CITY OF WILMINGTON
NORTH CAROLINA

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

COMPREHENSIVE STORMWATER MANAGEMENT PERMIT

HIGH DENSITY DEVELOPMENT

SECTION 1 – APPROVAL

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

PERMIT HOLDER: **Gillian Properties, LLC**
PROJECT: **Fiat Auto Lot**
ADDRESS: **6421 Market St**
PERMIT #: **2013009R2**
DATE: **2/6/2017**

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 2/6/2027 and shall be subject to the following specified conditions and limitations:

Section 2 - CONDITIONS

1. This approval is valid for the stormwater management system as proposed on the approved stormwater management plans dated 1/27/2017. The permit application also includes two previously approved plans from adjacent parcels: Auto Palace (6405 Market St) & Britt Motorsports (now Defy Gravity). The most recent approved plans for these two adjacent projects are incorporated into the approved plan set by reference.

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:

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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.

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

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

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

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

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

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

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

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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.

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

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

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

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

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

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

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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.

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 6th day of February, 2017

for Sterling Cheatham, City Manager
City of Wilmington

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NORTH CAROLINA

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.):

   Fiat of Wilmington

2. Location of Project (street address):

   6421 Market St

   City: Wilmington County: New Hanover Zip: 28405

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

   East of intersection between Market St and Green Meadows

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: N/A State – NCDENR/DWQ: N/A

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: 2013009 State – NCDENR/DWQ: N/A

3. Additional Project Permit Requirements (check all applicable):
   CAMA Major ✓Sedimentation/Erosion Control
   NPDES Industrial Stormwater 404/401 Permit: Proposed Impacts: No 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:

   GP #6-13 Revision to GP38-03 & GP 2-03, GP 6-13, Revision #1 8/4/16

CITY OF WILMINGTON ENGINEERING

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: Gillian Properties, LLC

   Signing Official & Title: John Gillian, Agent

   a. Contact information for Applicant / Signing Official:

   Street Address: 219 South College Rd.

   City: Wilmington State: NC Zip: 28406

   Phone: 910-799-1815 Fax: N/A Email: johng@neuwirthmotors.com

   Mailing Address (if different than physical address): N/A

   City: _____ State: _____ Zip: _____

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

   X The property owner (Skip to item 3) (Partial, see 2 & 2a below)
   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: Spirit Master Funding X, LLC

   Signing Official & Title: Boyd Meesmann, Executive Vice President

   a. Contact information for Property Owner:

   Owner of Lot 4 only. Remainder of project owned by the applicant.

   Street Address: 2727 N. Harwood St., Ste. 300

   City: Dallas State: TX Zip: 75201

   Phone: 9724761900 Fax: —— Email: portfolioservicing@spiritrealty.com

   Mailing Address (if different than physical address): Same

   City: Same State: Same Zip: Same

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.

   Stormwater will be treated by two wet detention ponds and by infiltration via permeable concrete

2. Total Property Area: 379639 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: 379639 square feet.
6. Existing Impervious Surface within Property Area: 179103 square feet
7. Existing Impervious Surface to be Removed/Demolished: 0 square feet
8. Existing Impervious Surface to Remain: 179103 square feet
9. Total Onsite (within property boundary) Newly Constructed Impervious Surface (*in square feet*):

Buildings/Lots	0
Impervious Pavement	55440
Pervious Pavement (adj. total, with 75% credit applied)	4674
Impervious Sidewalks	2827
Pervious Sidewalks (adj. total, with % credit applied)	0
Other (describe)	0
Future Development	0
Total Onsite Newly Constructed Impervious Surface	62941

10. Total Onsite Impervious Surface
    (Existing Impervious Surface to remain + Onsite Newly Constructed Impervious Surface) = 242044 square feet
11. Project percent of impervious area: (Total Onsite Impervious Surface / Total Project Area) x100 = 64%

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

Impervious Pavement	Ø
Pervious Pavement (adj. total, with % credit applied)	Ø
Impervious Sidewalks	Ø
Pervious Sidewalks (adj. total, with % credit applied)	Ø
Other (describe)	Ø
Total Offsite Newly Constructed Impervious Surface	Ø

13. Total Newly Constructed Impervious Surface
(Total Onsite + Offsite Newly Constructed Impervious Surface) = 62,941 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	POND #1 - PALACE BMP # FIMT	POND #2 JETTY BMP # GRAVITY	INFILTRATION BMP #
Receiving Stream Name	SMITH CR.	SMITH CR	SMITH CR
Receiving Stream Index Number	CPF 17 18-74-63	CPF 17 18-74-63	CPF 17 18-74-63
Stream Classification	C;SW	C;SW	C;SW
Total Drainage Area (sf)	181,139	144,582	53,918
On-Site Drainage Area (sf)	181,139	144,582	53,918
Off-Site Drainage Area (sf)	0	0	0
Total Impervious Area (sf)	128,028	93,934	22,721
Buildings/Lots (sf)	8,396	23,097	0
Impervious Pavement (sf)	114,520	69,864	16,373
Pervious Pavement (sf) 75%	0	0	4,674
Impervious Sidewalks (sf)	3,024	0	1,674
Pervious Sidewalks (sf)	BDS ~~7,000~~ 0	0	0
Other (sf)	0	0	0
Future Development (sf)	2088	973	0
Existing Impervious to remain (sf)	0	0	0
Offsite (sf)	0	0	0
Percent Impervious Area (%)	71 %	65 %	

15. How was the off-site impervious area listed above determined? Provide documentation:
OFFSITE BUA WAS DETERMINED BY FIELD TOPO SURVEY / AERIAL PHOTOS

CITY OF WILMINGTON ENGINEERING

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: Brad Sedgwick, PE

   Consulting Firm: **JBS Consulting, PA**

   a. Contact information for consultant listed above:

   Mailing Address: 7332 Cotesworth Drive

   City: Wilmington State: NC Zip: 28405

   Phone: 910-619-9990 Fax: N/A Email: bradsedgwick@hotmail.com

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

I, Boyd Messmann, Executive Vice-President of Spirit SPE Manager, LLC, manager of Spirit Master Funding X, LLC, certify that Spirit Master Funding X, LLC is the owner of Lot 4 ("Property") as shown on the recombination plat for Market Street Properties as the same is shown on a map recorded at Map Book 47, Page 241 of the New Hanover County Registry. The Property contains the wet detention pond listed as pond 2 in this application, and the operation and maintenance of this pond will be conducted in conformance with the approved Easement and Maintenance Agreement, dated March 31, 2005, as amended, associated with the City of Wilmington Stormwater Permit #2013009.

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. The City of Wilmington requires the delivery of a Name/Ownership Change Form within 30 days of the sale of the Property to maintain a valid permit.

Signature: Boyd Messmann Date: 2/3/17

SEAL

ROBIN KORETSKY
Notary Public, State of Texas
Comm. Expires 10-14-2020
Notary ID 41190

I, Robin Koretsky, a Notary Public for the State of Texas, County of Dallas, do hereby certify that Boyd Messmann personally appeared before me this day of February 3, 2017, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal,

Robin Koretsky

My commission expires: 10-14-2020

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)* John Gillilan 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

SEAL

LYNN B YELTON
Notary Public
Brunswick County
NORTH CAROLINA

Signature: _____

Date: 10-24-16

I, Lynn B. Yelton, a Notary Public for the State of North Carolina County of Brunswick, do hereby certify that John Gillilan personally appeared before me this day of 10-24, 2016, and acknowledge the due execution of the application for a stormwater permit. Witness my hand and official seal.

Lynn B. Yelton

My commission expires: 5-6-2016

Supplement from DWQ permit approved 11/13/2006 PJ

Permit No. SW8 021221 mod
(to be provided by DWQ)

City SWP 2013009

State of North Carolina
Department of Environment and Natural Resources
Division of Water Quality

STORMWATER MANAGEMENT PERMIT APPLICATION FORM

WET DETENTION BASIN SUPPLEMENT

This form may be photocopied for use as an original

DWQ Stormwater Management Plan Review:
A complete stormwater management plan submittal includes a wet detention basin supplement for each basin, design calculations, plans and specifications showing all basin and outlet structure details, and a signed and notarized operation and maintenance agreement.

I. PROJECT INFORMATION (please complete the following information):

Project Name: ~~Britt Motorsports~~ Auto Palace? PJ

Contact Person: Phillip Tripp Phone Number: (910) 763-5100

For projects with multiple basins, specify which basin this worksheet applies to: ~~1~~ 1

elevations

Basin Bottom Elevation	29.75	ft.	*(floor of the basin)*
Permanent Pool Elevation	35.75	ft.	*(elevation of the orifice)*
Temporary Pool Elevation	37.25	ft.	*(elevation of the discharge structure overflow)*

areas (Revised (No change in BUA) PJ)

Permanent Pool Surface Area	7,593	sq.ft.	*(water surface area at the orifice elevation)*
Drainage Area	~~4.56~~ 4.16	ac.	*(on-site and off-site drainage to the basin)*
Impervious Area	2.94	ac.	*(on-site and off-site drainage to the basin)*

volumes

Permanent Pool Volume	24,459	cu.ft.	*(combined volume of main basin and forebay)*
Temporary Pool Volume	13,188	cu.ft.	*(volume detained above the permanent pool)*
Forebay Volume	4,854	cu.ft.	*(approximately 20% of total volume)*

Other parameters

SA/DA[1]	3.65		*(surface area to drainage area ratio from DWQ table)*
Diameter of Orifice	1.25	in.	*(2 to 5 day temporary pool draw-down required)*
Design Rainfall	1.0	in.	
Design TSS Removal[2]	90	%	*(minimum 85% required)*

Footnotes:

1. When using the Division SA/DA tables, the correct SA/DA ratio for permanent pool sizing should be computed based upon the actual impervious % and permanent pool depth. Linear interpolation should be employed to determine the correct value for non-standard table entries.
2. In the 20 coastal counties, the requirement for a vegetative filter may be waived if the wet detention basin is designed to provide 90% TSS removal. The NCDENR BMP manual provides design tables for both 85% TSS removal and 90% TSS removal.

II. REQUIRED ITEMS CHECKLIST

The following checklist outlines design requirements per the Stormwater Best Management Practices Manual (N.C. Department of Environment, Health and Natural Resources, February 1999) and Administrative Code Section: 15 A NCAC 2H .1008.

Initial in the space provided to indicate the following design requirements have been met and supporting documentation is attached. If the applicant has designated an agent in the Stormwater Management Permit Application Form, the agent may initial below. **If a requirement has not been met, attach justification.**

Applicants Initials

JWH a. The permanent pool depth is between 3 and 6 feet (required minimum of 3 feet).

JWH b. The forebay volume is approximately equal to 20% of the total basin volume.

JWH c. The temporary pool controls runoff from the design storm event.

JWH d. The temporary pool draws down in 2 to 5 days.

JWH e. If required, a 30-foot vegetative filter is provided at the outlet (include non-erosive flow calculations).

JWH f. The basin length to width ratio is greater than 3:1.

JWH g. The basin side slopes above the permanent pool are no steeper than 3:1.

JWH h. A submerged and vegetated perimeter shelf with a slope of 6:1 or less (show detail).

JWH i. Vegetative cover above the permanent pool elevation is specified.

JWH j. A trash rack or similar device is provided for both the overflow and orifice.

JWH k. A recorded drainage easement is provided for each basin including access to nearest right-of-way.

JWH l. If the basin is used for sediment and erosion control during construction, clean out of the basin is specified to be performed prior to use as a wet detention basin

JWH m. A mechanism is specified which will drain the basin for maintenance or an emergency.

III. WET DETENTION BASIN OPERATION AND MAINTENANCE AGREEMENT

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

This system (*check one*) ☐ **does** **x does not** **incorporate a vegetated filter at the outlet.**
This system (*check one*) ☐ **does** **x does not** **incorporate pretreatment other than a forebay.**

Maintenance activities shall be performed as follows:

1. After every significant runoff producing rainfall event and at least monthly:

   a. Inspect the wet detention system for sediment accumulation, erosion, trash accumulation, vegetated cover, and general condition.

   b. Check and clear the orifice of any obstructions such that drawdown of the temporary pool occurs within 2 to 5 days as designed.

2. Repair eroded areas immediately, re-seed as necessary to maintain good vegetative cover, mow vegetative cover to maintain a maximum height of six inches, and remove trash as needed.

3. Inspect and repair the collection system (i.e. catch basins, piping, swales, riprap, etc.) quarterly to maintain proper functioning.

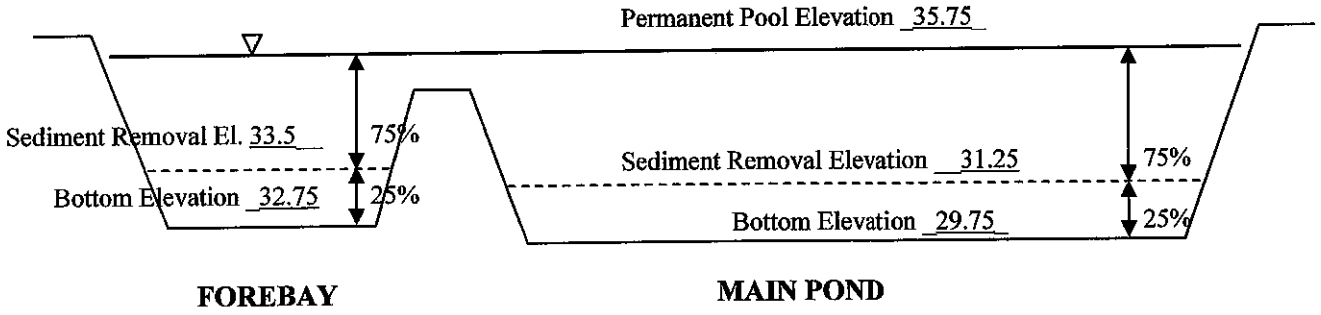
4. Remove accumulated sediment from the wet detention basin system semi-annually or when depth is reduced to 75% of the original design depth (see diagram below). Removed sediment shall be disposed of in an appropriate manner and shall not be handled in a manner that will adversely impact water quality (i.e. stockpiling near a wet detention basin or stream, etc.).

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

   When the permanent pool depth reads ___4.5___ feet in the main pond, the sediment shall be removed.

   When the permanent pool depth reads ___2.25___ feet in the forebay, the sediment shall be removed.

BASIN DIAGRAM
(fill in the blanks)



5. Remove cattails and other indigenous wetland plants when they cover 50% of the basin surface. These plants shall be encouraged to grow along the vegetated shelf and forebay berm.

6. If the basin must be drained for an emergency or to perform maintenance, the flushing of sediment through the emergency drain shall be minimized to the maximum extent possible.

7. All components of the wet detention basin system shall be maintained in good working order.

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

Print name: Bruce Cavanaugh

Title: Owner

Address: 6321 Market St. Wilmington NC 28405

Phone: 798-7900

Signature:

Date: 9/12/05

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, Della C. Baird, a Notary Public for the State of North Carolina, County of Pender, do hereby certify that Bruce Cavanaugh personally appeared before me this 12 day of September, 2005, and acknowledge the due execution of the forgoing wet detention basin maintenance requirements. Witness my hand and official seal,

Della C. Baird

DELLA C. BAIRD NOTARY PUBLIC PENDER COUNTY, N.C.

SEAL

My commission expires October 15, 2006

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

Wet Detention Basin 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.

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

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

This system (*check one*):
☐ **does** ☒ **does not** **incorporate pretreatment other than a forebay.**

Important maintenance procedures:

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

After the wet detention pond is established, it should be inspected **once a month and within 24 hours after every storm event greater than 1.5 inches.** Records of operation and maintenance should be kept in a known set location and must be available upon request.Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

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

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

BMP element:	Potential problem:	How I will remediate the problem:
The inlet device: pipe or swale	The pipe is clogged.	Unclog the pipe. Dispose of the sediment off-site.
	The pipe is cracked or otherwise damaged.	Replace the pipe.
	Erosion is occurring in the swale.	Regrade the swale if necessary to smooth it over and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
The forebay	Sediment has accumulated to a depth greater than the original design depth for sediment storage.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the BMP.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
The vegetated shelf	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices
	The plant community and coverage is significantly (>25%) different from approved landscape plan.	Restore plant vegetation to approved condition. If landscape plan needs to be adjusted to specify vegetation more appropriate for site conditions, contact City Stormwater or Engineering Staff.
	Cattails or other invasive plants cover >25% of the veg't shelf. A monculture of plants must be avoided)	Remove all invasives by physical removal or by wiping them with pesticide (do not spray) – consult a professional.
	Plants are dead, diseased or dying.	Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover if a soil test indicates it is necessary.
The main treatment area	Sediment has accumulated to a depth greater than the original design sediment storage depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the BMP.

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

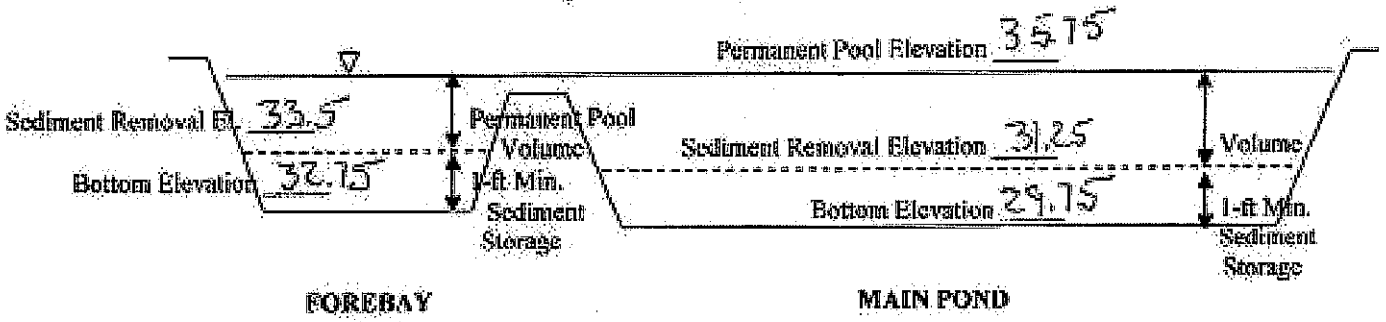
BMP element:	Potential problem:	How I will remediate the problem:
The main treatment area (continued)	Algal growth covers over 25% of the area.	Consult a professional to remove and control the algal growth.
	Cattails or other invasive plants cover >25% of the veg't shelf. A monculture of plants must be avoided)	Remove all invasives by physical removal or by wiping them with pesticide (do not spray) – consult a professional.
The embankment	Shrubs have started to grow on the embankment.	Remove shrubs immediately.
	Evidence of muskrat or beaver activity is present.	Use traps to remove muskrats and consult a professional to remove beavers.
	A tree has started to grow on the embankment.	Consult a dam safety specialist to remove the tree.
	An annual inspection by an appropriate professional shows that the embankment needs repair. (if applicable)	Make all needed repairs.
The outlet device	Clogging has occurred.	Clean out the outlet device. Dispose of the sediment off-site.
	The outlet device is damaged	Repair or replace the outlet device.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Contact the local NC Division of Water Quality Regional Office, or the 401 Oversight Unit at 919-733-1786.

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

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

When the permanent pool depth reads 2.25 feet in the forebay, the sediment shall be removed.

BASIN DIAGRAM
(fill in the blanks)



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

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

Project name: FIAT of Wilmington / Brett Pond

BMP drainage basin number: 2

Print name: John Gillan / G and G Properties 2, LLC

Title: AGENT

Address: 219 S. College Wilmington, NC 28403

Phone: 910-799-1815

Signature: _____

Date: 2-1-13

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, Lynn B. Yelton, a Notary Public for the State of North Carolina, County of Brunswick, do hereby certify that John Gillan personally appeared before me this 1st day of February, 2013, and acknowledge the due execution of the forgoing wet detention basin maintenance requirements. Witness my hand and official seal,

LYNN B YELTON
Notary Public
Brunswick County
NORTH CAROLINA

Lynn B. Yelton

SEAL

My commission expires 5-6-2013

- Supplement From DWQ approved permit 11/13/2006

Permit No. _____
(to be provided by DWQ)

State of North Carolina
Department of Environment and Natural Resources
Division of Water Quality

STORMWATER MANAGEMENT PERMIT APPLICATION FORM

WET DETENTION BASIN SUPPLEMENT
This form may be photocopied for use as an original

DWQ Stormwater Management Plan Review:
A complete stormwater management plan submittal includes a wet detention basin supplement for each basin, design calculations, plans and specifications showing all basin and outlet structure details, and a signed and notarized operation and maintenance agreement.

I. PROJECT INFORMATION (please complete the following information):

Project Name: ~~Auto Palace Expansion~~ B-1H? NIS

Contact Person: Phillip Tripp Phone Number: (910) 763-5100

For projects with multiple basins, specify which basin this worksheet applies to: ~~BASIN~~ 2

elevations			
Basin Bottom Elevation	29.75	ft.	*(floor of the basin)*
Permanent Pool Elevation	36.25	ft.	*(elevation of the orifice)*
Temporary Pool Elevation	38.25	ft.	*(elevation of the discharge structure overflow)*
areas			Revised (No change in BUA)
Permanent Pool Surface Area	4,751 ✓	sq.ft.	*(water surface area at the orifice elevation)*
Drainage Area	~~4.16~~ 3.32	ac.	*(on-site and off-site drainage to the basin)*
Impervious Area	2.16	ac.	*(on-site and off-site drainage to the basin)*
volumes			
Permanent Pool Volume	16,770	cu.ft.	*(combined volume of main basin and forebay)*
Temporary Pool Volume	12,706	cu.ft.	*(volume detained above the permanent pool)*
Forebay Volume	3,216	cu.ft.	*(approximately 20% of total volume)*
Other parameters			
SA/DA[1]	2.60		*(surface area to drainage area ratio from DWQ table)*
Diameter of Orifice	1.25	in.	*(2 to 5 day temporary pool draw-down required)*
Design Rainfall	1.0	in.	
Design TSS Removal[2]	90	%	*(minimum 85% required)*

Footnotes:

1. When using the Division SA/DA tables, the correct SA/DA ratio for permanent pool sizing should be computed based upon the actual impervious % and permanent pool depth. Linear interpolation should be employed to determine the correct value for non-standard table entries.
2. In the 20 coastal counties, the requirement for a vegetative filter may be waived if the wet detention basin is designed to provide 90% TSS removal. The NCDENR BMP manual provides design tables for both 85% TSS removal and 90% TSS removal.

II. REQUIRED ITEMS CHECKLIST

The following checklist outlines design requirements per the Stormwater Best Management Practices Manual (N.C. Department of Environment, Health and Natural Resources, February 1999) and Administrative Code Section: 15 A NCAC 2H .1008.

Initial in the space provided to indicate the following design requirements have been met and supporting documentation is attached. If the applicant has designated an agent in the Stormwater Management Permit Application Form, the agent may initial below. **If a requirement has not been met, attach justification.**

Applicants Initials

JWH a. The permanent pool depth is between 3 and 6 feet (required minimum of 3 feet).

JWH b. The forebay volume is approximately equal to 20% of the total basin volume.

JWH c. The temporary pool controls runoff from the design storm event.

JWH d. The temporary pool draws down in 2 to 5 days.

JWH e. If required, a 30-foot vegetative filter is provided at the outlet (include non-erosive flow calculations).

JWH f. The basin length to width ratio is greater than 3:1.

JWH g. The basin side slopes above the permanent pool are no steeper than 3:1.

JWH h. A submerged and vegetated perimeter shelf with a slope of 6:1 or less (show detail).

JWH i. Vegetative cover above the permanent pool elevation is specified.

JWH j. A trash rack or similar device is provided for both the overflow and orifice.

JWH k. A recorded drainage easement is provided for each basin including access to nearest right-of-way.

JWH l. If the basin is used for sediment and erosion control during construction, clean out of the basin is specified to be performed prior to use as a wet detention basin

JWH m. A mechanism is specified which will drain the basin for maintenance or an emergency.

III. WET DETENTION BASIN OPERATION AND MAINTENANCE AGREEMENT

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

This system (*check one*) ☐ **does** **x does not** **incorporate a vegetated filter at the outlet.**
This system (*check one*) ☐ **does** **x does not** **incorporate pretreatment other than a forebay.**

Maintenance activities shall be performed as follows:

1. After every significant runoff producing rainfall event and at least monthly:

   a. Inspect the wet detention system for sediment accumulation, erosion, trash accumulation, vegetated cover, and general condition.

   b. Check and clear the orifice of any obstructions such that drawdown of the temporary pool occurs within 2 to 5 days as designed.

2. Repair eroded areas immediately, re-seed as necessary to maintain good vegetative cover, mow vegetative cover to maintain a maximum height of six inches, and remove trash as needed.

3. Inspect and repair the collection system (i.e. catch basins, piping, swales, riprap, etc.) quarterly to maintain proper functioning.

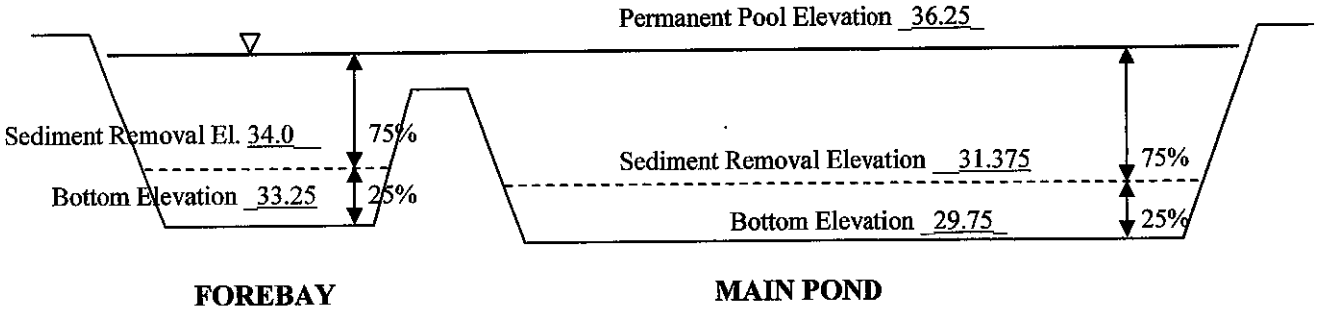
4. Remove accumulated sediment from the wet detention basin system semi-annually or when depth is reduced to 75% of the original design depth (see diagram below). Removed sediment shall be disposed of in an appropriate manner and shall not be handled in a manner that will adversely impact water quality (i.e. stockpiling near a wet detention basin or stream, etc.).

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

   When the permanent pool depth reads ___4.875___ feet in the main pond, the sediment shall be removed.

   When the permanent pool depth reads ___2.25___ feet in the forebay, the sediment shall be removed.

BASIN DIAGRAM
(fill in the blanks)



5. Remove cattails and other indigenous wetland plants when they cover 50% of the basin surface. These plants shall be encouraged to grow along the vegetated shelf and forebay berm.

6. If the basin must be drained for an emergency or to perform maintenance, the flushing of sediment through the emergency drain shall be minimized to the maximum extent possible.

7. All components of the wet detention basin system shall be maintained in good working order.

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

Print name: Bruce Cavanaugh

Title: Owner

Address: 6321 Market St, Wilmington NC. 28405

Phone: 798-9000

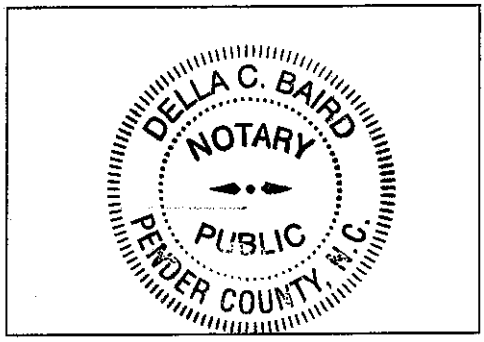
Signature: [signature]

Date: 9/12/05

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, Della C. Baird, a Notary Public for the State of North Carolina, County of Pender, do hereby certify that Bruce Cavanaugh personally appeared before me this 12 day of September, 2005, and acknowledge the due execution of the forgoing wet detention basin maintenance requirements. Witness my hand and official seal,

Della C. Baird



SEAL

My commission expires October 15, 2006

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

Wet Detention Basin 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.

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

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

This system (*check one*):
☐ **does** ☒ **does not** **incorporate pretreatment other than a forebay.**

Important maintenance procedures:

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

After the wet detention pond is established, it should be inspected **once a month and within 24 hours after every storm event greater than 1.5 inches.** Records of operation and maintenance should be kept in a known set location and must be available upon request. Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

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

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

BMP element:	Potential problem:	How I will remediate the problem:
The inlet device: pipe or swale	The pipe is clogged.	Unclog the pipe. Dispose of the sediment off-site.
	The pipe is cracked or otherwise damaged.	Replace the pipe.
	Erosion is occurring in the swale.	Regrade the swale if necessary to smooth it over and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
The forebay	Sediment has accumulated to a depth greater than the original design depth for sediment storage.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the BMP.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
The vegetated shelf	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices
	The plant community and coverage is significantly (>25%) different from approved landscape plan.	Restore plant vegetation to approved condition. If landscape plan needs to be adjusted to specify vegetation more appropriate for site conditions, contact City Stormwater or Engineering Staff.
	Cattails or other invasive plants cover >25% of the veg't shelf. A monculture of plants must be avoided)	Remove all invasives by physical removal or by wiping them with pesticide (do not spray) – consult a professional.
	Plants are dead, diseased or dying.	Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover if a soil test indicates it is necessary.
The main treatment area	Sediment has accumulated to a depth greater than the original design sediment storage depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the BMP.

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

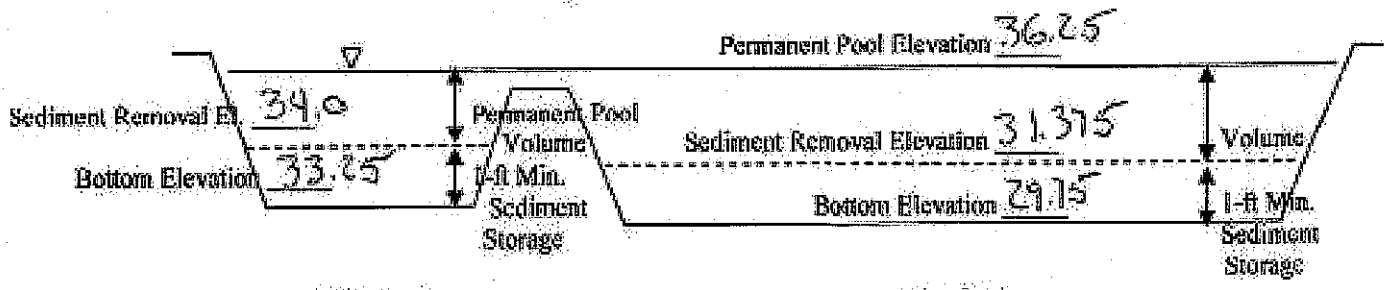
BMP element:	Potential problem:	How I will remediate the problem:
The main treatment area (continued)	Algal growth covers over 25% of the area.	Consult a professional to remove and control the algal growth.
	Cattails or other invasive plants cover >25% of the veg't shelf. A monculture of plants must be avoided)	Remove all invasives by physical removal or by wiping them with pesticide (do not spray) – consult a professional.
The embankment	Shrubs have started to grow on the embankment.	Remove shrubs immediately.
	Evidence of muskrat or beaver activity is present.	Use traps to remove muskrats and consult a professional to remove beavers.
	A tree has started to grow on the embankment.	Consult a dam safety specialist to remove the tree.
	An annual inspection by an appropriate professional shows that the embankment needs repair. (if applicable)	Make all needed repairs.
The outlet device	Clogging has occurred.	Clean out the outlet device. Dispose of the sediment off-site.
	The outlet device is damaged	Repair or replace the outlet device.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Contact the local NC Division of Water Quality Regional Office, or the 401 Oversight Unit at 919-733-1786.

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

When the permanent pool depth reads 4.875 feet in the main pond, the sediment shall be removed.

When the permanent pool depth reads 2.25 feet in the forebay, the sediment shall be removed.

BASIN DIAGRAM
(fill in the blanks)



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

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

Project name: FIAT OF WILMINGTON / AUTO PALACE ROAD

BMP drainage basin number: 1 - Auto Palace

Print name: John Gillian / GAMG Properties 2, LLC

Title: AGENT

Address: 219 S. College Road Wilmington, NC 28403

Phone: 910-791-1815

Signature: _____

Date: 2-1-13

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, Lynn B. Yelton, a Notary Public for the State of North Carolina, County of Brunswick, do hereby certify that John Gillilan personally appeared before me this 1st day of February, 2013, and acknowledge the due execution of the forgoing wet detention basin maintenance requirements. Witness my hand and official seal,

LYNN B YELTON
Notary Public
Brunswick County
NORTH CAROLINA

Lynn B. Yelton

SEAL

My commission expires 5-6-2013

Permit No._____
(to be provided by DWQ)

City of W. Smingto SWP2013009

STORMWATER MANAGEMENT PERMIT APPLICATION FORM
401 CERTIFICATION APPLICATION FORM

PERMEABLE PAVEMENT SUPPLEMENT

This form must be completely filled out, printed and submitted.
The Required Items Checklist (Part III) must be printed, filled out and submitted along with all of the required information.

I. PROJECT INFORMATION

Project Name	Fiat of Wilmington
Contact Person	Brad Sedgwick, PE
Phone Number	910-619-9990
Date	3/27/2013
Drainage Area	53,918

II. DESIGN INFORMATION

Soils Report Summary

Hydrologic soil group (HSG) of subgrade	B		
Infiltration rate	1.10	in/hr	

Pavement Design Summary

BUA Credit for Permeable Pavement Footprint:
75% BUA Credit

Permeable Pavement (PP) design type	Infiltration - HSG A/B		
SA of PP being proposed (A_p)	18,695	ft^2	
Resulting BUA counted as impervious for main application form	4,674	ft^2	
Adjacent BUA directed to PP (A_c)	18,047	ft^2	OK
Ratio of A_c to A_p	0.97	(unitless)	
Flow from pervious surfaces is directed away from PP?	Yes		OK
Design rainfall depth	1yr,24hr post-pre	in	
Permeable pavement surface course type	PC		
Layer 1 - Washed aggregate size *(ex. No. 57)*	57		
Layer 1 - Aggregate porosity (n)	0.40	(unitless)	OK
Layer 2 - Washed aggregate size *(ex. No. 57)*			
Layer 2 - Aggregate porosity (n)		(unitless)	
Minimum total aggregate depth for design rainfall (D_{wq})	6.0	in	
Drawdown/infiltration time for D_{wq}	0.6	days	OK
How is 10-yr, 24-hr storm handled?	infiltrated		
Aggregate depth to infiltrate 10-yr, 24-hr storm (D_{10})	6.0	in	
Drawdown/infiltration time of 10-yr, 24-hr storm	1.40	days	
Actual provided total aggregate depth	12.0	in	OK
Top of aggregate base layer elevation	39.50	fmsl	
Storage elevation of design rainfall depth	38.50	fmsl	
Overflow elevation	38.65	fmsl	
Bottom elevation at subgrade	38.50	fmsl	
SHWT elevation	34.00	fmsl	
Underdrain diameter	4	in	

RECEIVED
MAR 28 2013
ENGINEERING

#REF!

Permit No._____
(to be provided by DWQ)

Detention Systems *(skip for infiltration systems)*

Diameter of orifice		in
Coefficient of discharge (C_D)		(unitless)
Driving head (H_o)		ft
Storage volume discharge rate (through discharge orifice)		ft^3/sec
Storage volume drawdown time		days
Pre-development 1-yr, 24-hr peak flow		ft^3/sec
Post-development 1-yr, 24-hr peak flow		ft^3/sec

Additional Information

Slope of soil subgrade at bottom of permeable pavement	0.00	%	OK
Slope of the permeable pavement surface	0.00	%	OK
Construction sequence minimizes compaction to soils?	Yes		OK
Subsoil preparation specified (must select one)	scarified		
Meets industry standards for structural requirements?	Yes		OK
Washed stone is specified for the aggregate?	Yes		OK
Required signage specified on plans?	Yes		OK
Number of observation wells provided	3		OK
Distance to structure	35.00	ft	
Distance to surface waters	N/A	ft	OK
Distance to water supply well(s)	N/A	ft	OK

Permit No._____
(to be provided by DWQ)

III. REQUIRED ITEMS CHECKLIST

Please indicate the page or plan sheet numbers where the supporting documentation can be found. **An incomplete submittal package will result in a request for additional information. This will delay final review and approval of the project.** Initial in the space provided to indicate the following design requirements have been met. If the applicant has designated an agent, the agent may initial below. **If a requirement has not been met, attach justification.**

	Initials	Page/ Plan Sheet No.
1. Plans (1" = 50' or larger) of the entire site showing: - Design at ultimate build-out, - Off-site drainage (if applicable), - Delineated drainage basins (include Rational C coefficient per basin), - Location of permeable pavement, - Roof and other surface flow directed away from permeable pavement, - Location of the permeable pavement sign(s).		C2, C3 & C5
2. Section view of the permeable pavement (1" = 20' or larger) showing: - All layers (including details about the surface course), and - SHWT		C5
3. A detail of what the permeable pavement sign.		C5
4. A site specific soils report that is based upon an actual field investigation, soil borings, and infiltration tests within the footprint of the proposed permeable pavement. The soils investigation shall state the infiltation rate, SHWT elevation, and information about any confining layers. County soil maps are not an acceptable source of soils information. (Projects in the WiRO - The results of the soils report must be verified in the field by DWQ, by completing & submitting the soils investigation request form.)		REPORT
5. A construction sequence that shows how the permeable pavement will be protected from sediment until the entire drainage area is stabilized.		
6. The supporting calculations.		REPORT
7. A copy of the signed and notarized operation and maintenance (O&M) agreement.		SUBMITTED
8. A copy of the deed restrictions (if required).		N/A

Permit Number:_____
(to be provided by DWQ)
Drainage Area / Lot Number:_____

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.

At all times, the pavement shall be kept free of:

- Debris and particulate matter through frequent blowing that removes such debris, particularly during the fall and spring.
- Piles of soil, sand, mulch, building materials or other materials that could deposit particulates on the pavement.
- Piles of snow and ice.
- Chemicals of all kinds, including deicers.

The permeable pavement will be inspected **once a quarter**. 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	Regrade the soil if necessary to remove the gully, then plant ground cover and water until established.
	A vegetated area drains toward the pavement.	Regrade the area so that it drains away from the pavement, then plant ground cover and water until established.
The surface of the permeable pavement	Trash/debris present	Remove the trash/debris.
	Weeds	Do not pull the weeds (may pull out media as well). Spray them with a systemic herbicide such as glyphosate and then return within the week to remove them by hand. (Another option is to pour boiling water on them or steam them.)
	Sediment	Vacuum sweep the pavement.
	Rutting, cracking or slumping or damaged structure	Consult an appropriate professional.
Observation well	Water present more than five days after a storm event	Clean out clogged underdrain pipes. Consult an appropriate professional for clogged soil subgrade.
Educational sign	Missing or is damaged.	Replace the sign.

Permit Number:_____
(to be provided by DWQ)

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 DWQ of any problems with the system or prior to any changes to the system or responsible party.

Project name:Fiat of Wilmington

BMP drainage area or lot number:6415/6421 market Street Wilmington, NC

Print name:John s. Gillilan

Title:Managing Partner

Address:219 College Road Wilmington, NC 28406

Phone:910-799-1815

Signature:

Date: 11-2-12

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, Lynn B. Yelton, a Notary Public for the State of North Carolina, County of Brunswick, do hereby certify that John Gillilan personally appeared before me this 2nd day of November, 2012, and acknowledge the due execution of the forgoing permeable pavement maintenance requirements. Witness my hand and official seal,

Lynn B. Yelton

SEAL
LYNN B YELTON
Notary Public
Brunswick County
NORTH CAROLINA

My commission expires Comm. Exp. 5-6-2013