurring in the swale.	Regrade the swale if necessary, to smooth it over and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
	Stone verge is clogged or covered in sediment (if applicable).	Remove sediment and replace with clean stone.
The forebay	Sediment has accumulated to a depth greater than the original design depth for sediment storage.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
The vegetated shelf	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
	Plants are dead, diseased or dying.	Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover if a soil test indicates it is necessary.
The main treatment area	Sediment has accumulated to a depth greater than the original design sediment storage depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.

Permit Number: _____
(to be provided by City of Wilmington)
SCM Drainage Basin #: 1

NT #19004 (Revised 05-05-2020)

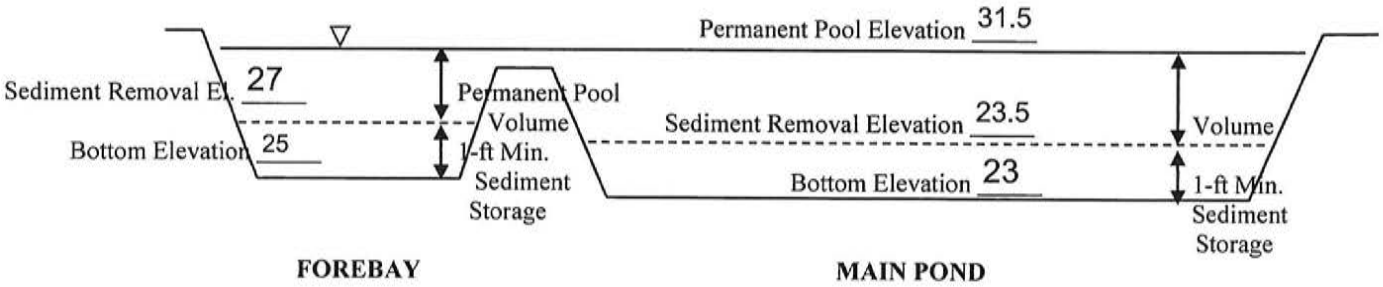
SCM element:	Potential problem:	How I will remediate the problem:
The main treatment area (continued)	Algal growth covers over 25% of the area.	Consult a professional to remove and control the algal growth.
	Cattails, phragmites or other invasive plants cover 50% of the basin surface.	Remove the plants by wiping them with pesticide (do not spray).
The embankment	Shrubs have started to grow on the embankment.	Remove shrubs immediately.
	Evidence of muskrat or beaver activity is present.	Use traps to remove muskrats and consult a professional to remove beavers.
	A tree has started to grow on the embankment.	Consult a dam safety specialist to remove the tree.
	An annual inspection by an appropriate professional shows that the embankment needs repair. (if applicable)	Make all needed repairs.
The outlet device	Clogging has occurred.	Clean out the outlet device. Dispose of the sediment off-site.
	The outlet device is damaged	Repair or replace the outlet device.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Contact the local NC Department of Environment and Natural Resources regional Office.

The measuring device used to determine the sediment elevation shall be such that it will give an accurate depth reading and not readily penetrate into accumulated sediments.

When the permanent pool depth reads 8 feet in the main pond, the sediment shall be removed.

When the permanent pool depth reads 4.5 feet in the forebay, the sediment shall be removed.

BASIN DIAGRAM
(fill in the blanks)



Permit Number: _____
(to be provided by City of Wilmington)

I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed above. I agree to notify the City of Wilmington of any problems with the system or prior to any changes to the system or responsible party.

Project name: Saxon Place

SCM drainage basin number: #1

Print name: Chris Buffalino

Title: Manager of Saxon Place, LLC

Address: 439 Whitebridge Road, Hampstead, NC 28443

Phone: 910-795-8674

Signature: Chris Buffalino

Date: 3-25-2020

Note: The legally responsible party should not be a homeowners' association unless more than 50% of the lots have been sold and a resident of the subdivision has been named the president.

I, Amy S. Norris, a Notary Public for the State of North Carolina, County of New Hanover, do hereby certify that Chris Buffalino personally appeared before me this 25th day of March, 2020, and acknowledge the due execution of the forgoing wet detention basin maintenance requirements. Witness my hand and official seal,

AMY S. NORRIS NOTARY PUBLIC NEW HANOVER CO., NC

Amy S. Norris

SEAL

My commission expires 05-06-24

Permit Number: _____
(to be provided by City of Wilmington)
SCM Drainage Basin #: 2

N&T #19004

Infiltration Trench Operation and Maintenance Agreement

I will keep a maintenance record on this SCM. This maintenance record will be kept in a log in a known set location. Any deficient SCM elements noted in the inspection will be corrected, repaired or replaced **immediately**. These deficiencies can affect the integrity of structures, safety of the public, and the pollutant removal efficiency of the SCM.

Important maintenance procedures:

- The drainage area of the infiltration trench will be carefully managed to reduce the sediment load to the sand filter.
- The water level in the monitoring wells will be recorded once a month and after every storm event greater than 1.5 inches.

The infiltration trench will be inspected **once a quarter and within 24 hours after every storm event greater than 1.5 inches.** Records of operation and maintenance will be kept in a known set location and will be available upon request.

Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

SCM element:	Potential problem:	How to remediate the problem:
The entire SCM	Trash/debris is present.	Remove the trash/debris.
The grass filter strip or other pretreatment area	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary, to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
	Sediment has accumulated to a depth of greater than six inches.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
The flow diversion structure (if applicable)	The structure is clogged.	Unclog the conveyance and dispose of any sediment off-site.
	The structure is damaged.	Make any necessary repairs or replace if damage is too large for repair.

SCM element:	Potential problem:	How to remediate the problem:
The trench	Water is ponding on the surface for more than 24 hours after a storm.	Remove the accumulated sediment from the infiltration system and dispose in a location that will not impact a stream or the SCM.
	Grass or other plants are growing on the surface of the trench.	Do not pull the weeds (may pull out media as well). Wipe them with a systemic herbicide such as glyphosate and then return within the week to remove them by hand. (Another option is to pour boiling water on them or steam them.)
The observation well(s)	Water present more than three days after a storm event.	Clean out any clogged underdrain pipes. Consult an appropriate professional for clogged soil subgrade.
The emergency overflow berm	Erosion or other signs of damage have occurred at the outlet.	Repair or replace the berm.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Repair the damage and improve the flow dissipation structure.

Permit Number: _____
(to be provided by City of Wilmington)

I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed above. I agree to notify City of Wilmington of any problems with the system or prior to any changes to the system or responsible party.

Project name: Saxon Place

SCM drainage basin number: #2

Print name: Chris Buffalino

Title: Manager of Saxon Place, LLC

Address: 439 Whitebridge Road, Hampstead, NC 28443

Phone: 910-795-8674

Signature: Chris Buffalino

Date: 3-25-2020

Note: The legally responsible party should not be a homeowners' association unless more than 50% of the lots have been sold and a resident of the subdivision has been named the president.

I, Amy S. Norris, a Notary Public for the State of North Carolina, County of New Hanover, do hereby certify that Chris Buffalino personally appeared before me this 25th day of March, 2020, and acknowledge the due execution of the forgoing infiltration trench maintenance requirements. Witness my hand and official seal,

AMY S. NORRIS NOTARY PUBLIC NEW HANOVER CO., NC

Amy S. Norris

SEAL

My commission expires 05-06-24