



Public Services

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

September 10, 2018

Mr. Mark L. Maynard
Greenfield Street Properties, LLC
10 S. Cardinal Drive
Wilmington, NC 28403

**Subject: Stormwater Management Permit No. 2017033R3
Greenfield Commercial
High Density Development**

Dear Mr. Maynard:

The City of Wilmington Engineering Division has received a request for a revision to the Stormwater Management Permit for Greenfield Commercial. 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:

- See approved plans dated August 21, 2018.

Please be aware all terms and conditions of the permit Issued on August 4, 2017 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,

A handwritten signature in blue ink, appearing to read 'Sterling Cheatham'.

for Sterling Cheatham, City Manager
City of Wilmington

cc: Justin Bishop, PE, Malpass Engineering & Surveying, P.C.
Jeff Walton, Associate Planner, City of Wilmington



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unless noted otherwise

**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.):

Greenfield Commercial

2. Location of Project (street address):

110 Greenfield Street

City: Wilmington County: New Hanover Zip: 28401

3. Directions to project (from nearest major intersection):

Travel 0.52 miles south on US-421 (S Third St) from the intersection of US-421 & US-76 (Dawson St). Turn right on Greenfield St & travel 0.10 miles. Turn left into the site.

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: 2017033R1 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: Greenfield Street Properties, LLC

Signing Official & Title: Mark L. Maynard, Manager

- a. Contact information for Applicant / Signing Official:

Street Address: 10 S Cardinal Drive

City: Wilmington State: NC Zip: 28403

Phone: 910-251-5030 Fax: _____ Email: markm@tributecompanies.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: _____ 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: _____

Signing Official & Title: _____



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

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 stormwater runoff will be treated.

A permeable pavement system will receive 100% BUA reduction credit & treat runoff from a portion of the site equal to or greater than the total onsite newly constructed BUA. A drop inlet and a catch basin will be installed & discharge into an existing drop inlet at the northwest corner of the site.

2. Total Property Area: 88,616 square feet

3. Total Coastal Wetlands Area: 0 square feet

4. Total Surface Water Area: 0 square feet

5. Total Property Area (2) – Total Coastal Wetlands Area (3) – Total Surface Water Area (4) = Total Project Area: 88,616 square feet.

6. Existing Impervious Surface within Property Area: 58,373 square feet

7. Existing Impervious Surface to be Removed/Demolished: 28,492 square feet

8. Existing Impervious Surface to Remain: 29,881 square feet

9. Total Onsite (within property boundary) Newly Constructed Impervious Surface (*in square feet*):

Buildings/Lots	7,658
Impervious Pavement	4,611
Pervious Pavement (adj. total, with 100% credit applied)	0
Impervious Sidewalks	2,396
Pervious Sidewalks (adj. total, with % credit applied)	0
Other (describe) (ramp, wall, etc.)	6,928
Future Development	888
Total Onsite Newly Constructed Impervious Surface	22,481

10. Total Onsite Impervious Surface
 (Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) = 52,362 square feet

11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = 59.09 %

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

Impervious Pavement	1,117
Pervious Pavement (adj. total, with % credit applied)	0
Impervious Sidewalks	5,748
Pervious Sidewalks (adj. total, with % credit applied)	0
Other (describe)	0
Total Offsite Newly Constructed Impervious Surface	6,865

13. Total Newly Constructed Impervious Surface
 (Total Onsite + Offsite Newly Constructed Impervious Surface) = 29,346 square feet

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	Greenfield Creek		
Receiving Stream Index Number	18-76		
Stream Classification	SC;Sw		
Total Drainage Area (sf)	51,975		
On-Site Drainage Area (sf)	51,975		
Off-Site Drainage Area (sf)	0		
Total Impervious Area (sf)	24,791		
Buildings/Lots (sf)	7,658		
Impervious Pavement (sf)	1,615 ✓		
Pervious Pavement (sf)	0		
Impervious Sidewalks (sf)	1,746 ✓		
Pervious Sidewalks (sf)	0		
Other (sf)	3,858		
Future Development (sf)	711		
Existing Impervious to remain (sf)	9,203		
Offsite (sf)	0		
Percent Impervious Area (%)	47.70		

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



V. SUBMITTAL REQUIREMENTS

1. 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

1. Applicant: 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: Jeff Malpass & Justin C. Bishop

Consulting Firm: Malpass Engineering & Surveying, P.C.

a. Contact information for consultant listed above:

Mailing Address: 1134 Shipyard Blvd

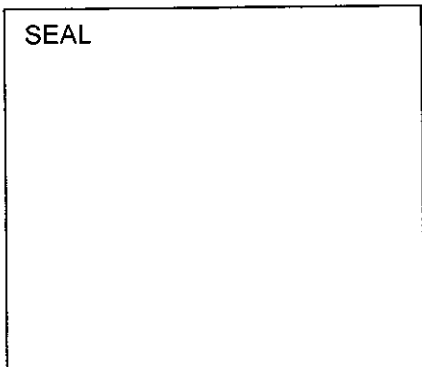
City: Wilmington State: NC Zip: 28403

Phone: 910-392-5243 Fax: 910-392-5203 Email: jeffmalpass@bizec.rr.com; justinbishop@bizec.rr.com

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

I, *(print or type name of person listed in Contact Information, item 2)* _____, certify that I own the property identified in this permit application, and thus give permission to *(print or type name of person listed in Contact Information, item 1)* _____ with *(print or type name of organization listed in Contact Information, item 1)* _____ 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 *(entity listed in Contact Information, item 1)* 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: _____

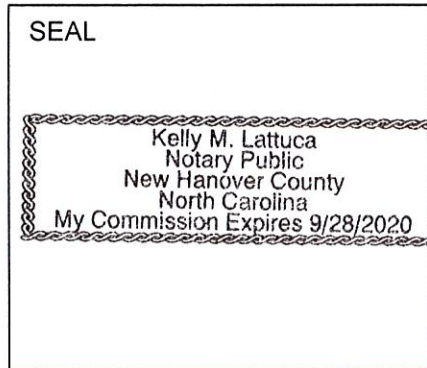
I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this day of _____, _____.

and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

My commission expires: _____

VIII. APPLICANT'S CERTIFICATION

I, (print or type name of person listed in Contact Information, item 1) , Mark L. Maynard 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 stormwater rules under.



Signature: _____

Date: 3/2/17

I, Kelly M. Lattuca, a Notary Public for the State of North Carolina, County of New Hanover, do hereby certify that mark maynard Jr personally appeared before me this day of March, 2, 2017, and acknowledge the due execution of the application for a stormwater

permit. Witness my hand and official seal,

Kelly M Lattuca

My commission expires: 9/28/20



SUPPLEMENT-EZ FORM COVER PAGE



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

Quantity	Location(s)
	Infiltration System
	Bioretention Cell
	Wet Pond
	Stormwater Wetland
1	Permeable Pavement
	Sand Filter
	Rainwater Harvesting
	Green Roof
	Level Spreader-Filter Strip
	Disconnected Impervious Surface
	Treatment Swale
	Dry Pond

Project Name:
Greenfield Commercial

Address
110 Greenfield Street

City / Town
Wilmington

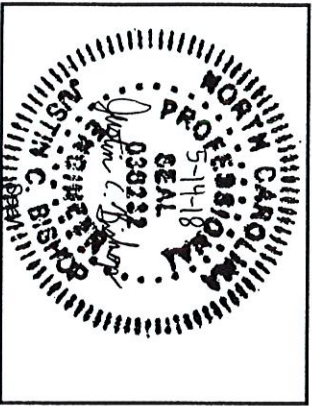
Designer information for this project:

Name and Title: Justin C. Bishop, Engineer
Organization: Malpass Engineering & Surveying, P.C.
Street address: 1134 Shipyard Blvd
City, State, Zip: Wilmington, NC 28412
Phone number(s): 910-392-5243
Email: justinbishop@bizsec.ir.com

Applicant:

Company: Greenfield Street Properties, LLC
Contact: Mark Maynard
Mailing Address: 10 S. Cardinal Drive
City, State, Zip: Wilmington, NC 28403
Phone number(s): 910-251-5030
Email: jr@tributecompanies.com

Designer



Justin C. Bishop
 Signature of Designer

5-14-18
 Date

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.



PERMEABLE PAVEMENT

Greenfield Commercial

THE DRAINAGE AREA

Drainage area number	1	Break down of BUA in the drainage area (both new and existing):	
Total coastal wetlands area (sq ft)	sf	- Parking / driveway (sq ft)	1,615 sf
Total surface water area (sq ft)	sf	- Sidewalk (sq ft)	1,746 sf
Total drainage area (sq ft)	51,975 sf	- Roof (sq ft)	16,699 sf
BUA associated with existing development (sq ft)	9,203 sf	- Roadway (sq ft)	sf
Proposed new BUA (sq ft)	15,588 sf	- Other, please specify in the comment box below (sq ft)	4,731 sf
Percent BUA of drainage area	47.70%	Total BUA (sq ft)	24,791 sf

COMPLIANCE WITH THE APPLICABLE STORMWATER PROGRAM

Stormwater program(s) that apply (please specify):	Coastal	Design rainfall depth (in)	1.5 in
		Minimum volume required (cu ft)	5,749.25 cf
		Design volume of SCM (cu ft)	8,390.21 cf

GENERAL MDC FROM 02H.1050

#1 Is the SCM sized to treat the SW from all surfaces at build-out?	Yes	#7 If applicable, with the SCM be cleaned out after construction?	Yes
#2 Is the SCM located on or near contaminated soils?	No	#8 Does the maintenance access comply with General MDC (8)?	Yes
#3 What are the side slopes of the SCM (H:V)?		#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	#10 If the SCM is on a single family lot, does the plat comply with General MDC (10)?	Yes
#4 Are the inlets, outlets, and receiving stream protected from erosion (10-year storm)?	Yes	#11 Is there an O&M Agreement that complies with General MDC (11)?	Yes
#5 Is there 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?		#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?	Simplified Infiltration Testing
#1 Briefly describe the hydraulic properties and characteristics of the soil profile: Infiltration rates: 5.01, 0.37, 2.18, 1.07, 0.78, & 8.10 inches/hour		#7 Area of permeable pavement to be installed (square feet)	21,203 sf
#2 SHWT elevation (fmsl)	5.56, 4.42, 4.42, 4.42	#7 Area of screened roof runoff that is directed to pavement (square feet)	16,699 sf
#2 Top of the subgrade (fmsl)	7.58, 6.94, 6.73, 6.42	#7 Area of additional built-upon area runoff that is directed to pavement (square feet)	8,092 sf
#2 Storage elevation of the design rainfall depth (fmsl)	8.28, 7.62, 7.41, 7.10	#7 Will runoff from previous surfaces be directed away from the pavement?	No
#2 Is a detailed hydrogeologic study attached if the separation is between 1 and 2 feet?		#8 Dewatering time (hours)	10.85 hrs
#3 Will toxic pollutants be stored or handled on or near the permeable pavement?	No	#6 Is additional media being added to the soil profile?	Yes
#4 Proposed slope of the subgrade surface (%)	0%	#9 Is at least one observation well per terrace been provided at the low point(s)?	Yes
#4 Are terraces or baffles provided?	Yes	#10 Is this a detention permeable pavement system?	No
#5 Size of aggregate to be used in the subbase	#57 stone	#10 If so, what is the drawdown time for the design storm?	
#5 Aggregate depth (in)	8.14 in	#11 Have edge restraints been provided?	Yes
#5 Aggregate porosity (%)	0.4	#12 Will the subgrade be graded when dry?	Yes
#5 Will the aggregate be washed?	Yes	#13 Will the permeable pavement be protected from sediment during construction?	Yes
		#13 Will an in-situ permeability test be conducted after site stabilization	Yes

ADDITIONAL INFORMATION

Please use this space to provide any additional information about this permeable pavement design that you think is relevant to the review.
Other BUA breakdown is Other (4,020 sf) and Future (711 sf) combined. The Other category includes ramps, concrete adjacent to buildings, etc. For General MDC #1 the SCM is designed to treat an amount of existing and/or proposed BUA equal to or greater than the total onsite newly constructed BUA. For General MDC #3 the SCM does not have standing water (designed to infiltrate). General MDC #7 is not applicable. General MDC #10 is not applicable. Permeable Pavement MDC #2 regarding hydrogeologic study is not applicable. For Permeable Pavement MDC #7 the site is a redevelopment site and the adjacent/upstream pervious areas will be stable. Permeable Pavement MDC #10 & 11 are not applicable.