



Public Services

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

June 21, 2021

Mr. Matt Scharf, Manager
Mosley Park, LLC
1319 Military Cutoff Road, Suite CC, PMB 172
Wilmington, NC 28405

**Subject: Stormwater Management Permit No. 2018033R2
Studio 17 Apartments
Drainage Plan**

Dear Mr. Scharf:

The City of Wilmington Engineering Division has received a request for a revision to the Stormwater Management Permit for Studio 17 Apartments. Having reviewed the application and all supporting materials, the City of Wilmington has determined that the proposed revision meets the requirements of the City of Wilmington's Comprehensive Stormwater Ordinance.

The revisions include:

- Additional Pervious Sidewalk added. See approved plans dated June 11, 2021.

Please be aware all terms and conditions of the permit Issued on August 6, 2018 remain in full force and effect. Any additional changes to the approved plans must be approved by this office prior to construction. The issuance of the plan revision does not preclude the permittee from complying with all other applicable statutes, rules, regulations, or ordinances which may have jurisdiction over the proposed activity and obtaining a permit or approval prior to construction.

The revised stamped, approved stormwater management drawings will be released for construction by the Wilmington Planning Division under separate cover. Please replace any old plan sheets from the approved set with the new, revised sheet. An electronic copy of the approved drawing set, permit, application and supplementary documents will be maintained by the Wilmington Engineering Division. If you have any questions, or need additional information, please contact Richard Christensen at (910) 341-7813 or richard.christensen@wilmingtonnc.gov

Sincerely,

for Sterling Cheatham, City Manager
City of Wilmington

cc: Howard Resnik, PE, CSD Engineering
Patrick O'Mahony, Associate Planner, City of Wilmington



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STORMWATER MANAGEMENT PERMIT APPLICATION FORM
 (Form SWP 2.3)

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.):
Studio 17 Apartments

2. Location of Project (street address):
514 S. 17th Street
 City: Wilmington County: New Hanover Zip: 28401

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: 2018033-R1 State – NCDEQ/DEMLR: _____

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: Mosley Park, LLC
 Signing Official & Title: Matt Scharf, Manager

a. Contact information for Applicant / Signing Official:

Address: 1319 Military Cutoff Road, Suite CC, PMB 172

City: Wilmington State: NC Zip: 28405

Phone: 910-538-9901 Email: matt@realpropertiesllc.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: Howard Resnik, PE

Consulting Firm: CSD Engineering

a. Contact information for consultant listed above:

Mailing Address: PO Box 4041

City: Wilmington State: NC Zip: 28406

Phone: 910-791-4441 Email: howard@csd-engineering.com

IV. PROJECT INFORMATION

1. Total Property Area: 28,125 square feet
2. Total Coastal Wetlands Area: 0 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: 28,125 square feet.
5. Existing Impervious Surface within Project Area: 11,180 square feet
6. Existing Impervious Surface to be Removed/Demolished: 5,203 square feet
7. Existing Impervious Surface to Remain: 5,977 square feet
8. Total Onsite (within property boundary) Newly Constructed Impervious Surface (in square feet):

Buildings/Lots	7,395
Impervious Pavement	1,241
Pervious Pavement (total area / adjusted area w credit applied)	/ 0
Impervious Sidewalks	1,139
Pervious Sidewalks (total area / adjusted area w credit applied)	1,163 / 0
Other Concrete Dumpster Pad	100
Future Development	124
Total Onsite Newly Constructed Impervious Surface	9,999

9. Total Onsite Impervious Surface
(Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) 15,976 square feet
10. Net Change in Onsite Impervious Surface (+ for net increase, - for net decrease) +4,796 square feet
11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = 57 %
12. Total Offsite Newly Constructed Impervious Area (in square feet):

Impervious Pavement	372
Pervious Pavement (total area / adjusted area w credit applied)	/
Impervious Sidewalks	
Pervious Sidewalks (total area / adjusted area w credit applied)	/
Other (Describe)	
Total Offsite Newly Constructed Impervious Surface	372

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 #	Type of SCM SCM #	Type of SCM SCM #
Receiving Stream Name	Burnt Mill Creek		
Receiving Stream Index Number	18-74-63-2		
Stream Classification	C;Sw		
Total Drainage Area (sf)	1,515		
On-Site Drainage Area (sf)	1,515		
Off-Site Drainage Area (sf)	0		
Buildings/Lots (sf)	0		
Impervious Pavement (sf)	0		
Pervious Pavement (total / adjusted) (sf)	/ 0	/	/
Impervious Sidewalks (sf)			
Pervious Sidewalks (total / adjusted) (sf)	1163 / 0	/	/
Other (sf)			
Future Development (sf)			
Existing Impervious to remain (sf)			
Offsite (sf)			
Total Impervious Area (sf)	0		
Percent Impervious Area (%)	0		

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.

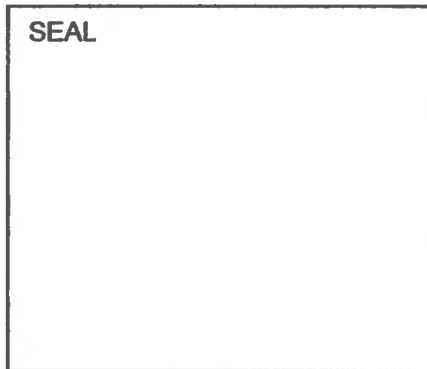
	Initials
1. One completed Stormwater Management Permit Application Form.	<u>MB</u>
2. One completed Supplement Form for each SCM proposed (signed, sealed and dated).	<u>MB</u>
3. One completed Operation & Maintenance agreement for each <u>type</u> of SCM.	<u>N/A</u>
4. Proposed Deed Restrictions and Restrictive Covenants (for all subdivisions)	<u>N/A</u>
5. Appropriate stormwater permit review fee.	<u>MB</u>
6. Minimum requirements identified on the Engineering Plan Review Checklist have been addressed.	<u>MB</u>
7. One set of calculations (sealed, signed and dated).	<u>MB</u>
8. A detailed narrative (one to two pages) describing the stormwater treatment/management system for the project.	<u>MB</u>
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.	<u>MB</u>
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.	<u>MB</u>
11. One full set of plans <u>folded to 8.5" x 14"</u> .	<u>MB</u>
12. A map delineating and labeling the drainage area for each SCM proposed.	<u>MB</u>
13. A map delineating and labeling the drainage area for each inlet and conveyance proposed.	<u>MB</u>
14. A digital copy of the entire submittal package (can be submitted via flash drive, CD, email, dropbox or other file sharing system).	<u>MB</u>

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: _____



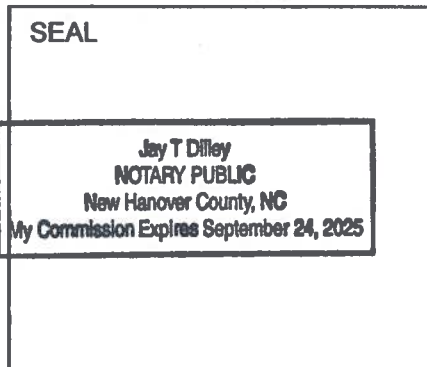
I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this day of _____, _____, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

My commission expires: _____

VII. APPLICANT'S CERTIFICATION

I, Matt Scharf 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: [Handwritten Signature] Date: 4/22/21



I, JAY T DILLEY, a Notary Public for the State of NORTH CAROLINA, County of NEW HANOVER, do hereby certify that MATTHEW SCHARF personally appeared before me this day of APRIL 22, 2021, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

[Handwritten Signature]
My commission expires: 9/24/2025

SUPPLEMENT-EZ COVER PAGE

FORMS LOADED

PROJECT INFORMATION

1	Project Name	Studio 17
2	Project Area (ac)	0.65
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)	0
8	Will the vegetated setback remain vegetated?	
9	Is BUA other than 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	0
12	Bioretention Cell	0
13	Wet Pond	0
14	Stormwater Wetland	0
15	Permeable Pavement	1
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

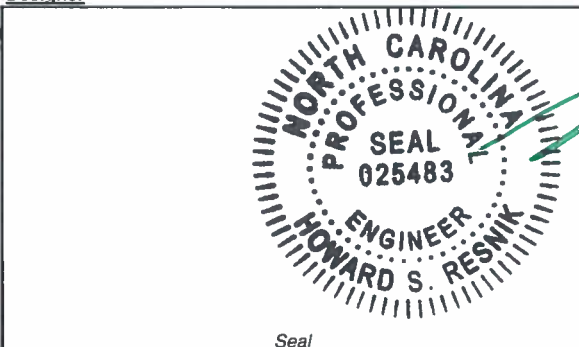
DESIGNER CERTIFICATION

27	Name and Title:	Howard Resnik, PE
28	Organization:	CSD Engineering
29	Street address:	PO BOX 4041
30	City, State, Zip:	Wilmington, NC 28406
31	Phone number(s):	910-791-4441
32	Email:	howard@csd-engineering.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

[Handwritten Signature]
Signature of Designer

5-24-21

Date

DRAINAGE AREAS

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

FORMS LOADED

DRAINAGE AREA INFORMATION		Entire Site	1
4	Type of SCM		Pervious Pave
5	Total BUA in project (sq ft)	15976 sf	sf
6	New BUA on subdivided lots (subject to permitting) (sq ft)		sf
7	New BUA outside of subdivided lots (subject to permitting) (sf)		
8	Offsite - total area (sq ft)		
9	Offsite BUA (sq ft)		
10	Breakdown of new BUA outside subdivided lots:		
	- Parking (sq ft)	1241 sf	sf
	- Sidewalk (sq ft)	1139 sf	sf
	- Roof (sq ft)	7395 sf	sf
	- Roadway (sq ft)		sf
	- Future (sq ft)	124 sf	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)		1163 sf
13	Existing BUA that will remain (not subject to permitting) (sq ft)	5977 sf	
14	Existing BUA that is already permitted (sq ft)		
15	Existing BUA that will be removed (sq ft)		
16	Percent BUA		0%
17	Design storm (inches)		1.5 in
18	Design volume of SCM (cu ft)		195 cf
19	Calculation method for design volume		Simple

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

PERMEABLE PAVEMENT

1	Drainage area number	1
2	Design volume of SCM (cu ft)	195 cf
3	Area of permeable pavement to be installed (square feet)	1163 sf
4	Area of screened roof runoff that is directed to pavement (square feet)	
5	Area of additional built-upon area runoff that is directed to pavement (square feet)	sf
6	Area of incidental, unavoidable runoff from adjacent stable pervious areas (square feet)	352 sf

GENERAL MDC FROM 02H .1050

7	Is the SCM sized to treat the SW from all surfaces at build-out?	Yes
8	Is the SCM located away from contaminated soils?	Yes
5	What are the side slopes of the SCM (H:V)?	
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?	No
9	What is the method for dewatering the SCM for maintenance?	Other
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)?	
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

PERMEABLE PAVEMENT MDC FROM 02H .1055

18	Is this a detention or infiltration permeable pavement system?	Infiltration
19	Proposed slope of the subgrade surface (%)	>=2%
20	Are terraces or baffles provided?	No
21	SHWT elevation (fmsl)	20.00
22	Storage elevation of the design rainfall depth (fmsl)	Yes 21.42
23	Will toxic pollutants be stored or handled on or near the permeable pavement?	No
24	Does the proposed pavement surface comply with .1055(6)?	Yes
25	Will runoff from pervious surfaces be directed away from the pavement?	Yes
26	Maximum adjacent area directed to a single point onto the permeable pavement (sq ft)	
27	Is at least one observation well per terrace been provided at the low point(s)?	
28	Have edge restraints been provided?	No
29	Will the subgrade be graded when dry?	Yes
30	Will the permeable pavement be protected from sediment during construction?	Yes
31	Will an in-situ permeability test be conducted after site stabilization?	Yes

For Infiltrating Pavement Systems

32	Was the soil investigated in the footprint and at the elevation of the subgrade?	Yes
33	Soil infiltration rate (in/hr)	.30 in/hr
34	Is a detailed hydrogeologic study attached if the separation is between 1 and 2 feet?	Yes
35	Is additional media being added to the soil profile?	Yes
36	Proposed slope of the subgrade surface (%)	0%
37	Top of the subgrade (bottom of the aggregate) (fmsl)	21
38	Dewatering time (hours)	10 hrs

For Detention Pavement Systems

39	Drawdown time (hours)	
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Aggregate

40	Aggregate depth (in)	5 in
41	Aggregate porosity (n)	0.4
42	Size of aggregate to be used in the subbase	57
43	Will the aggregate be washed?	Yes

ADDITIONAL INFORMATION

44	Please use this space to provide any additional information about the permeable pavement system(s):	

Permeable Pavement Operation and Maintenance Agreement

I will keep a maintenance record on this BMP. This maintenance record will be kept in a log in a known set location. Any deficient BMP 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 removal efficiency of the BMP.

Important operation and maintenance procedures:

- Stable groundcover will be maintained in the drainage area to reduce the sediment load to the permeable pavement.
- The area around the perimeter of the permeable pavement will be stabilized and mowed, with clippings removed.
- Any weeds that grow in the permeable pavement will be sprayed with pesticide immediately. Weeds will not be pulled, since this could damage the fill media.
- Once a year, the permeable pavement surface will be vacuum swept.
- At no time shall wet sweeping (moistening followed by sweeping) be allowed as a means of maintenance.
- There shall be no repair or treatment of Permeable Pavement surfaces with other types of pavement surfaces. All repairs to Permeable Pavement surfaces must be accomplished utilizing permeable pavement which meets the original pavement specifications.
- Concentrated runoff from roof drains, piping, swales or other point sources, directly onto the permeable pavement surface shall not be allowed. These areas must be diverted away from the permeable pavement.

Initial Inspection: Permeable Pavements shall be inspected monthly for the first three months for the following:

BMP element:	Potential problem:	How to remediate the problem:
The perimeter of the permeable pavement	Areas of bare soil and/or erosive gullies have formed.	In the event that rutting or failure of the groundcover occurs, the eroded area shall be repaired immediately and permanent groundcover re-established. Appropriate temporary Erosion Control measures (such as silt fence) shall be installed in the affected area during the establishment of permanent groundcover, and any impacted area of permeable pavement is to be cleaned via vacuum sweeping.
The surface of the permeable pavement	Rutting / uneven settlement	This indicates inadequate compaction of the pavement base / sub-base. If rutting or uneven settlement on the order of ½ inch or greater occurs, permeable pavement shall be removed and base / sub-base re-compacted, smoothed, and permeable pavement shall then be re-installed. Base and sub-base compaction shall be monitored by a licensed geotechnical engineer to ensure that infiltration capacity of base and sub-base are not compromised by compaction and smoothing processes.

Permit Number: _____
 (to be provided by City of Wilmington)
 Drainage Area / Lot Number: _____

	The pavement does not dewater between storms, or water is running off.	Vacuum sweep the pavement. If the pavement still does not dewater, consult a professional.
--	--	--

The permeable pavement 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.

BMP element:	Potential problem:	How to remediate the problem:
The perimeter of the permeable pavement	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 3 to 6 inches (remove clippings).
The surface of the permeable pavement	Trash/debris is present.	Remove the trash/debris.
	Weeds are growing on the surface of the permeable pavement.	Do not pull the weeds (may pull out media as well). Spray them with pesticide.
	Sediment is present on the surface.	Vacuum sweep the pavement.
	The structure is deteriorating or damaged.	Consult an appropriate professional. Damaged areas of the pavement shall be removed and repaired.
	The pavement does not dewater between storms.	Vacuum sweep the pavement. If the pavement still does not dewater, consult a professional. Permanently clogged pavement shall be removed and repaired.

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: Studio 17

BMP drainage area or lot number: _____

Print name: Matt Scharf

Title: Manager

Address: 1319 Military Cutoff Road, Sutie CC, PMB 172

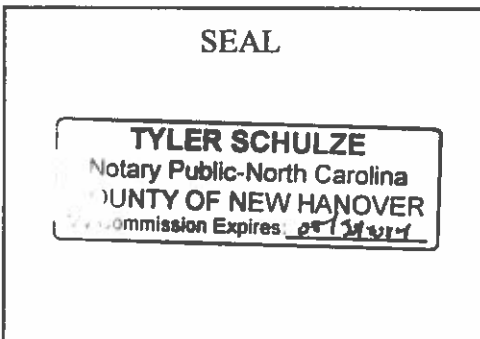
Phone: 910-538-9901

Signature: *Matt Scharf*

Date: 3/19/20

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, *Tyler Schulze*, a Notary Public for the State of North Carolina, County of New Hanover, do hereby certify that Matt Scharf personally appeared before me this 19th day of March, 2020, and acknowledge the due execution of the forgoing permeable pavement maintenance requirements. Witness my hand and official seal,



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

My commission expires 05/30/2024