



Chatham County, NC Stormwater Permit

STORMWATER PERMIT#:
2015-001

On the date listed below, the Chatham County Stormwater Administrator received a request to consider the following application:

Application Date:	Dec.10, 2014	Approval Date:	Jan. 21, 2015
Record Owner(s):	Carolina Crossings		
Property Location:	3848 NC Hwy 751		
Parcel Identification Number & Lot #:	60710	Acreage:	71.78 acres
Built-Upon Area Coverage (acres):	5.19 acres	Total Disturbed Area:	10.1 acres

Type and Number of BMPs Proposed: One wet detention pond designed for 90% TSS removal will be used for quality and quantity control. The site is in the Upper New Hope watershed and the nutrient load requirements will be met with the wet pond.

SECTION 1. APPROVAL. Having reviewed the application and all supporting materials the Stormwater Administrator has determined that the application is complete, and subject to the conditions imposed below, and the proposed development meets the requirements of the Chatham County Stormwater Ordinance.

SECTION 2. CONDITIONS. Therefore, the above referenced site and land used is hereby approved and subject to all applicable provisions of the Chatham County Stormwater Ordinance, and the following condition(s) which the Stormwater Administrator finds necessary for the proposed development to meet the intent of the ordinance:

1. This permit shall be valid for a period of two years from the date of issuance unless a valid building permit has been issued and maintained for the site or the permit has been revoked by Chatham County. If, after two years the permitted activity has not begun nor a valid building permit secured, this permit shall expire.
2. The development of the tract shall proceed in conformity to all plans, design features, and restrictions submitted as part of the stormwater permit application and kept on file by the Chatham County Planning Department except that the Chatham County Stormwater Administrator may approve *minor* changes to such plans as required by field conditions.

3. All other required applications must be received and permits must be obtained prior to the start of the work. These may include, but are not limited to, the following:
Soil Erosion and Sedimentation Control; Flood Damage Prevention; Subdivision, Building Permits and Inspections; NC Department of Transportation; NC Division of Water Quality; US Army Corps of Engineers; and NC DENR-Dam Safety.
4. The footprint and stormwater management devices as well as all maintenance access areas shall be located in recorded easement areas. The final plats for the project showing all such easement areas shall be in accordance with the approved plans.
5. Maintenance activities for the stormwater management devices and permeable pavement shall be performed in accordance with the notarized O&M agreements. O&M agreements must transfer with the sale of the land or transfer of ownership/responsibility for the stormwater devices.
6. Upon completion of a project and before a Certificate of Completion shall be granted, the applicant shall certify that the completed project is in accordance with the approved stormwater management plans and designs and the pond must be landscaped in accordance with the NC DWQ BMP Manual. Upon completion, the applicant shall submit actual "as-built" plans for all stormwater management measures after final construction is completed.

SECTION 3. VESTED RIGHTS. Approval of this permit confers upon the property the right to develop with the type and intensity of use only as such relates to the requirements of the stormwater ordinance and in the manner as herein described and as shown on the approved site plan. Development of the property, however, shall be subject to any and all future amendments to this ordinance which do not affect such type and intensity of use and shall proceed in full compliance with all other applicable local, state and federal regulations.

SECTION 4. DEED RESTRICTION-PROTECTIVE COVENANT. The following italicized deed restrictions and protective covenants shall be recorded for all subdivisions, outparcels, and future development prior to the sale of any lot.

Development of subject property is required to be in accordance with the Chatham County Stormwater Ordinance. The recording of this document establishes an enforceable restriction of property usage that runs with the land to ensure that future development and/or redevelopment shall maintain the site in a manner consistent with applicable law and the approved project plans. Any alterations to the site shall not be permitted without review and approval by Chatham County.

SECTION 5. SEVERABILITY. Invalidation of any one or more of the conditions set forth herein shall not adversely affect the balance of said conditions, which shall remain in full force and effect.



Dan J. LaMontagne, P.E.
Stormwater Administrator

Cc: Lynn Richardson, Subdivision Administrator, Planning Department
Rachael Thorn, Lead Sedimentation and Erosion Control Officer
Rebecca McIver, Central Permitting Coordinator

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

Action Id. SAW-2014-00300 County: Chatham U.S.G.S. Quad: NC-GREEN LEVEL

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: Brad Zadell
Address: PO Box 1438
Apex, NC 27502
Telephone Number: 919-427-7106

Size (acres) 73 Nearest Town Apex
Nearest Waterway Indian Creek River Basin Haw. North Carolina.
USGS HUC 3030002 Coordinates Latitude: 35.7943697922474
Longitude: -78.9593096056077

Location description: The site is located northeast of the NC751, Martha's Chapel Road in Chatham County, North Carolina.

Description of projects area and activity: This authorization is for temporary and permanent impacts to jurisdictional streams and wetlands associated with the construction of a residential subdivision, identified as Carolina Crossings. Authorized impacts are as follows: Crossing #1: Stream A (Impact #1) 68-linear feet of permanent impact for the installation of two (2) 38 lf RCP culverts and 27 linear feet of rip rap for a velocity dissipation pad and 20 linear feet of temporary impacts for construction access/dewatering. Crossing #2: Stream C (Impact #2) 79-linear feet of permanent impact for the installation of two (2) 39 lf RCP culverts and 33 linear feet of rip rap for a velocity dissipation pad and 20 linear feet of temporary impacts for construction access/dewatering. Crossing #3: Wetland Area 1 (Impact #3) 297 square feet of permanent impacts for the installation of a 24 LF 18" RCP and 145 square feet of temporary impacts for construction access/dewatering.

Applicable Law: Section 404 (Clean Water Act, 33 USC 1344)
 Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Number or Nationwide Permit Number: NWP 29 Residential Developments.
SEE ATTACHED RGP or NWP GENERAL, REGIONAL AND SPECIAL CONDITIONS

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted application and attached information received on August 28, 2014, including additional information submitted on September 8, 2014. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Quality (telephone 919-807-6300) to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management in Morehead City, NC, at (252) 808-2808.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact Andrew Williams at 919-554-4884 x26 or Andrew.E.Williams2@usace.army.mil.

Corps Regulatory Official: Andrew Williams
Expiration Date of Verification: 03/18/2017

Date: 10/17/2014

Determination of Jurisdiction:

- A. Based on preliminary information, there appear to be waters of the US including wetlands within the above described project area. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).
- B. There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- C. There are waters of the US and/or wetlands within the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- D. The jurisdictional areas within the above described project area have been identified under a previous action. Please reference jurisdictional determination issued 7/8/2014. Action ID: **SAW-2014-00300**.

Basis For Determination: See basis for determination associated with jurisdictional determination issued on July 8, 2014.

Remarks: none

E. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

F. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B and C above).

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers
South Atlantic Division
Attn: Jason Steele, Review Officer
60 Forsyth Street SW, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by 12/15/2014.

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: Andrew Williams
Andrew Williams

Date of JD: 10/17/2014

Expiration Date of JD: October 17, 2019

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our customer Satisfaction Survey online at <http://regulatory.usacesurvey.com/>.

Copy furnished:

Jeff Harbour, PWS
Environmental Services, Inc.
524 South New Hope Road
Raleigh, NC 27610

Cherri Smith
Environmental Senior Specialist
North Carolina Division of Water Resources
1628 Mail Service Center
Raleigh, NC 27699-1628

Action ID Number: SAW-2014-00300

County: Chatham

Permittee: Brad Zadell

Project Name: Zadell, Brad/Pre-Application

Date Verification Issued: 10/17/2014

Project Manager: Andrew Williams

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT
Attn: Andrew Williams
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: Brad Zadell	File Number: SAW-2014-00300	Date: 10/17/2014
Attached is:	See Section below	
<input type="checkbox"/> INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
<input type="checkbox"/> PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
<input type="checkbox"/> PERMIT DENIAL	C	
<input checked="" type="checkbox"/> APPROVED JURISDICTIONAL DETERMINATION	D	
<input type="checkbox"/> PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at or <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx> or the Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
District Engineer, Wilmington Regulatory Division, Attn: Andrew Williams
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587

If you only have questions regarding the appeal process you may also contact:
Mr. Jason Steele, Administrative Appeal Review Officer
CESAD-PDO
U.S. Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____	Date:	Telephone number:
Signature of appellant or agent.		

For Permit denials, Proffered Permits and approved Jurisdictional Determinations send this form to:

Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Jason Steele, Administrative Appeal Officer, CESAD-PDO, 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303-8801
Phone: (404) 562-5137



Soil Erosion and Sedimentation Control

LETTER OF APPROVAL

October 16, 2014

Brad Zadell
KC2 Enterprises, LLC & I-3, LLC
341 Kilmayne, Suite 204
Cary, NC 27511

RE:	Project Name:	Carolina Crossing
	Project Number:	2014-061
	Acres approved:	10.1
	Total Acres:	71.78
	Submitted by:	CE Group, Inc.
	Date Received:	October 02, 2014

To The Above Named Person and Entity,

This office has reviewed the subject erosion and sedimentation control plan. We find the plan to be acceptable and hereby issue this Letter of Approval. The enclosed Certificate of Approval must be posted at the job site. This plan approval shall expire two (2) years following the date of approval, if no land-disturbing activity has been undertaken.

Section 10 (l) of the Chatham County Sedimentation and Erosion Control Ordinance requires that a copy of the approved erosion control plan be on file at the job site. Also, this letter gives the notice required by G.S. 113A-61.1(a) of our right of periodic inspection to insure compliance with the approved plan.

North Carolina's Sedimentation Pollution Control Act is performance-oriented, requiring protection of existing natural resources and adjoining properties. If, following the commencement of this project, the erosion and sedimentation control plan is inadequate to meet the requirements of the Chatham County Sedimentation and Erosion Control Ordinance, this office may require revisions to the plan and implementation of the revisions to insure compliance with the Act.

Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations, and rules. In addition, local city or county ordinances or rules may



LAND & WATER RESOURCES DIVISION
Environmental Quality Department

P.O. Box 548
Pittsboro, NC 27312
PHONE: (919) 545-8343

Fax: (919) 542-2698 • E-mail: rachael.thorn@chathamnc.org • Website: www.chathamnc.org

also apply to this land-disturbing activity. This approval does not supersede any other permit or approval.

Please be aware that your project will be covered by the enclosed NPDES General Stormwater Permit NCGO1000 (Construction Activities). You should first become familiar with all of the requirements for compliance with the enclosed general permit.

Please note that this approval is based in part on the accuracy of the information provided in the Financial Responsibility Form, which you provided. You are requested to file an amended form if there is any change in the information included on the form. Please notify us when you would like to schedule a preconstruction conference. Notification shall be given at least 7 days prior to initiation of activity.

Your cooperation is appreciated.

Sincerely,

A handwritten signature in blue ink that reads "Rachael Thorn". The signature is fluid and cursive, with the first name "Rachael" being more prominent than the last name "Thorn".

Rachael Thorn
Lead Sedimentation and Erosion Control Officer
Land and Water Resources Division
Chatham County

Enclosures: Certificate of Approval
NPDES Permit



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

October 3, 2014

DWR # 14-0932
Chatham County

KC2 Enterprises, LLC
Attn: Brad Zadell
P.O. Box 1438
Apex, NC 27502

Subject: APPROVAL OF 401 WATER QUALITY CERTIFICATION WITH ADDITIONAL CONDITIONS
Carolina Crossings

Dear Mr. Zadell:

You have our approval for the impacts listed below for the purpose described in your application dated August 8, 2014 and received by the Division of Water Resources (Division) on September 2, 2014 and additional information received on September 22, 2014. These impacts are covered by the attached Water Quality General Certification Number 3890 and the conditions listed below. This certification is associated with the use of Nationwide Permit Number 29 once it is issued to you by the U.S. Army Corps of Engineers. Please note that you should get any other federal, state or local permits before proceeding with your project, including those required by (but not limited to) Sediment and Erosion Control, Non-Discharge, and Water Supply Watershed regulations.

This approval requires you to follow the conditions listed in the enclosed certifications and the following additional conditions:

1. The following impacts are hereby approved provided that all of the other specific and general conditions of the Certifications, General Permit and/or Buffer Rules are met. No other impacts are approved, including incidental impacts.

Type of Impact	Amount Approved (units) Permanent	Amount Approved (units) Temporary
	Wetland	0.006 (acres)
Site 1		



Wetland	0 (acres)	0.003 (acres)
Site 2		
Stream	68 (linear feet)	0 (linear feet)
Site 1		
Stream	0 (linear feet)	20 (linear feet)
Site 2		
Stream	79 (linear feet)	0 (linear feet)
Site 3		
Stream	0 (linear feet)	20 (linear feet)
Site 4		

2. No Waste, Spoil, Solids, or Fill of Any Kind

No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the footprint of the impacts depicted in the Pre-Construction Notification. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control Best Management Practices, shall be performed so that no violations of state water quality standards, statutes, or rules occur.

3. Protective Fencing

The outside buffer, wetland or water boundary and along the construction corridor within these boundaries approved under this authorization shall be clearly marked with orange warning fencing (or similar high visibility material) for the areas that have been approved to infringe within the buffer, wetland or water prior to any land disturbing activities to ensure compliance with 15 NCAC 02H .0500.

4. This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of the Certification. If you change your project, you must notify the Division and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this approval letter and General Certification and is responsible for complying with all conditions.

5. This approval and its conditions are final and binding unless contested.

This Certification can be contested as provided in Articles 3 and 4 of General Statute 150B by filing a written petition for an administrative hearing to the Office of Administrative Hearings (hereby known as OAH). A petition form may be obtained from the OAH at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000 for information.

Within **thirty (30) calendar days** of receipt of this notice, a petition must be filed with the OAH. A petition is considered filed when the original and one (1) copy along with any applicable OAH filing

fee is received in the OAH during normal office hours (Monday through Friday between 8:00am and 5:00pm, excluding official state holidays).

The petition may be faxed to the OAH at (919) 431-3100, provided the original and one copy of the petition along with any applicable OAH filing fee is received by the OAH within five (5) business days following the faxed transmission.

Mailing address for the OAH:

*If sending by First Class Mail
via the US Postal Service:*
Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714

*If sending via delivery service
(e.g. UPS, FedEx):*
Office of Administrative Hearings
1711 New Hope Church Road
Raleigh, NC 27609-6285

One (1) copy of the petition must also be served to DENR:

Lacy Presnell, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

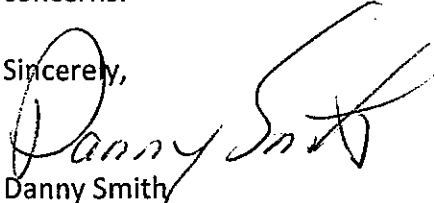
Please send one (1) copy of the petition to DWR:

*If sending by First Class Mail
via the US Postal Service:*
Karen Higgins
NC DENR-DWR – 401 & Buffer
Permitting Unit
1617 Mail Service Center
Raleigh, NC 27699-1617

*If sending via delivery service
(e.g. UPS, FedEx):*
Karen Higgins
NC DENR-DWR – 401 & Buffer
Permitting Unit
512 N. Salisbury Street
Raleigh, NC 27604

This letter completes the review of the Division under section 401 of the Clean Water Act. Please contact Cherri Smith at 919-791-4251 or cherri.smith@ncdenr.gov if you have any questions or concerns.

Sincerely,



Danny Smith
Supervisor, Water Quality Regional Operations Section

Enclosures: 3890

cc: U.S. Army Corps of Engineers; Raleigh Regulatory Field Office; 3331 Heritage Trade
Drive, St. 105; Wake Forest, NC 27597
Jeff Harbour; ESI; 524 South New Hope Rd.; Raleigh, NC 27610
DWR RRO 401 File



4114 Laurel Ridge Drive
Raleigh, North Carolina 27612

Protocol Sampling Service, Inc.
"Experts in Environmental Compliance"

(919) 210-6547

Protocolsampling@yahoo.com
Environmentalservicesnc.com

May 13, 2014

Mr. Thomas Boyce, R.E. H. S., L.S.S.
Chatham County Environmental Health
Post Office Box 1809
Pittsboro, North Carolina 27312

**RE: Soil Scientist Report for Preliminary Subdivision Review
Carolina Crossings Subdivision
Near Martha's Chapel Road and Hwy 751, Chatham County, NC**

Dear Mr. Boyce:

This report is being prepared to provide soils information for the above referenced project for preliminary subdivision review. Table 1 provides a listing of each lot of the project, the type of system/repair proposed for each lot, and the proposed long term acceptance rate (LTAR) where applicable.

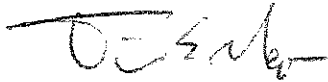
A scaled map generated by the CE Group will be forwarded separately as an attachment to this document. The type of system specified was dependent on the soil/site features of each lot. After field investigations, each of the 20 lots were classified as suitable for subsurface at-grade conventional/low pressure pipe dispersal (Lots 1, 2, 9 & 10) pretreatment sub-surface drip dispersal (Lots 6-8), or pretreatment surface drip dispersal (Lots 3-5, 12-13 & 15-19). It should be noted that lots 11, 14 and 20 are specified for at-grade conventional/low pressure pipe primary dispersal with pretreatment subsurface drip repair. The LTAR for all at-grade conventional/low pressure pipe systems on the project is specified as 0.4 gallons/day/square foot based on the soil textures encountered and the soil groupings found in .1900 - North Carolina Laws and Rules for Sewage Treatment and Dispersal Systems. The LTAR for all pre-treatment subsurface drip systems is specified as 0.1 gallons/day/square foot based on field tests of saturated hydraulic conductivity.

The lots requiring surface disposal of wastewater will be permitted and reviewed by the NC Division of Water Quality. Individual loading rates for these lots were determined based on hydrological and soil characteristic data.

Carolina Crossings
Soil Scientist Report
May 13, 2014

We are pleased to be of service in this manner. Please feel free to call with questions that may arise.

Sincerely,
PROTOCOL SAMPLING SERVICE, INC.



David E. Meyer, L.S.S.
President

cc: file

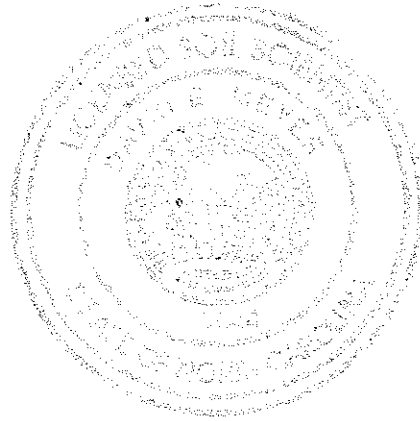
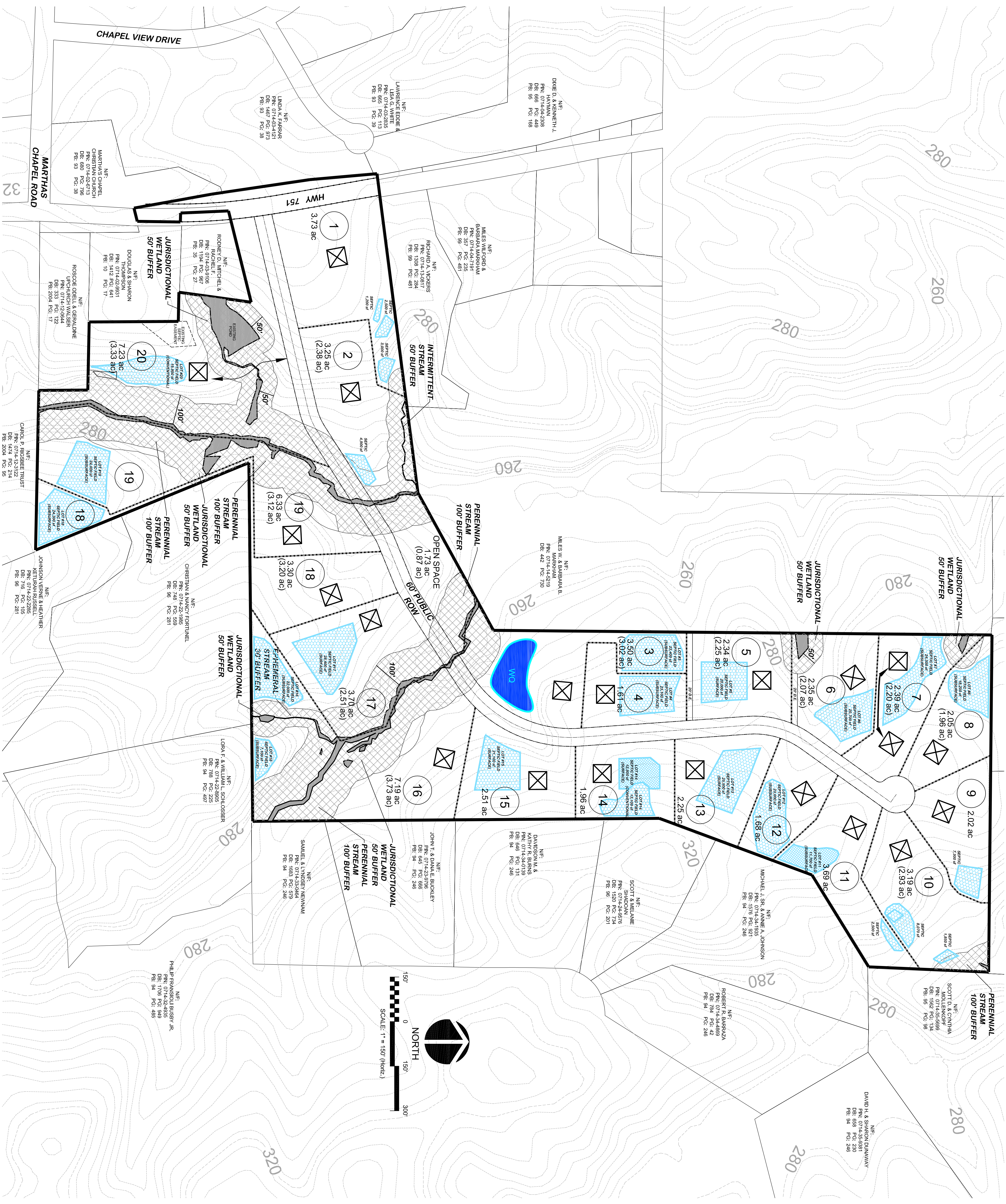


Table 1 - Creekside Manors, Wastewater Disposal Chart

Lot	Active	Repair	LTAR
1	sub/LPP	sub/LPP	0.4
2	sub/LPP	sub/LPP	0.4
3	<i>surface</i>		-
4	<i>surface</i>		-
5	<i>surface</i>		-
6	sub drip	sub drip	0.1
7	sub drip	sub drip	0.1
8	sub drip	sub drip	0.1
9	sub/lpp	sub/LPP	0.4
10	sub/lpp	sub/LPP	0.4
11	sub/lpp	sub drip	0.4, 0.1
12	<i>surface</i>		-
13	<i>surface</i>		-
14	sub/LPP	sub drip	0.4, 0.1
15	<i>surface</i>		-
16	<i>surface</i>		-
17	<i>surface</i>		-
18	<i>surface</i>		-
19	<i>surface</i>		-
20	sub/lpp	sub drip	0.4, 0.1



N.F.
DAVID H. & SHARON DUMAWAY
P.N.: 07-14-35-331
D.B.: 1557 P.G.: 134
P.B.: 95 P.G.: 248

N.F.
SCOTT D. & CYNTHIA
KOLLENKOPF
P.N.: 07-14-34-489
D.B.: 54 P.G.: 246
P.B.: 94 P.G.: 246

N.F.
ROBERT R. BARBAZA
P.N.: 07-14-34-489
D.B.: 54 P.G.: 246
P.B.: 94 P.G.: 246

N.F.
MICHAEL L. SR. & M.E.A. JOHNSON
P.N.: 07-14-34-155
D.B.: 1578 P.G.: 921
P.B.: 94 P.G.: 248

N.F.
SCOTT & WELANIE
SHADOWN
P.N.: 07-14-34-724
D.B.: 1500 P.G.: 724
P.B.: 96 P.G.: 201

N.F.
DAVIDSON T. & S.
P.N.: 07-14-34-039
D.B.: 646 P.G.: 131
P.B.: 94 P.G.: 248

N.F.
JOHN T. & DANAE BUDKLEY
P.N.: 07-14-32-978
D.B.: 1500 P.G.: 724
P.B.: 94 P.G.: 248

N.F.
SAMUEL & LYNN BERNHUM
P.N.: 07-14-33-044
D.B.: 1683 P.G.: 579
P.B.: 94 P.G.: 248

N.F.
LORA F. & WILLIAM L. SCHLOSSER
P.N.: 07-14-22-805
D.B.: 94 P.G.: 497
P.B.: 94 P.G.: 497

N.F.
PHILIP FRANCIS BUSBY JR.
P.N.: 07-14-32-433
D.B.: 1406 P.G.: 349
P.B.: 94 P.G.: 248

N.F.
CHRISTIAN & MARGOT FORTUNE
P.N.: 07-14-22-185
D.B.: 748 P.G.: 159
P.B.: 96 P.G.: 281

N.F.
CAROL P. RIGSBEE TRUST
P.N.: 07-14-13-122
D.B.: 1500 P.G.: 724
P.B.: 2004 P.G.: 55

N.F.
ROSCOE ODELL & GERALDINE
P.N.: 07-14-12-044
D.B.: 333 P.G.: 17
P.B.: 2004 P.G.: 17

N.F.
DOUGLAS & SHARON
THOMPSON
P.N.: 07-14-26-811
D.B.: 17 P.G.: 17
P.B.: 10 P.G.: 17

N.F.
ROONEY, MICHELLE &
RACHELLE
P.N.: 07-14-03-906
D.B.: 1194 P.G.: 97
P.B.: 35 P.G.: 57

N.F.
RICHARD W. JACKERS
P.N.: 07-14-13-017
D.B.: 1308 P.G.: 284
P.B.: 99 P.G.: 481

N.F.
MALES WILFORD &
SARAH
P.N.: 07-14-04-7181
D.B.: 357 P.G.: 238
P.B.: 99 P.G.: 481

N.F.
DMIE D. & SWEETHILL
HAYMAN
P.N.: 07-14-04-238
D.B.: 1500 P.G.: 724
P.B.: 95 P.G.: 168

N.F.
LAWRENCE EDDIE &
LESA G. WHITE
P.N.: 07-14-03-113
D.B.: 560 P.G.: 113
P.B.: 93 P.G.: 39

N.F.
LINDA K. PARRAR
P.N.: 07-14-03-421
D.B.: 487 P.G.: 97
P.B.: 93 P.G.: 39

N.F.
MARTHA'S CHAPEL
P.N.: 07-14-04-6713
D.B.: 680 P.G.: 798
P.B.: 93 P.G.: 38

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