



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

DRAINAGE PLAN

SECTION 1 - APPROVAL

Having reviewed the construction drawings, application and all supporting materials, the City of Wilmington has determined that the proposed development meets the requirements for Drainage Plan Approval through the City of Wilmington's Comprehensive Stormwater Ordinance.

PERMIT HOLDER: Wilmington Brewing Company, LLC

PROJECT: ADDRESS:

S. Kerr Assembly Hall 800 S. Kerr Avenue

PERMIT #:

2019053

DATE:

September 11, 2019

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This permit shall be effective from the date of issuance until modified or rescinded and shall be subject to the following specified conditions and limitations: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 September 11, 2019.
- 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.
- 4. 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.
 - c. Further subdivision, acquisition, lease or sale of any part of the project area.
 - d. Filling in, altering, or piping of any vegetative or piped conveyance shown on the approved plan.
 - e. Construction of any permitted future areas shown on the approved plans.
- 5. A copy of the approved plans and specifications shall be maintained on file by the Permittee.





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- 6. During construction, erosion shall be kept to a minimum and any eroded areas of the system will be repaired immediately.
- 7. 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.
- 8. All applicable operation & maintenance agreements pertaining to all pervious pavement systems 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 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.
- 9. The permittee shall at all times provide the operation and maintenance necessary to assure the pervious pavement system functions at optimum efficiency. The approved Operation and Maintenance Plan must be followed in its entirety and maintenance must occur at the scheduled intervals including, but not limited to:
 - a. Scheduled inspections
 - b. Sediment removal/vacuum sweep surface
 - Immediate repair of eroded areas adjacent to pervious pavement
- 10. Each component of the stormwater management system should be inspected once a quarter and within 24 hours after every storm event greater than 1.5 inches.
- 11. Records of inspection, maintenance and repair for the permitted pervious pavement 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.
- 12. Upon completion of construction, before a Certificate of Occupancy shall be granted, and prior to operation 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 field location, type, depth and invert of all 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.
- 13. 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.





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- 14. 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 of the Land Development Code.
- 15. 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.
- 16. 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.
- 17. 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.
- 18. 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.
- 19. 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.
- 20. 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.
- 21. 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 11th day of September, 2019

for Sterling Cheatham, City Manager

City of Wilmington





Public Services
Engineering
414 Chestnut St, Suite 200
Wilmington, NC 28401
910 341-7807
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STORMWATER MANAGEMENT PERMIT APPLICATION FORM (Form SWP 2.2)

GENERAL INFORMATION Project Name (subdivision, facility, or establishment name - should be consistent with project name on plans, specifications, letters, operation and maintenance agreements, etc.): S. Kerr Assembly Hall

	S. Kerr Assembly Hall
2.	Location of Project (street address): 800 S. Kerr Ave.
	City: Wilmington County: New Hanover Zip: 28403
3.	Directions to project (from nearest major intersection): Project is located on S. Kerr Ave. Approx. 0.20 Miles North of the Intersection
	with Wilshire Blvd. on the West side of the road.
II.	PERMIT INFORMATION
1.	Specify the type of project (check one): Low Density High Density Drains to an Offsite Stormwater System Drainage Plan Other If the project drains to an Offsite System, list the Stormwater Permit Number(s):
	City of Wilmington: State - NCDENR/DWQ:
2.	Is the project currently covered (whole or in part) by an existing City or State (NCDENR/DWQ) Stormwater Permit? Yes No If yes, list all applicable Stormwater Permit Numbers:
	City of Wilmington: State - NCDENR/DWQ:
3.	Additional Project Permit Requirements (check all applicable): CAMA Major Sedimentation/Erosion Control NPDES Industrial Stormwater 404/401 Permit: Proposed Impacts: If any of these permits have already been acquired please provide the Project Name, Project/Permit Number, issue date and the type of each permit:



III. CONTACT INFORMATION

1.	Print Applicant / Signing Official's name and title (specifically the developer, property owner, lessee, designated government official, individual, etc. who owns the project):
	Applicant / Organization: Wilmington Brewing Company, LLC
	Signing Official & Title: John Savard / Manager
	a. Contact information for Applicant / Signing Official:
	Street Address: 824 S. Kerr Ave.
	City: Wilmington State: NC Zip: 28403
	Phone: 910-392-3315 Fax:Email: info@wilmingtonbrewingcompany.com
	Mailing Address (if different than physical address):
	City:State:Zip:
	b. Please check the appropriate box. The applicant listed above is:
	The property owner (Skip to item 3) Lessee* (Attach a copy of the lease agreement and complete items 2 and 2a below) Purchaser* (Attach a copy of the pending sales agreement and complete items 2 and 2a below) Developer* (Complete items 2 and 2a below.)
2.	the person who owns the property that the project is on.)
	Property Owner / Organization: N/A
	Signing Official & Title:
	a. Contact information for Property Owner:
	Street Address:
	City:Zip:
	Phone:Fax:Email:
	Mailing Address (if different than physical address):
	City:State:Zip:
3.	(Optional) Print the name and title of another contact such as the project's construction supervisor or another person who can answer questions about the project:
	Other Contact Person / Organization: N/A
	Signing Official & Title:



City:	<u> </u>	State:	Zip:
	Fax:		
	ss (if different than physica		
-			
Oity		State	zıp
. PROJECT INFOR	RMATION		
In the space provi	ded below, briefly summai	rize how the stormw	ater runoff will be treated
N/A (Drainage	Plan)		
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(
Tatal Days and Ass	124 000	-4	
	ea: <u>121,900</u> square fe		
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	ter Area: 0sq		
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12. Total Offsite Newly Constructed Impervious Area (improvements made outside of property boundary, in square feet):

Impervious Pavement		0	
Pervious Pavement (adj. total, wit	h % credit applied)	0	
Impervious Sidewalks		3,464	
Pervious Sidewalks (adj. total, with	h % credit applied)	0	
Other (describe)			
Total Offsite Newly Constructed Ir	npervious Surface	3,464	

13. Total Newly Constructed Impervious Surface		
(Total Onsite + Offsite Newly Constructed Impervious Surface) =	12514	square fee

14. Complete the following information for each Stormwater BMP drainage area. If there are more than three drainage areas in the project, attach an additional sheet with the information for each area provided in the same format as below. Low Density projects may omit this section and skip to Section V.

Basin Information	BMP#1	BMP#	BMP#
Receiving Stream Name	UT to Burnt Mill Creek		
Receiving Stream Index Number	UT to 18-74-63-2		
Stream Classification	C;Sw		
Total Drainage Area (sf)	29730	0	0
On-Site Drainage Area (sf)	29730		0
Off-Site Drainage Area (sf)	0	0	0
Total Impervious Area (sf)	9050	0	0
Buildings/Lots (sf)	5681	0	0
Impervious Pavement (sf)	0	0	0
Pervious Pavement, 100 % credit (sf)	0 (18,628)	0	0
Impervious Sidewalks (sf)	3369		0
Pervious Sidewalks, % credit (sf)	0	0	0
Other (sf)	0	0	0
Future Development (sf)	0	0	0
Existing Impervious to remain (sf)	0	0	0
Offsite (sf)	0	0	0
Percent Impervious Area (%)	30.4		0

15.	How was	the off-site	impervious	area lis	ted above	determined?	Provide docui	mentation:
	NΔ							



VI. CONSULTANT INFORMATION AND AUTHORIZATION

(s	uch as a consulting engir	neer and /or fir	ish to designate authority to another individual and/or firm im) so that they may provide information on your behalf for s for additional information).
С	onsulting Engineer: Char	les D. Cazier, P.	Е.
С	onsulting Firm: Intracoasta	al Engineering, l	PLLC
	a. Contact information	for consultan	t listed above:
	Mailing Address: 5725	Oleander Dr. Ur	nit E-7
	City: Wilmington		State: NCZip: 28403
	Phone: 910-859-8983	Fax:	Email: charlie@intracoastalengineering.com
VII.	PROPERTY OWNER	AUTHORIZAT	ION (If Section III(2) has been filled out, complete this section)
person listed in propositive storm As the design defaut Wilming responding Chan valid violati	listed in Contact Information, in Contact Information, item 1) is sed. A copy of the lease abmittal, which indicates the water system. The legal property owner I a nated agent (entity listed in lits on their lease agreemington Stormwater Permit insibility to notify the City ge Form within 30 days; opermit. I understand that ion of the City of Wilming	agreement or the party response to the party response to the party response to the party reverts back to the operation of Municipal of the Municipal of the party of Municipal of the party of Municipal of the party	with (print or type name of with (print or type name of with (print or type name of organization to develop the project as currently pending property sales contract has been provided with pending property of the pending property of the pending property of the property of the property owner. As the property owner, it is my immediately and submit a completed Name/Ownership to the operating a stormwater treatment facility without a permit is a Code of Ordinances and may result in appropriate
entor	cement including the asse	essment of civ	il penalties.
Signa	ture:		Date:
SEA	L.	State of hereby cert personally and acknow permit. With	, a Notary Public for the, do tify that appeared before me this day of,, wledge the due execution of the application for a stormwater tness my hand and official seal, ession expires:
1		1, 551	



VIII. APPLICANT'S CERTIFICATION

	I, (print or type name of person listed in	Contact Information, item 1), John Savard	certify
	that the information included on t	this permit application form is, to the best of my knowledge, co	orrect and
	that the project will be constructe	ed in conformance with the approved plans, that the required of	leed
	restrictions and protective coven-	ants will be recorded, and that the proposed project complies	with the
	requirements of the applicable st	formwater rules under.	
	O. 4		
!	Signature:	1 Date: 2-5-19	
1	COVV		AND DESCRIPTION OF THE PARTY OF
		CERTIFICAL A LOSET	
	SEAL	I, GEOFFREY A. LOSEE , a Notary Public	
	WILLELY A MAIN	State of NORTH LARBYNA, County of NEW HANOVER	, do
	THE OF THE COUNTY OF THE	hereby certify that John Savard	50042888
	S JOTAR L'		
	2 HOINAL!	personally appeared before me this day of 57H FEBRURY,	2019
	Z Dunic	and acknowledge the due execution of the application for a storm	water
	AUBLIC .	permit. Witness my hand and official seal,	
	11. 14. 000000 O. W.	71/2 (-000	
	MANOVER CHILIT	A COURT IN THE SECOND	
	"Aut manual	My commission expires: 11/18/2019	
	<i>(</i>)		



Please indicate the types, quantities and locations of SCMs that will be used on this project:

Dry Pond	Treatment Swale	Disconnected Impervious Surface	Level Spreader-Filter Strip	Green Roof	Rainwater Harvesting	Sand Filter	Permeable Pavement 1	Stormwater Wetland	Wet Pond	Bioretention Cell	Infiltration System	Quality
							On-Site					roceion(e)

Project Name:

S. Kerr Assembly Hall

Address

800 S. Kerr Ave

City / Town

Wilmington

Applicant:

Company:	Wilmmington Brewing Company, LLC
Contact:	John Savard / Manager
Mailing Address:	824 S. Kerr Ave.
City, State, Zip:	Wilmington, NC 28403
Phone number(s): 910-392-3315	910-392-3315
Email:	info@wilmingtonbrewingcompany.com

Designer

Phone number(s):

Charles Cazier Professional Engineer Intracoastal Engineering PLLC. 5725 Oleander Dr. Unit E-7 Wilmington, NC 28403 910-859-8983

Charlie@intracoastalengineering.com

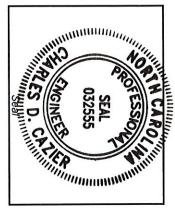
Street address:

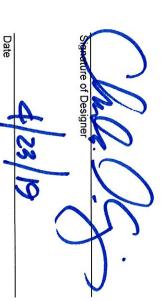
Organization:

City, State, Zip:

Name and Title:

Designer information for this project:





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.

I am aware that there are significant penalties for submitting false information including the possibility of fines and imprisonment for knowing violations as well as a report being made to my professional board.



Drainage area number		Break down of BUA in the drainage area (both new and existing):	
Total coastal wetlands area (sq ft)		- Parking / driveway (sq ft)	
Total surface water area (sq ft)		- Sidewalk (sq ft)	3369 sf
Total drainage area (sq ft)	29730 sf	- Roof (sq ft)	5681 sf
BUA associated with existing development (sq ft)		- Roadway (sq ft)	
Proposed new BUA (sq ft)	9050 sf	- Other, please specify in the comment box below (sq ft)	
Percent BUA of drainage area	30%		9050 sf
COMPLIANCE WITH THE APPLICABLE STORMWATER PROGRAM			
Stormwater program(s) that apply (please specify):		Design rainfall depth (in)	1.5 in
Coastal Stormwater rules		Minimum volume required (cu ft)	3459 cf
	然の形式に対する。 対域が対	Design volume of SCM (cu ft)	3725 cf
GENERAL MDC FROM 02H .1050			
#1 Is the SCM sized to treat the SW from all surfaces at build-out?	No	#7 If applicable, with the SCM be cleaned out after construction?	
#2 Is the SCM located on or near contaminated soils?	No	#8 Does the mainetenance access comply with General MDC (8)?	Yes
#3 What are the side slopes of the SCM (H:V)?	N/A	#9 Does the drainage easement comply with General MDC (9)?	Yes
#3 Does the SCM have retaining walls, gabion walls or other engineered side slopes?	No		
#4 Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes		Yes
#5 Is there a a bypass for flows in excess of the design flow?	Yes	#12 Is there an O&M Plan that complies with General MDC (12)?	Yes
#6 What is the method for dewatering the SCM for maintenance?	Pump (preferred)	#13 Was the SCM designed by an NC licensed professional?	Yes
PERMEABLE PAVEMENT MDC FROM 02H .1055			
#1 Was the soil investigated in the footprint and at the elevation of the infiltration system?	Yes	#6 How will the pavement surface be tested?	
#1 Briefly describe the hydraulic properties and characteristics of the soil profile: Tan/Gray Fine Sand with an infiltration rate of 4.12 to 8.91 In/hr			
		#7 Area of permeable pavement to be installed (square feet)	18628 sf
		#7 Area of screened roof runoff that is directed to pavement (square feet)	5681 sf
#2 SHWT elevation (fmsl)	30.1 ft	#7 Area of additional built-upon area runoff that is directed to pavement (square feet)	3369 sf
#2 Top of the subgrade (fmsl)	33.5 ft	#7 Will runoff from pervious surfaces be directed away from the pavement?	Yes
#2 Storage elevation of the design rainfall depth (fmsl)	33.96 ft	#8 Dewatering time (hours)	2.70 hrs
#2 Is a detailed hydrogeologic study attached if the separation is between 1 and 2 feet?	No	#8 Is additional media being added to the soil profile?	No
#3 Will toxic pollutants be stored or handled on or near the permeable pavement?	No	#9 Is at least one observation well per terrace been provided at the low point(s)?	Yes
#4 Proposed slope of the subgrade surface (%)	2%	#10 Is this a detention permeable pavement system?	No
#4 Are terraces or baffles provided?	No	#10 If so, what is the drawdown time for the design storm?	
#5 Size of aggregate to be used in the subbase	#57	#11 Have edge restraints been provided?	Yes
#5 Aggregate depth (in)	6 in	#12 Will the subgrade be graded when dry?	Yes
#5 Aggegate porosity (n)	0.4	#13 Will the permeable payment be protected from sediment during construction?	Yes
		#13 Will an in-situ permeability test be conducted after site stabilization	No

Please use this space to provide any additional information about this permeable pavement design that you think is relevant to the review:

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	Areas of bare soil and/or	In the event that rutting or failure of the groundcover	
the permeable	erosive gullies have	occurs, the eroded area shall be repaired immediately	
pavement	formed.	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	Rutting / uneven	This indicates inadequate compaction of the pavement	
permeable	settlement	base / sub-base. If rutting or uneven settlement on the	
pavement		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	
5 2019		that infiltration capacity of base and sub-base are not	
0 2010		compromised by compaction and smoothing processes.	
	The pavement does not	Vacuum sweep the pavement. If the pavement still	
EFRINC I	dewater between storms,	does not dewater, consult a professional.	
LLIMIU	or water is running off.		

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

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.

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: S. Kerr Assembly Hall
BMP drainage area or lot number: #1
Print name: Wilmington Brewing Company, LLC (John Savard)
Title:Manager
Address: 824 S. Kerr Ave. Wilmington, NC 28403
Phone:910-392-3315
Signature:
Date: 2-5-19
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, GEOFFREY A. LOSEE, a Notary Public for the State of NORTH CAPOLINA, County of NEW HANDUER, do hereby certify that
NORTH CAROLINA, County of NEW HANDUER, do hereby certify that
John Javard personally appeared before me this 574
day of February, 2019, and acknowledge the due execution of the
forgoing permeable pavement maintenance requirements. Witness my hand and official
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11/18/2019