



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: Laurinburg KFC Take Home, Inc.

PROJECT:

**KFC Market Street** 5120 Market Street

ADDRESS: PERMIT #:

2019046

DATE:

July 26, 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 July 26, 2029 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 July 25, 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, 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:

Scheduled inspections (interval noted on the agreement).

b. Sediment removal.

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, invertand 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.





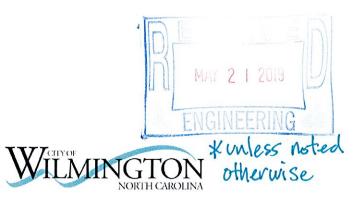
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- 21. The permit issued shall continue in force and effect until revoked or terminated by the City of Wilmington. The permit may be modified, revoked and reissued or terminated for cause. The filing of a request for a permit modification, revocation 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 26th day of July, 2019

r Sterling Cheatham, City Manager

City of Wilmington





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

# STORMWATER MANAGEMENT PERMIT APPLICATION FORM (Form SWP 2.2)

# 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.):  KFC Market Street
2.	Location of Project (street address):  5120 Market Street
	City: Wilmington County: New Hanover Zip: 28403
3.	Directions to project (from nearest major intersection):  The project is located on the southeast corner of the intersection of Market Street (US Hwy 17)
	and New Centre Drive.
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: Laurinburg KFC Take Home, Inc.
	Signing Official & Title: Thomas A. Broome, President
	a. Contact information for Applicant / Signing Official:
	Street Address: 452 Atkinson Street
	City: Laurinburg State: NC Zip: 28352
	Phone: 910-276-6740 Fax: 910-265-7588 Email: tab@scotfd.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.	Print Property Owner's name and title below, if you are the lessee, purchaser, or developer. (This is the person who owns the property that the project is on.)
	Property Owner / Organization:
	Signing Official & Title:
	a. Contact information for Property Owner:
	Street Address:
	City:State:Zip:
	Phone:Fax:Email:
	Mailing Address (if different than physical address):
	City:Zip: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:
	Signing Official & Title:



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	a. Contact information for person listed in item 5 above	76.
	Street Address:	
	City:State:	Zip:
	Phone:Fax:Email:	
	Mailing Address (if different than physical address):	
	City:State:	zip:
IV.	PROJECT INFORMATION	
1.	In the space provided below, briefly summarize how the st	cormwater runoff will be treated.
	The site is currently developed as a commercial bank with	parking. Existing storm drains collect
	runoff and discharge to an existing collection system in Ma	arket Street. This project proposes to
2.	utilize drainage infrastructure as much as possible while pupon areas that exceed the existing built upon area.  Total Property Area: 44,404 square feet	roviding pervious pavement for any built
3.	Total Coastal Wetlands Area:square feet	
4.	Total Surface Water Area:square feet	
5.	Total Property Area (2) – Total Coastal Wetlands Area (3) Project Area: 44,404 square feet.	- Total Surface Water Area (4) = Total
6.	Existing Impervious Surface within Property Area: 21,819	square feet
7.	Existing Impervious Surface to be Removed/Demolished:	21,819 square feet
8.	Existing Impervious Surface to Remain:sq	uare feet
9.	Total Onsite (within property boundary) Newly Constructed	
	Buildings/Lots	3,648
	Impervious Pavement	16,594
	Pervious Pavement (adj. total, with 0 % credit applied)	4,115
	Impervious Sidewalks	1,951
	Pervious Sidewalks (adj. total, with % credit applied)	0
	Other (describe) Trash Enclosure Pad	280
	Future Development	676
	Total Onsite Newly Constructed Impervious Surface	27,264
	. Total Onsite Impervious Surface (Existing Impervious Surface to remain + Onsite Newly Constructed Im . Project percent of impervious area: (Total Onsite Impervious So	



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12. Total Offsite Newly Constructed Impervious Area (improvements made outside of property boundary, in square feet):

Impervious Pavemen	ıt		588
Pervious Pavement	(adj. total, with	% credit applied)	
Impervious Sidewalk	S		1,491
Pervious Sidewalks	(adj. total, with	% credit applied)	
Other (describe)			
<b>Total Offsite Newly</b>	Constructed Impe	rvious Surface	2,079

13. Total Newly Constructed Impervious Surface		
(Total Onsite + Offsite Newly Constructed Impervious Surface) = _	29,343	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#	BMP# 1	BMP#2
Receiving Stream Name		Spring Branch	Spring Branch
Receiving Stream Index Number		18-74-63-1	18-74-63-1
Stream Classification		C; Sw	C; Sw
Total Drainage Area (sf)		3,006	2,439
On-Site Drainage Area (sf)		3,006	2,439
Off-Site Drainage Area (sf)		0	0
Total Impervious Area (sf)		3,006	2,439
Buildings/Lots (sf)		0	0
Impervious Pavement (sf)		1,330	0
Pervious Pavement (sf)		1,676	2,439
Impervious Sidewalks (sf)		0	0
Pervious Sidewalks (sf)		0	0
Other (sf)		0	0
Future Development (sf)		0	0
Existing Impervious to remain (sf)		0	0
Offsite (sf)		0	0
Percent Impervious Area (%)		100	100

15. How was the off-site impervious area listed above determined? Provide documentation:



### V. SUBMITTAL REQUIREMENTS

- Supplemental and Operation & Maintenance Forms One applicable City of Wilmington Stormwater BMP supplement form and checklist must be submitted for each BMP specified for this project. One applicable proposed operation and maintenance (O&M) form must be submitted for each type of stormwater BMP. Once approved, the operation and maintenance forms must be referenced on the final plat and recorded with the register of deeds office.
- 2. Deed Restrictions and Restrictive Covenants For all subdivisions, outparcels, and future development, the appropriate property restrictions and protective covenants are required to be recorded prior to the sale of any lot. Due to variability in lot sizes or the proposed BUA allocations, a table listing each lot number, lot size, and the allowable built-upon area must be provided as an attachment to the completed and notarized deed restriction form. The appropriate deed restrictions and protective covenants forms can be downloaded at the link listed in section V (3). Download the latest versions for each submittal.

In instances where the applicant is different than the property owner, it is the responsibility of the property owner to sign the deed restrictions and protective covenants form while the applicant is responsible for ensuring that the deed restrictions are recorded.

By the notarized signature(s) below, the permit holder(s) certify that the recorded property restrictions and protective covenants for this project, if required, shall include all the items required in the permit and listed on the forms available on the website, that the covenants will be binding on all parties and persons claiming under them, that they will run with the land, that the required covenants cannot be changed or deleted without concurrence from the City of Wilmington, and that they will be recorded prior to the sale of any lot.

3. Only complete application packages will be accepted and reviewed by the City. A complete package includes all of the items listed on the City Engineering Plan Review Checklist, including the fee. Copies of the Engineering Plan Review Checklist, all Forms, Deed Restrictions as well as detailed instructions on how to complete this application form may be downloaded from:

http://www.wilmingtonnc.gov/PublicServices/Engineering/PlanReview/StormwaterPermits.aspx

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



# VI. CONSULTANT INFORMATION AND AUTHORIZATION

(such	as a consulting engine	ction if you wish to des eer and /or firm) so tha sing requests for addit	it they may	provide inforr	er individual and/or nation on your beha	firm alf for
Consu	ulting Engineer: <b>Jere</b> r	ny Blair, PE				
Const	ulting Firm: Paramou	nte Engineering, Inc				
а	Contact information	for consultant listed ab	ove.			
	ailing Address: 122 C					
			State: NI	C Zin:	28403	
		Fax: 910.791.6760				
	ione. <u>Grondrioror</u>	Fax		Diane parame	anto originoin	
VII. PF	ROPERTY OWNER A	UTHORIZATION (If Se	ction III(2) has	s been filled out,	complete this section)	
person liste listed in Cor proposed the submi stormwate	d in Contact Information, itentact Information, itentact Information, item 1) A copy of the lease a stral, which indicates the system.	n Contact Information, item is permit application, a em 1) greement or pending p ie party responsible fo	property sal	with ( <i>print or</i> to develop les contract ha tion and maint	type name of organizate the project as curre as been provided we renance of the	tion Intly Ith
designate defaults o Wilmingto responsib Change F valid pern	d agent (entity listed in in their lease agreeme on Stormwater Permit in illity to notify the City of form within 30 days; of nit. I understand that the	knowledge, understan Contact Information, item nt, or pending sale, re- reverts back to me, the f Wilmington immedial therwise I will be operation of a storm on Municipal Code of Contact enforcement includ	n 1) dissolv sponsibility property o ely and sub ating a storr water treat Ordinances	es their compliant for compliant owner. As the pomit a comple mwater treatment facility vand may resu	any and/or cancels be with the City of broperty owner, it is ted Name/Ownersh ent facility without a vithout a valid perm It in appropriate	or s my nip a
SEAL			ing the doo	Coomen or or	in perialities.	
		Signature:				
		Date:				
		l,			a Notary Public for t	he
		State of		, County of	, do	## <b>*</b>
		hereby certify that				
		personally appeared	before me th	nis day of		,



and acknowledge the due execution	of the application for a stormwater permit. Witness my hand and official seal,
My commission expires:	
VIII. APPLICANT'S CERTIFIC	CATION
that the information included on that the project will be constructed restrictions and protective coven	Contact Information, item 1), Thomas A. Broome, President certify this permit application form is, to the best of my knowledge, correct and in conformance with the approved plans, that the required deed ants will be recorded, and that the proposed project complies with the requirements of the applicable stormwater rules under.
SEAL  SEAL  WILLIFORD  ROTARY  WILLIFORD  ROTARY  ROTARY  WILLIFORD  ROTARY  R	Signature: Sorran C. Brurne.  Date: 5   14   19  I, Phyllis S. Williford, a Notary Public for the State of North Carolina, County of Scotland, do hereby certify that, and acknowledge the due execution of the application for a stormwater of seal.
my commission expires:	Williperd
My commission expires:	gust 28, 2021

# SUPPLEMENT-EZ COVER PAGE

FORMS LOADED

1	Project Name	KFC Market Street
2	Project Area (ac)	1.02
3	Coastal Wetland Area (ac)	0
1	Surface Water Area (ac)	0
5	Is this project High or Low Density?	High
;	Does this project use an off-site SCM?	No

7	Width of vegetated setbacks provided (feet)	1		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?	alter state			
10	Is streambank stabilization proposed on this project?	1 1			

11	Infiltration System		0	
12	Bioretention Cell			
13	Wet Pond		0	
14	Stormwater Wetland		0	
15	Permeable Pavement		2	
16	Sand Filter		0	
17	Rainwater Harvesting (RWH)		0	
18	Green Roof		0	
19	Level Spreader-Filter Strip (LS-FS)	I SANATA SA PAGA	0	
20	Disconnected Impervious Surface (DIS)		0	
21	Treatment Swale		0	
22	Dry Pond		0	
23	StormFilter	No leader 1 to the second	0	
24	Silva Cell		0	
25	Bayfilter		0	
26	Filterra		0	

FORMS LOADED

27	Name and Title:	Daniel J. Fisk, PE
28	Organization:	Paramounte Engineering Inc.
29	Street address:	122 Cinema Drive
30	City, State, Zip:	Wilmington, NC 28403
31	Phone number(s):	910.791.6707
32	Email:	dfisk@paramounte-eng.com

#### Certification Statement:

Certification Scientification (section of the 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.



D J J. FX

05.20.19

Date



# **DRAINAGE AREAS**

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

FORMS LOADED

ORAI	NAGE AREA INFORMATION	Entire Site	1	2
4	Type of SCM	MATERICA PO CONTROL CONTROL PROPERTY OF THE PR	Perm Pavement	Perm Pavement
5	Total BUA in project (sq ft)	27264 sf	3006 sf	2439 sf
6	New BUA on subdivided lots (subject to permitting) (sq ft)			
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)	20709 sf	3006 sf	2439 sf
	- Sidewalk (sq ft)	1951 sf		
	- Roof (sq ft)	3648 sf		1 1
	- Roadway (sq ft)			1707
	- Future (sq ft)	676 sf		
	- Other, please specify in the comment box below (sq ft)	280 sf		
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)			1
15	Existing BUA that will be removed (sq ft)	21819 sf		1   1   1   1   1
16	Percent BUA		100%	100%
17	Design storm (inches)		1.5	1.5
18	Design volume of SCM (cu ft)		359 cf	290 cf
19	Calculation method for design volume		Simple	Simple

# ADDITIONAL INFORMATION

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

# PERMEABLE PAVEMENT

2	Drainage area number	1,	2
	Design volume of SCM (cu ft)	359 cf	290 cf
3	Area of permeable pavement to be installed (square feet)	1676 sf	2439 sf
4	Area of screened roof runoff that is directed to pavement (square feet)	sf	sf
5	Area of additional built-upon area runoff that is directed to pavement (square feet)	1330 sf	1
5	Area of incidental, unavoidable runoff from adjacent stable pervious areas	1330 Si	sf
6	(square feet)	sf	sf
MINISTER STATE	RAL MDC FROM 02H .1050		AN EXICIONAL CONTRACTOR
7	Is the SCM sized to treat the SW from all surfaces at build-out?	Yes	Yes
8	Is the SCM located away from contaminated soils?	Yes	Yes
5	What are the side slopes of the SCM (H:V)?	:1 N/A	:1 N/A
	Does the SCM have retaining walls, gabion walls or other engineered side		1.164
6	slopes?	No	No
	Are the inlets, outlets, and receiving stream protected from erosion (10-year		100 111
7	storm)?	Yes	Yes
	Is there an overflow or bypass for inflow volume in excess of the design		
8	volume?	Yes	Yes
0	What is the mathed for demandation the COM for maintaining	D	0.7
9	What is the method for dewatering the SCM for maintenance?	Drawdown Orifice	Drawdown Orifice
10	If applicable, will the SCM be cleaned out after construction?	Yes	Yes
11	Does the maintenance access comply with General MDC (8)?	Yes	Yes
12	Does the drainage easement comply with General MDC (9)?  If the SCM is on a single family lot, does (will?) the plat comply with General	Yes	Yes
13	MDC (10)?	11	1 11.7
14	Is there an O&M Agreement that complies with General MDC (11)?	Yes	Yes
15	Is there an O&M Plan that complies with General MDC (11)?	Yes	Yes
16	Does the SCM follow the device specific MDC?	Yes	Yes
17	Was the SCM designed by an NC licensed professional?	Yes	Yes
MANAGER	EABLE PAVEMENT MDC FROM 02H .1055		
18	Is this a detention or infiltration permeable pavement system?	Detention	Detention
19	Proposed slope of the subgrade surface (%)	0%	0%
20	Are terraces or baffles provided?	No	No
21	SHWT elevation (fmsl)	38.00	38.00
22	Storage elevation of the design rainfall depth (fmsl)	40.36	40.32
23	Will toxic pollutants be stored or handled on or near the permeable pavement?	No	No
24	Does the proposed pavement surface comply with .1055(6)?	Yes	Yes
25 26	Will runoff from pervious surfaces be directed away from the pavement?  Maximum adjacent area directed to a single point onto the permeable pavement (sq ft)	Yes	Yes
27	Is at least one observation well per terrace been provided at the low point(s)?	Yes	Yes
28	Have edge restraints been provided?	Yes	Yes
29	Will the subgrade be graded when dry?	Yes	Yes
30 31	Will the permeable pavement be protected from sediment during construction? Will an in-situ permeability test be conducted after site stabilization?	Yes No	Yes No
_	nfiltrating Pavement Systems		
0. 1.	minutaling ravellient dystems		
32	Was the soil investigated in the footprint and at the elevation of the subgrade? Soil infiltration rate (in/hr)		
33	Is a detailed hydrogeologic study attached if the separation is between 1 and 2 feet?		
33			
34 35	Is additional media being added to the soil profile?		
34	Is additional media being added to the soil profile?  Proposed slope of the subgrade surface (%)	, t	
34 35 36 37	Proposed slope of the subgrade surface (%) Top of the subgrade (bottom of the aggregate) (fmsl)		
34 35 36	Proposed slope of the subgrade surface (%)		
34 35 36 37 38 For D	Proposed slope of the subgrade surface (%) Top of the subgrade (bottom of the aggregate) (fmsl) Dewatering time (hours) Detention Pavement Systems		
34 35 36 37 38 For D	Proposed slope of the subgrade surface (%) Top of the subgrade (bottom of the aggregate) (fmsl) Dewatering time (hours) Detention Pavement Systems Drawdown time (hours)	81 hrs	105 hrs
34 35 36 37 38 For D 39	Proposed slope of the subgrade surface (%) Top of the subgrade (bottom of the aggregate) (fmsl) Dewatering time (hours) Detention Pavement Systems Drawdown time (hours) egate		
34 35 36 37 38 For D 39 Aggre	Proposed slope of the subgrade surface (%) Top of the subgrade (bottom of the aggregate) (fmsl) Dewatering time (hours) Detention Pavement Systems Drawdown time (hours) egate Aggregate depth (in)	9 Full   12 Total	9 Full   12 Total
34 35 36 37 38 For D 39 Aggre 40 41	Proposed slope of the subgrade surface (%) Top of the subgrade (bottom of the aggregate) (fmst) Dewatering time (hours) Petention Pavement Systems Drawdown time (hours) Eggate Aggregate depth (in) Aggregate porosity (n)	9 Full   12 Total 40%	9 Full   12 Total 40%
34 35 36 37 38 For C 39 Aggre 40 41 42	Proposed slope of the subgrade surface (%) Top of the subgrade (bottom of the aggregate) (fmsl) Dewatering time (hours) Petention Pavement Systems Drawdown time (hours) egate Aggregate depth (in) Aggregate porosity (n) Size of aggregate to be used in the subbase	9 Full   12 Total 40% No. 57	9 Full   12 Total 40% No. 57
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# 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
	PERSON IN COLUMN THE PROPERTY OF THE PERSON AND THE		shall be removed and base / sub-base re-compacted,
EME			smoothed, and permeable pavement shall then be re-
	THE RESIDENCE OF THE PARTY OF T		installed. Base and sub-base compaction shall be
			monitored by a licensed geotechnical engineer to ensure
MAY 2 I	2019		that infiltration capacity of base and sub-base are not
July Para 25	Town Town		compromised by compaction and smoothing processes.
		The pavement does not	Vacuum sweep the pavement. If the pavement still
ENGINER	PINIC	dewater between storms,	does not dewater, consult a professional.
LIVUIIVLI	ININU	or water is running off.	

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

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 b	y 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:KFC Market Street
BMP drainage area or lot number:1
Print name:Thomas A. Broome
Title:President
Address: 452 Atkinson Street, Laurinburg, NC 28352
Phone:910-276-6740
Signature: Thomas a. Britishe
Signature: JRomas a. Browns Date: 3/29/19
Date.
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.
North Carolina, County of Scotland, do hereby certify that
North Carolina, County of Scotland, do hereby certify that
Thomas A. Broome personally appeared before me this 29th
day of March , 2019, and acknowledge the due execution of the
forgoing permeable pavement maintenance requirements. Witness my hand and official
seal,
CEAL
SEAL
WILLIFO BUILLING WILLIAM STATE OF THE STATE
TARY THE TARK THE THE TARK THE
PUBLIC SI
THE CO. SCHOOL S
PUBLIC &

My commission expires\_

august 28, 2021