20130570

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Charles Wakild, P.E.
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

Variance Request Form
(For Minor and Major Variances)

Protection and Maintenance of Riparian Areas Rules

NOTE: This form may be photocopied for use as an original.

FILE COPY

Check the appropriate box below:

- [X] **Major Variance**
- [ ] **Minor Variance**

Please identify which Riparian Area Protection Rule applies (Note-this must be one of North Carolina's four buffered river basins. The River Bain map is available at http://h2o.enr.state.nc.us/admin/maps/.)

- ☐ **Neuse River Basin: Nutrient Sensitive Waters Management Strategy Protection and Maintenance of Riparian Areas Rule (15A NCAC 02B.0233)**

- ☐ **Tar-Pamlico River Basin: Nutrient Sensitive Waters Management Strategy Protection and Maintenance of Riparian Areas Rule (15A NCAC 02B.0259)**

Part 1: General Information

(Please include attachments if the room provided is insufficient.)

1. Applicant's name (the corporation, individual, etc. who owns the property):
   Byron and Jessica Trimmer

2. Print owner/Signing official (person legally responsible for the property and its compliance)
   Name: Byron and Jessica Trimmer
   Title: Homeowners
   Street address: 8909 Oxbridge Ct
   City, State, Zip: Raleigh, NC 27613
   Telephone: 919) 676-3878
   Fax: ( )

3. Contact person who can answer questions about the proposed project:

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DENR - WATER QUALITY
Wetlands & Stormwater Branch

Name: Byron and Jessica Trimmer
Telephone: (919) 676-3878
Fax: ( )
Email: btrimmer1@yahoo.com

4. Project name (Subdivision, facility, or establishment name - consistent with project name on plans, specifications, letters, operation and maintenance agreements, etc.):
   Trimmer Screened Porch and Deck Addition
5. Project location:
   Street address: 8909 Oxbridge Ct
   City, State, Zip: Raleigh, NC 27613
   County: Wake
   Latitude/longitude: 35° 54' 6" N 78° 41' 38" W
6. Date property was purchased: 6/13/2006
7. Directions to site from nearest major intersection (Attach an 8 ½ x 11 copy of the USGS topographic map indicating the location of the site).
   From the intersection of Creedmoor and Strickland Rd, go south on Creedmoor turn right on Brennan Drive, turn right on Wellsley Way, turn left on Kennebuck Ct turn left onto Oxbridge Ct, it is the 3rd house on the right.
8. Stream to be impacted by the proposed activity:
   Stream name (for unnamed streams label as "UT" to the nearest named stream):
   UT to Hare Snipe Creek
9. Which of the following permits/approvals will be required or have been received already for this project?

Required:	Received:	Date received:	Permit Type:
			CAMA Major
			CAMA Minor
			401 Certification/404 Permit
			On-site Wastewater Permit
			NPDES Permit (including stormwater)
			Non-discharge Permit
			Water Supply Watershed Variance
			Erosion/Sedimentation Control
			Others (specify)

Part 2: Proposed Activity

(Please include attachments if the room provided is insufficient.)

1. Description of proposed activity [Also, please attach a map of sufficient detail (such as a plat map or site plan in Adobe (pdf) format) to accurately delineate the boundaries of the land to be utilized in carrying out the activity, the location and dimension of any disturbance in the riparian buffers associated with the activity, and the extent of riparian buffers on the land. **Include the area of buffer impact in ft^2.**:
   This is a proposal to expand and screen in an existing deck attached to the

house at 8909 Oxbridge Ct. The existing deck will be removed, and a new deck/porch in 3 sections will be built. The smallest section will be a screened porch (~15' x 17'), and two additional deck sections will be added (~16' x 16'). This will impact ~400 sq/ft of Zone 1 buffer beyond the existing deck/stairs.

2. Fill in the table below to identify the square footage of impact to Zones 1 & 2 in the protected riparian buffers and the required mitigation (**Fill in the impacts portion of the table, even if mitigation is not required):**

Zone of Impact	Impact in Square Feet	Buffer Impact Number (Indicate on Plan Sheet)	Purpose for the Impact	Multiplier	Required Mitigation
Zone 1	400		Deck	3	1200
Zone 2	0			1.5	0
Total	400				1200

*Zone 1 extends out 30 feet perpendicular from the most landward limit of the top of bank or the rooted herbaceous vegetation; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. State reasons why this plan for the proposed activity cannot be practically accomplished, reduced or reconfigured to better minimize or eliminate disturbance to the riparian buffers:
This is an expansion of an existing deck already within the buffer. The house and most of the land on the property is already within the buffer, so any changes to the deck's size or orientation would not reduce the amount of Zone 1 impact.

4. Description of any best management practices to be used to control impacts associated with the proposed activity (i.e., control of runoff from impervious surfaces to provide diffuse flow, re-planting vegetation or enhancement of existing vegetation, etc.):
Erosion control material (rip-rap) will be placed under deck surfaces. New plants will be put in around the desk to enhance the vegetation buffer Gutters will be installed on the roof line and run off will be directed into a diffuse water system.

5. Please provide an explanation of the following:
(1) The practical difficulties or hardships that would result from the strict application of this Rule.
Due to the stream's location and the size of the buffer, the entire lot appears to be within Zone 1 and 2 (zone 1 being right up to the back of the house). Strict application of the rule will make the lot unusable without a variance.

(2) How these difficulties or hardships result from conditions that are unique to the property involved.
The hardships are unique to this property and two others on the same side of the street due to proximity of the stream to the center of the lot.

(3) If economic hardship is the major consideration, then include a specific explanation of the economic hardships and the proportion of the hardship to the entire value of the project.
Economic Hardship is neither the primary, nor the major consideration of the hardship.

Part 3: Stormwater

1. Provide a description of all best management practices (BMPs) that will be used to control nutrients and sedimentation impacts associated with the proposed activity. Please ensure to include all applicable operation & maintenance agreements and worksheets for the proposed BMPs. Also, include the BMPs on your plan sheets.
I am proposing the installation on an Infiltration trench under the new structure to treat the runoff from the new gutter to be installed on the screened porch. Services of a Landscape Engineer will be retained upon approval of this variance.

2. Attach a description of how diffuse flow will be maintained through the protected riparian buffers. Please ensure to include all applicable operation & maintenance agreements and worksheets for the proposed diffuse flow measure(s). Also, include the diffuse flow measure(s) on your plan sheets.

3. What will be the annual nitrogen load contributed by this site after development in pounds per acre per year without structural BMPs (stormwater pond, wetland, infiltration basin, etc)? Attach a detailed plan for all proposed structural stormwater BMPs.

Drainage basin	*Size of drainage basin (ac)*	*Post-development nitrogen[6] loading rate without BMPs[4] (lbs/ac/yr)*	*BMP nitrogen[6] removal efficiency[5] (%)*	*Final nitrogen[6] loading rate (lbs/ac/yr)*	*Final nitrogen[6] loading from drainage basin (lbs)*
1	0.46	2.132	0	2.132	0.98072
2					
3					
4					
5					
Totals		------	------	------	

[4] *Attach calculations and references.*
[5] *Attach calculations and references.*
[6] *Include Phosphorus in the Tar-Pamlico Basin*

4. Attach all applicable supplement form(s) and Inspection and Maintenance (I&M) Form(s) to this completed application. The applicable supplemental form(s) and I&M form(s) for the proposed BMPs noted in your application can be downloaded from the following website:

http://h2o.enr.state.nc.us/su/bmp_forms.htm

Part 4: Proposed Impacts and Mitigation

Provide a description of how mitigation will be achieved at your site pursuant to 15A NCAC 2B.0242 for the Neuse Basin and 15A NCAC 2B.060 for the Tar-Pamlico Basin.

If buffer restoration is the method you are requesting, be sure to include a detailed planting plan to include plant type, date of plantings, the date of the one-time fertilization in the protected riparian buffers and a plan sheet showing the proposed location of the plantings. A guide to buffer restoration can be downloaded at the following website: http://www.nceep.net/news/reports/buffers.pdf

If payment into a buffer restoration fund is how you plan to achieve your mitigation requirement, then include an acceptance letter from the mitigation bank you propose to use stating they have the mitigation credits available for the mitigation requested.

Part 5: Deed Restrictions

By your signature in Part 6 of this application, you certify that all structural stormwater BMPs required by this variance shall be located in recorded stormwater easements, that the easements will run with the land, that the easements cannot be changed or deleted without concurrence from the State, and that the easements will be recorded prior to the sale of any lot.

Part 6: Applicant's Certification

I, Byron and Jessica Trimmer (print or type name of person listed in Part I, Item 2), certify that the information included on this permit application form is correct, that the project will be constructed in conformance with the approved plans and that the deed restrictions in accordance with Part 5 of this form will be recorded with all required permit conditions.

Signature: _____

Date: 5/23/13

Title: _____

Part 7: Plan Sheets

Be sure to include a copy of all of your completed application form, plan sheets and maps in Adobe (pdf) format on a CD or floppy disk.

Part 8: Checklist

A complete application submittal consists of the following components. Incomplete submittals will be returned to the applicant. The complete variance request submittal must be received 90 days prior to the EMC meeting at which you wish the request to be heard. Initial below to indicate that the necessary information has been provided.

Applicant's Initials	Item
_____	• Original and two copies of the Variance Request Form and the attachments listed below.
_____	• A vicinity map of the project (see Part 1, Item 5)
_____	• Narrative demonstration of the need for a variance (see Part 2)
_____	• A detailed narrative description of stormwater treatment/management (see Part 4)
_____	• Calculations supporting nitrogen (phosphorus in the Tar-Pamlico Basin) loading estimates (see Part 4)
_____	• Calculations and references supporting nitrogen (phosphorus in the Tar-Pamlico Basin) removal from proposed BMPs (see Part 4)
_____	• Location and details for all proposed structural stormwater BMPs (see Part 4)
_____	• Three copies of the applicable Supplement Form(s) and I&M Form(s) for each BMP and/or narrative for each innovative BMP (see Part 4)
_____	• Three copies of plans and specifications, including:
_____	◊ Development/Project name
_____	◊ Engineer and firm
_____	◊ Legend and north arrow
_____	◊ Scale (1" = 50' is preferred)
_____	◊ Revision number & date
_____	◊ Mean high water line (if applicable)
_____	◊ Dimensioned property/project boundary
_____	◊ Location map with named streets or NC State Road numbers
_____	◊ Original contours, proposed contours, spot elevations, finished floor elevations
_____	◊ Details of roads, parking, cul-de-sacs, sidewalks, and curb and gutter
_____	◊ Footprint of any proposed buildings or other structures
_____	◊ Wetlands delineated, or a note on plans that none exist
_____	◊ Existing drainage (including off-site), drainage easements, pipe sizes, runoff calculations
_____	◊ Drainage basins delineated
_____	◊ Perennial and intermittent streams, ponds, lakes, rivers and estuaries
	◊ Location of forest vegetation along the streams, ponds, lakes, rivers and estuaries

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map
US Topo

BAYLEAF QUADRANGLE
NORTH CAROLINA
7.5-MINUTE SERIES

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: North Carolina Coordinate System of 1983

Imagery	NAIP, July 2008
Roads	©2006-2010 Tele Atlas
Names	GNIS, 2008
Hydrography	National Hydrography Dataset, 2008
Contours	National Elevation Dataset, 2008

UTM GRID AND 2010 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1983

This map was produced to conform with version 0.5.10 of the draft USGS Standards for 7.5-Minute Quadrangle Maps.
A metadata file associated with this product is draft version 0.5.11

NORTH CAROLINA

QUADRANGLE LOCATION

Northeast Durham	Creedmoor	Grissom
Southeast Durham	Bayleaf	Wake Forest
Cary	Raleigh West	Raleigh East

ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION

Interstate Route		State Route	
US Route		Local Road	
Ramp		4WD	

BAYLEAF, NC
2010

To Whom It May Concern:

My name is Byron Trimmer and I am a home owner at 8909 Oxbridge Ct, Raleigh NC. I am in the process of applying for a Major Variance to the Neuse River Buffer Rules for a project to expand and enclose a portion of the deck currently in existence at my house. In filling out the forms for this variance, I have learned a great deal about the Riparian Buffer rules and the impacts they have on existing developed property. I am asking for a Variance based on the following factors:

1) The property was deeded prior to the Neuse River Buffer Rules being implemented. Due to the location of the stream on the property, the house and most of the land (~60-70%) is located within the Riparian Buffer. This being the case, the land is now "non-developable" without a Variance. If the property was deeded today, it would in all likelihood be considered "non-developable" for the same reasons. While a drainage easement and all city easements are noted on the land survey, no mention of the Riparian Buffer is included.
2) After reading through the Major Variance forms and the BMPs for Stormwater and nutrient treatment, the information and all examples provided appear to be intended for the development of large parcels of land and toward new construction where effective (both from a function and a cost perspective) use of the BMPs can be made. The lot in question is only 0.459 acres of land with ~135' of stream. According to the Variance form, the total Stormwater impact over and above the existing use will be approximately:
    i. Q=C*I*A where C =1 (sloped roof), I = 1.49 (NOAA), A = 0.46 ac
    ii. Q=1*1.49*0.46 = 0.6854 cfs

    And Nitrogen Nutrient increase will be approximately:
    i. 2.132 lbs/ac/year
    Total lot size: 20037 sq ft
    Total Impervious ground cover (existing): 3041 sq ft
    Total Impervious ground cover (post project): 3441 sq ft
    Existing Nitrogen Load: Open Space (existing): 0.3902 ac * 1.2 lbs/ac/yr = 0.4682
    Impervious (existing): 0.0698 ac * 21.2 lbs/ac/yr = 1.480
    Total (Existing) = 1.480+0.4682 = 1.948 lbs/yr
    Post Project Load: Open Space: 0.381 ac * 1.2 lbs/ac/yr = 0.4572
    Impervious: 0.079 ac * 21.2 lbs/ac/yr = 1.6748
    Total (new deck) = 1.6748 + 0.4572 = 2.132 lbs/yr
    Difference (New vs Existing) = 2.132 – 1.948 = 0.184 lbs/yr
    *** This is well below the target for all new development (3.6 lbs/yr)
3) The BMPs for treatment of storm water and nutrient removal listed within the NCDENR BMP handbook all require one of the following:
    a. Implementation BEYOND the existing buffer (impossible due to the location of the land within the buffer)
    b. The BMP requires more land to implement that is available on the property (ie level spreaders, water gardens, restored buffers, dry and wet detention beds) or are

Stormwater BMP description for Trimmer Screened Porch and Deck Addition at 8909 Oxbridge Ct.

In order to handle the runoff generated by the new roof over the screened porch section of this project, I am proposing the installation of an Infiltration Trench on the property. The trench will be approximately 30 feet long by 2 feet deep by 1 foot wide (pending the recommendations of a Landscape Engineer) to handle approximately 30-50 cu-ft of runoff water. Per the BMP sheet, given that this is not SA waters, the system needs be able to handle the first 1" of runoff from a storm. The runoff from the roof is estimated to be approximately 9 cu-ft of water. This will provide 3-5 times the required runoff capacity. I have included the BMP worksheet for the trench (filled out to the best of my ability) and will complete the O&M portion once I have had the BMP designed by a Landscape Engineer pending the approval of this Variance.

Based on the BMP for Infiltration Trenches, they are rated at reducing Nitrogen discharge by 30%. This estimate will reduce the nitrogen load from the new construction by ~0.0184 lb/yr (roughly 1/3 of the surface area will be channeling runoff into this BMP and it will only remove 30% of that). This is based on the Neuse River Basin: Model Stormwater Program for Nitrogen Control document.

Appendix C: Nitrogen Export Calculations (see Neuse River Basin: Model Stormwater Program for Nitrogen Control)

Figure 2a: Method 1 for Quantifying TN Export from Residential Developments when Building and Driveway Footprints are Not Shown

Step 1: Determine area for each type of land use and enter in Column (2).
Step 2: Total the areas for each type of land use and enter at the bottom of Column (2).
Step 3: Determine the TN export coefficient associated with right-of-way using Graph 1.
Step 4: Determine the TN export coefficient associated with lots using Graph 2.
Step 5: Multiply the areas in Column (2) by the TN export coefficients in Column (3) and enter in Column (4).
Step 6: Total the TN exports for each type of land use and enter at the bottom of Column (4).
Step 7: Determine the export coefficient for site by dividing the total TN export from uses at the bottom of Column (4) by the total area at the bottom of Column (2).

(1) Type of Land Cover	(2) Area (acres)	(3) TN export coeff. (lbs/ac/yr)	(4) TN export from use (lbs/yr)
Permanently protected undisturbed open space (forest, unmown meadow)		0.6	
Permanently protected managed open space (grass, landscaping, etc.)		1.2	
Right-of-way (read TN export from Graph 1)			
Lots (read TN export from Graph 2)			

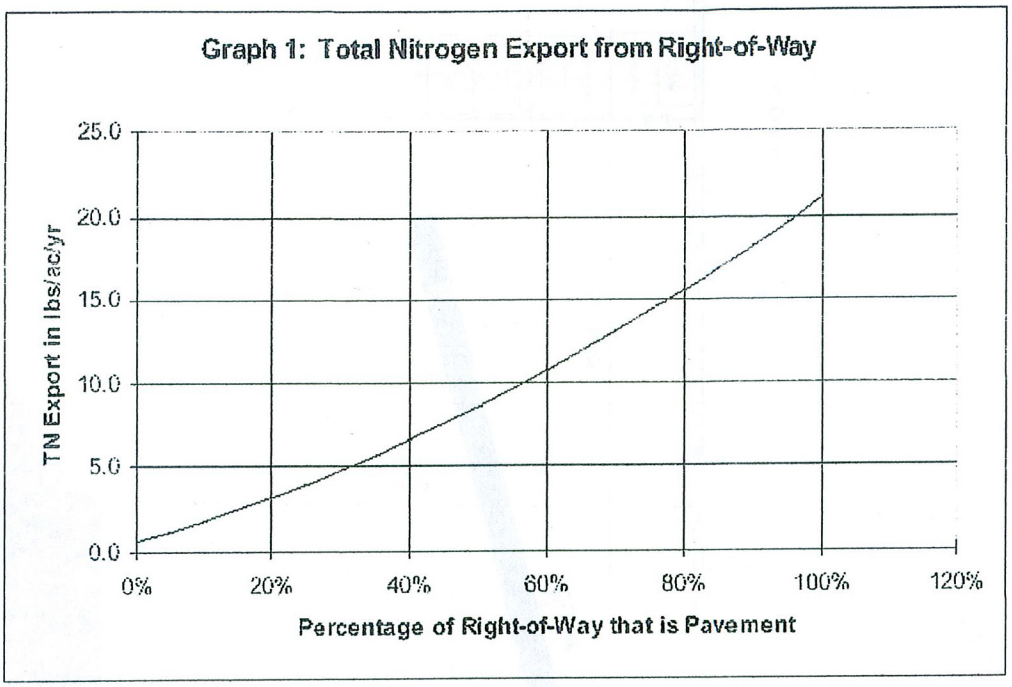
** see Graphs on following page **

Figure 2b: Method 2 for Quantifying TN Export from Residential / Industrial / Commercial Developments when Footprints of all Impervious Surfaces are Shown

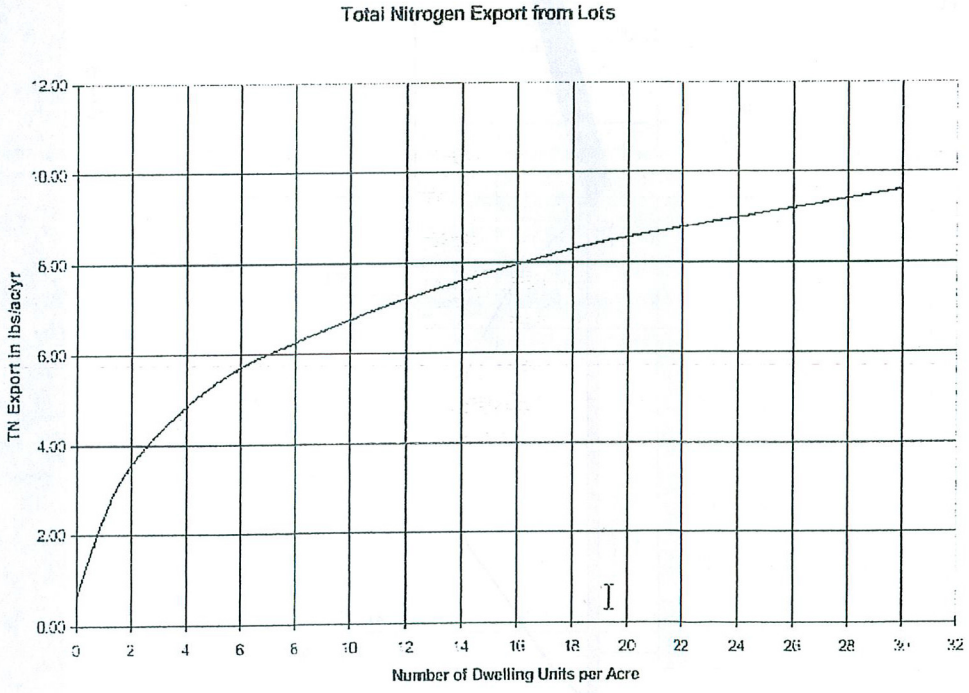
Step 1: Determine area for each type of land use and enter in Column (2).
Step 2: Total the areas for each type of land use and enter at the bottom of Column (2).
Step 3: Multiply the areas in Column (2) by the TN export coefficients in Column (3) and enter in Column (4).
Step 4: Total the TN exports for each type of land use and enter at the bottom of Column (4).
Step 5: Determine the export coefficient for site by dividing the total TN export from uses at the bottom of Column (4) by the total area at the bottom of Column (2).

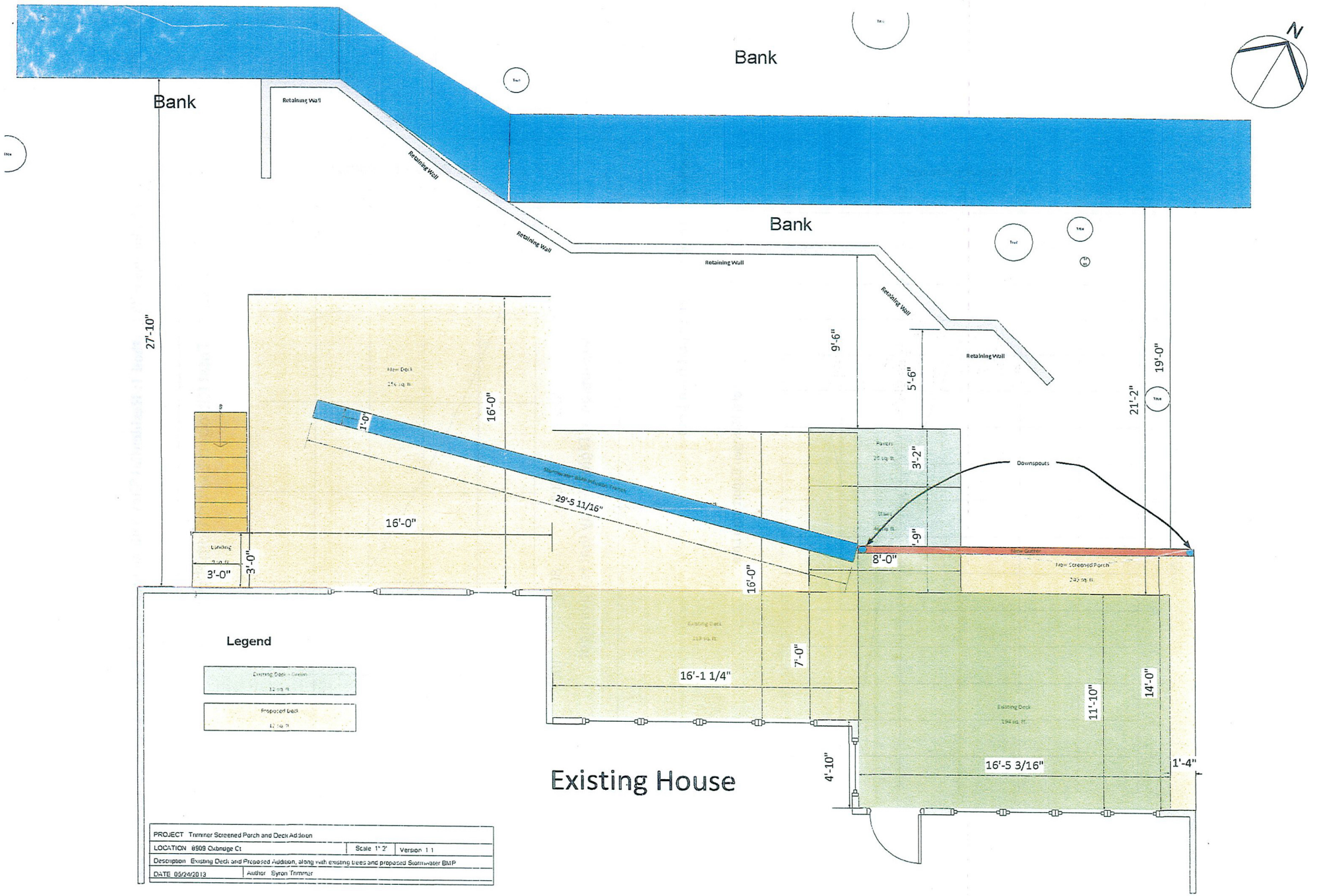
(1) Type of Land Cover	(2) Area (acres)	(3) TN export coefficient (lbs/ac/yr)	(4) TN export from use (lbs//yr)
Permanently protected undisturbed open space (forest, unmown meadow)	0	0.6	0
Permanently protected managed open space (grass, landscaping, etc.)	0.381	1.2	0.4572
Impervious surfaces (roads, parking lots, driveways, roofs, paved storage areas, etc.)	0.079	21.2	1.6748
TOTAL	0.46	-	2.132

Graphs for use with Method 1: Residential Sites with no known building footprints.



Graph 2: Total Nitrogen Export from Lots




Bank
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Retaining Wall
Retaining Wall
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Retaining Wall
N
27'-10"
9'-6"
5'-6"
21'-2"
19'-0"
16'-0"
1'-0"
29'-5 11/16"
16'-0"
3'-2"
1'-9"
8'-0"
Downspouts
3'-0"
3'-0"
16'-0"
7'-0"
16'-1 1/4"
11'-10"
14'-0"
4'-10"
16'-5 3/16"
1'-4"
Existing House
Legend
PROJECT Trimmer Screened Porch and Deck Addition
LOCATION 8909 Oxbridge Ct
Scale 1" 2'
Version 1.1
Description Existing Deck and Proposed Addition, along with existing trees and proposed Stormwater BMP
DATE 09/24/2013
Author Byron Trimmer

Permit No._____
(to be provided by DWQ)

NCDENR

STORMWATER MANAGEMENT PERMIT APPLICATION FORM
401 CERTIFICATION APPLICATION FORM

INFILTRATION TRENCH SUPPLEMENT

This form must be 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	Trimmer Screened Porch and Deck Addition
Contact person	Byron Trimmer
Phone number	919-676-3878
Date	5/13/2013
Drainage area number	1

II. DESIGN INFORMATION

Site Characteristics

Drainage area	20,037.00	ft^2
Impervious area	238.00	ft^2
Percent impervious	1.2%	%
Design rainfall depth	1.00	in

Peak Flow Calculations

1-yr, 24-hr rainfall depth	2.84	in
1-yr, 24-hr intensity	0.12	in/hr
Pre-development 1-yr, 24-hr discharge	0.00	ft^3/sec
Post-development 1-yr, 24-hr discharge	0.69	ft^3/sec
Pre/Post 1-yr, 24-hr peak flow control	0.69	ft^3/sec

Storage Volume: Non-SA Waters

Minimum volume required	9.00	ft^3	
Volume provided	60.00	ft^3	OK for non-SR waters

Storage Volume: SA Waters

1.5" runoff volume		ft^3
Pre-development 1-yr, 24-hr runoff volume		ft^3
Post-development 1-yr, 24-hr runoff volume		ft^3
Minimum volume required		ft^3
Volume provided		ft^3

Soils Report Summary

Soil type	D	
Infiltration rate	0.01	in/hr
SHWT elevation		fmsl

Trench Design Parameters

Drawdown time	5.00	days	OK
Perforated pipe diameter	4.00	in	
Perforated pipe length	30.00	ft	
Number of laterals	0		
Stone type (if used)	washed		
Stone void ratio	35		
Stone is free of fines?	Y	(Y or N)	OK

Permit No._____
(to be provided by DWQ)

Trench Elevations			
Bottom elevation	399.00	fmsl	OK
Storage/overflow elevation	399.00	fmsl	
Top elevation	401.00	fmsl	
Trench Dimensions			
Length (long dimension)	30.00	ft	
Width (short dimension)	1.00	ft	
Height (depth)	2.00	ft	OK
Additional Information			
Maximum volume to each inlet into the trench?	0.50	ac-in	OK
Length of vegetative filter for overflow	0.00	ft	Filter is too short, must be > 30-ft
Number of observation wells	1		OK
Distance to structure	8.00	ft	Too close to structure, must be minimum of 15-ft downgradient
Distance from surface waters	12.00	ft	Too close to surface waters
Distance from water supply well(s)	n/a	ft	OK
Separation from impervious soil layer	3.00	ft	OK
Depth of naturally occuring soil above SHWT	2.00	ft	OK
Bottom covered with 4-in of clean sand?	y	(Y or N)	OK
Proposed drainage easement provided?	y	(Y or N)	OK
Capures all runoff at ultimate build-out?	y	(Y or N)	OK
Bypass provided for larger storms?	N	(Y or N)	Must provide bypass for larger flows
Trench wrapped with geotextile fabric?	Y	(Y or N)	OK
Pretreatment device provided	Y		

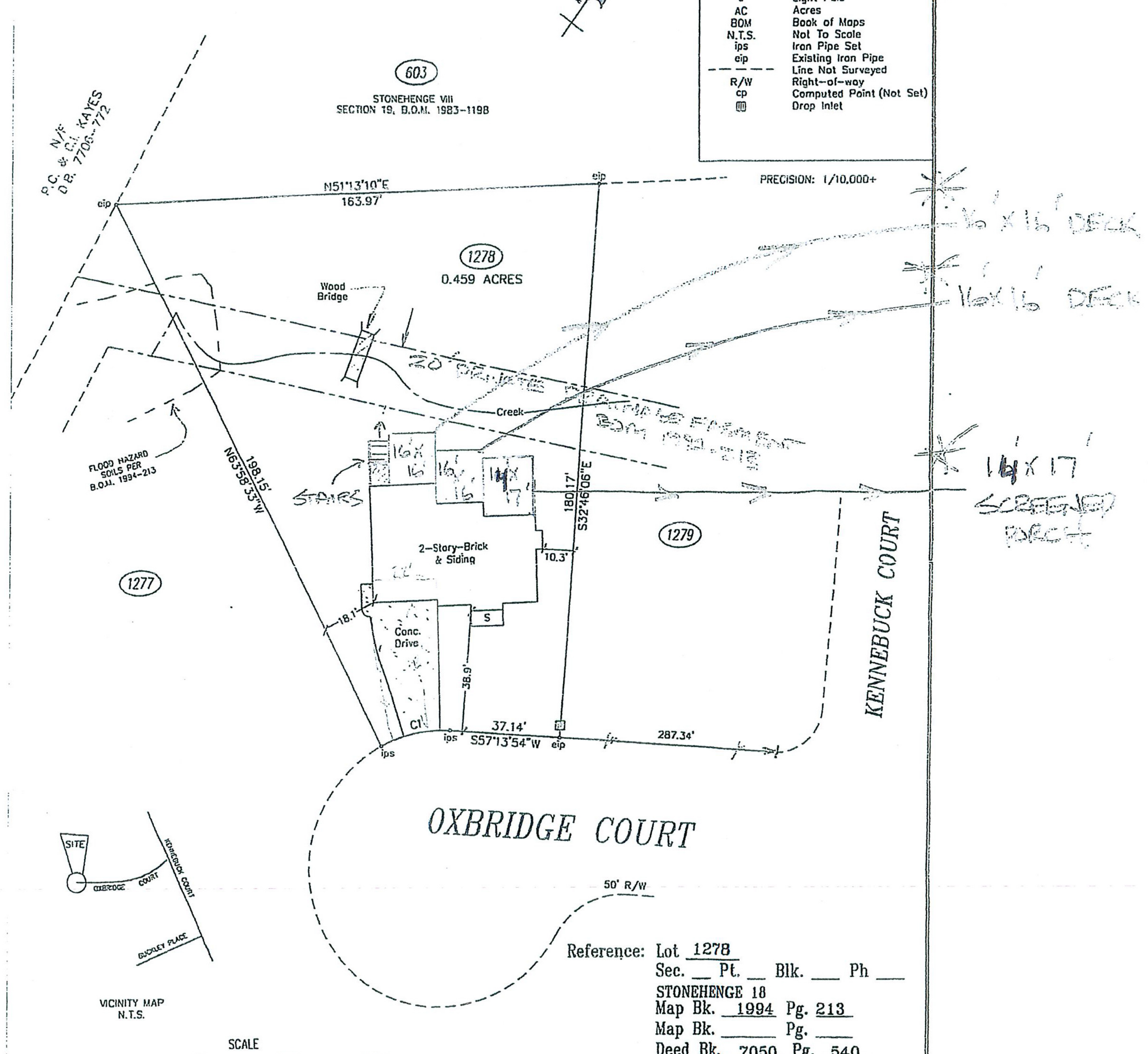
* PROPOSED SCREENED PORCH & DECKS.

CURVE TABLE

#	RADIUS	DELTA	LENGTH	CH.BEARING	DISTANCE	TANGENT
C1	45.00'	31°07'27"	24.44'	S41°40'11"W	24.15'	12.53'

LEGEND

- Storm Sewer Manhole
- Sanitary Sewer Manhole
- Concrete Monument
- N\F — Now or Formerly
- Power Box
- Telephone Pedestal
- Cable Television Pedestal
- Power Pole
- Light Pole
- AC — Acres
- BOM — Book of Maps
- N.T.S. — Not To Scale
- ips — Iron Pipe Set
- eip — Existing Iron Pipe
- - - - — Line Not Surveyed
- R/W — Right-of-way
- cp — Computed Point (Not Set)
- Drop Inlet



Reference: Lot 1278
Sec. __ Pt. __ Blk. ___ Ph ___
STONEHENGE 18
Map Bk. 1994 Pg. 213
Map Bk. ______ Pg. ____
Deed Bk. 7050 Pg. 540

I, Larry I. Chasok, certify that this map is correct and that the buildings lie wholly on the lot and there are no other visible easements or encroachments to my knowledge, other than those shown.

SEAL L-1369 — NORTH CAROLINA PROFESSIONAL LAND SURVEYOR — LARRY I. CHASAK

Professional Land Surveyor L1369

Property Of

BYRON E. TRIMMER
JESSICA W. TRIMMER

8909 OXBRIDGE COURT RALEIGH, N.C.

Date: 06-13-06
Scale: 1"=30'
File: 0617

Larry I. Chasok, Professional Land Surveyor
705 West North Street
Raleigh, North Carolina, 27603
(919) 834-9855

North Carolina Department of Environment and Natural Resources
Division of Water Quality
Charles Wakild, P. E.
Director

Pat McCrory
Governor

John E. Skvarla, III
Secretary

June 7, 2013

DWQ #: 2013-0570
Wake County

Mr. Byron & Ms. Jessica Trimmer
8909 Oxbridge Court
Raleigh, North Carolina 27613

FILE COPY

Subject: **REQUEST FOR ADDITIONAL INFORMATION**
8909 Oxbridge Court

Dear Mr. & Ms. Trimmer:

On May 29, 2013, the Division of Water Quality (Division) received your application dated May 23, 2013 requesting a Major Variance to the Neuse Riparian Buffer Rules for your project. The Division has determined that your application is incomplete and cannot be processed. **The application is on-hold until all of the following information is received**:

1. Buffer mitigation is required for the proposed Zone 1 buffer impacts. Please submit a mitigation plan detailing how the impact will be mitigated. The required area of mitigation is determined by multiplying the impacts to Zone 1 of the riparian buffer by 3. You may elect to perform buffer restoration or pay a compensatory mitigation fee. The following link under Options for Compensatory Mitigation provides contact information for private mitigation banks in the Neuse River Basin (outside of the Falls Lake Watershed) with riparian buffer credits available: http://portal.ncdenr.org/web/wq/nutrientbufferbanks. If credits are not available from a private mitigation bank then you may contact the NC Ecosystem Enhancement to purchase buffer restoration credits (919-707-8976). If you choose to satisfy the buffer mitigation required with a compensatory mitigation fee, then you will need to provide a letter from the private bank or NCEEP indicating the availability of buffer restoration credits necessary for the project.

2. Stormwater treatment must be provided for an area equal to the entire amount of new impervious area added within the riparian buffer. This includes the surface area represented by the proposed deck as well as the screened porch. The infiltration trench proposed in your application provides stormwater treatment for the proposed screened porch only. We will accept treatment of the same amount of area from existing stormwater discharge(s) in lieu of treating stormwater from the new proposed impervious area. To treat the amount of area proposed within the riparian buffer would require an infiltration trench approximately 10 times the size that is currently proposed based on the information provided in your application. This type of BMP is also required to be at least 30 feet from the surface water and would require soil permeability testing and a seasonal high water table determination from a licensed soil scientist or professional engineer. We recommend that you consider installation of rain garden on the southwest side of the home to treat stormwater from existing discharge(s). You may want to

Wetlands, Buffers, Stormwater – Compliance and Permitting (Webscape) Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6494 \ Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org

consult the following link to NC State University Cooperative Extension Service's publication on Backyard Rain Gardens: http://www.bae.ncsu.edu/topic/raingarden for more information.

3. The Division has determined that not all of the requirements [15A NCAC 02B .0233 (9)(a)] for a Major Variance have been met. Please provide any available documentation to support your major variance request for the following:

(i)(A) *If the applicant complies with the provisions of this Rule, he/she can secure no reasonable return from, nor make reasonable use of, his/her property. Merely proving that the variance would permit a greater profit from the property shall not be considered adequate justification for a variance. Moreover, the Division or delegated local authority shall consider whether the variance is the minimum possible deviation from the terms of this Rule that shall make reasonable use of the property possible.*

The lot currently contains a single-family home and associated deck that were constructed in 1994 and are currently in use. Compliance with the provisions of the Rule has not prevented reasonable return from or use of the property. The Division also believes that the size of the proposed deck could be reduced to minimize the amount of impact to Zone 1 of the riparian buffer.

Pursuant to Title 15A NCAC 02B .0233, the applicant shall furnish all of the above requested information for the proper consideration of the application.

Respond in writing by sending two copies of all of the above requested information to the Wetlands, Buffers, Stormwater – Compliance and Permitting (Webscape) Unit, 1650 Mail Service Center, Raleigh, NC 27699-1650.

Please be aware that you have no authorization under the Neuse Riparian Buffer Rules for this activity and any work done within waters of the state may be a violation of North Carolina General Statutes and Administrative Code.

Contact me at karen.higgins@ncdenr.gov or 919-807-6360 or Jennifer Burdette at jennifer.burdette@ncdenr.gov or 919-807-6364 if you have any questions or concerns.

Sincerely,

Karen Higgins

Karen Higgins, Supervisor
Wetlands, Buffers, Stormwater –
Compliance & Permitting Unit

cc: DWQ RRO 401 files
DWQ Webscape Unit

File name: 130504Byron&JessicaTrimmer8909OxbridgeCt(Wake)_NBR_MV_Hold.docx

13-0570

North Carolina Department of Environment and Natural Resources
Division of Water Quality
Beverly Eaves Perdue, Governor
Charles Wakild, P.E., Director
Dee Freeman, Secretary

Variance Request Form
(For Minor and Major Variances)

Protection and Maintenance of Riparian Areas Rules

NOTE: This form may be photocopied for use as an original.

Check the appropriate box below:

- ☒ **Major Variance**
- ☐ **Minor Variance**

Please identify which Riparian Area Protection Rule applies (Note-this must be one of North Carolina's four buffered river basins. The River Bain map is available at http://h2o.enr.state.nc.us/admin/maps/.)

- ☐ **Neuse River Basin: Nutrient Sensitive Waters Management Strategy Protection and Maintenance of Riparian Areas Rule (15A NCAC 02B.0233)**

- ☐ **Tar-Pamlico River Basin: Nutrient Sensitive Waters Management Strategy Protection and Maintenance of Riparian Areas Rule (15A NCAC 02B.0259)**

Part 1: General Information

(Please include attachments if the room provided is insufficient.)

1. Applicant's name (the corporation, individual, etc. who owns the property):
   Byron and Jessica Trimmer

2. Print owner/Signing official (person legally responsible for the property and its compliance)
   Name: Byron and Jessica Trimmer
   Title: Homeowners
   Street address: 8909 Oxbridge Ct
   City, State, Zip: Raleigh, NC 27613
   Telephone: (919) 676-3878
   Fax: (____)

3. Contact person who can answer questions about the proposed project:

Name: Byron and Jessica Trimmer
Telephone: (919) 676-3878
Fax: (____)
Email: btrimmer1@yahoo.com

4. Project name (Subdivision, facility, or establishment name - consistent with project name on plans, specifications, letters, operation and maintenance agreements, etc.):
   Trimmer Screened Porch and Deck Addition
5. Project location:
   Street address: 8909 Oxbridge Ct
   City, State, Zip: Raleigh, NC 27613
   County: Wake
   Latitude/longitude: 35° 54' 6" N 78° 41' 38" W
6. Date property was purchased: 6/13/2006
7. Directions to site from nearest major intersection (Attach an 8 ½ x 11 copy of the USGS topographic map indicating the location of the site).
   From the intersection of Creedmoor and Strickland Rd, go south on Creedmoor turn right on Brennan Drive, turn right on Wellsley Way, turn left on Kennebuck Ct turn left onto Oxbridge Ct, it is the 3rd house on the right.
8. Stream to be impacted by the proposed activity:
   Stream name (for unnamed streams label as "UT" to the nearest named stream):
   UT to Hare Snipe Creek
9. Which of the following permits/approvals will be required or have been received already for this project?

Required:	Received:	Date received:	Permit Type:
_____	_____	_____	CAMA Major
_____	_____	_____	CAMA Minor
_____	_____	_____	401 Certification/404 Permit
_____	_____	_____	On-site Wastewater Permit
_____	_____	_____	NPDES Permit (including stormwater)
_____	_____	_____	Non-discharge Permit
_____	_____	_____	Water Supply Watershed Variance
_____	_____	_____	Erosion/Sedimentation Control
			Others (specify) _____

Part 2: Proposed Activity

(Please include attachments if the room provided is insufficient.)

1. Description of proposed activity [Also, please attach a map of sufficient detail (such as a plat map or site plan in Adobe (pdf) format) to accurately delineate the boundaries of the land to be utilized in carrying out the activity, the location and dimension of any disturbance in the riparian buffers associated with the activity, and the extent of riparian buffers on the land. **Include the area of buffer impact in ft^2.**:
   This is a proposal to expand and screen in an existing deck attached to the

house at 8909 Oxbridge Ct. The existing deck will be removed, and a new deck/porch in 3 sections will be built. The smallest section will be a screened porch (~15' x 17'), and an additional deck will be added (16' x 16 and 10'x16'). This will impact ~264 sq/ft of Zone 1 buffer beyond the existing deck/stairs.

2. Fill in the table below to identify the square footage of impact to Zones 1 & 2 in the protected riparian buffers and the required mitigation (**Fill in the impacts portion of the table, even if mitigation is not required):**

Zone of Impact	Impact in Square Feet	Buffer Impact Number (Indicate on Plan Sheet)	Purpose for the Impact	Multiplier	Required Mitigation
Zone 1	264		Deck	3	792
Zone 2	0			1.5	0
Total	264				792

*Zone 1 extends out 30 feet perpendicular from the most landward limit of the top of bank or the rooted herbaceous vegetation; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. State reasons why this plan for the proposed activity cannot be practically accomplished, reduced or reconfigured to better minimize or eliminate disturbance to the riparian buffers:
This is an expansion of an existing deck already within the buffer. The house and most of the land on the property is already within the buffer, so any changes to the deck's size or orientation would not reduce the amount of Zone 1 impact.

4. Description of any best management practices to be used to control impacts associated with the proposed activity (i.e., control of runoff from impervious surfaces to provide diffuse flow, re-planting vegetation or enhancement of existing vegetation, etc.):
Erosion control material (rip-rap) will be placed under deck surfaces. New plants will be put in around the desk to enhance the vegetation buffer Gutters will be installed on the roof line and run off will be directed into a diffuse water system.

5. Please provide an explanation of the following:
(1) The practical difficulties or hardships that would result from the strict application of this Rule.
Due to the stream's location and the size of the buffer, the entire lot appears to be within Zone 1 and 2 (zone 1 being right up to the back of the house). Strict application of the rule will make the lot unusable without a variance.

(2) How these difficulties or hardships result from conditions that are unique to the property involved.
The hardships are unique to this property and two others on the same side of the street due to proximity of the stream to the center of the lot.

(3) If economic hardship is the major consideration, then include a specific explanation of the economic hardships and the proportion of the hardship to the entire value of the project.
Economic Hardship is neither the primary, nor the major consideration of the hardship.

Part 3: Stormwater

1. Provide a description of all best management practices (BMPs) that will be used to control nutrients and sedimentation impacts associated with the proposed activity. Please ensure to include all applicable operation & maintenance agreements and worksheets for the proposed BMPs. Also, include the BMPs on your plan sheets.
I am proposing the installation of a rain garden in the SW corner of the property to treat the runoff from the existing roof (approximately 900sqft of roof space). Installation will be done in accordance with the NCSU Cooperative Extension's documentation.
2. Attach a description of how diffuse flow will be maintained through the protected riparian buffers. Please ensure to include all applicable operation & maintenance agreements and worksheets for the proposed diffuse flow measure(s). Also, include the diffuse flow measure(s) on your plan sheets.

3. What will be the annual nitrogen load contributed by this site after development in pounds per acre per year without structural BMPs (stormwater pond, wetland, infiltration basin, etc)? Attach a detailed plan for all proposed structural stormwater BMPs.

Drainage basin	*Size of drainage basin (ac)*	*Post-development nitrogen[6] loading rate without BMPs[4] (lbs/ac/yr)*	*BMP nitrogen[6] removal efficiency[5] (%)*	*Final nitrogen[6] loading rate (lbs/ac/yr)*	*Final nitrogen[6] loading from drainage basin (lbs)*
1	0.46	2.052	0	2.052	0.944
2					
3					
4					
5					
Totals		------	------	------	

[4] *Attach calculations and references.*
[5] *Attach calculations and references.*
[6] *Include Phosphorus in the Tar-Pamlico Basin*

4. Attach all applicable supplement form(s) and Inspection and Maintenance (I&M) Form(s) to this completed application. The applicable supplemental form(s) and I&M form(s) for the proposed BMPs noted in your application can be downloaded from the following website:

http://h2o.enr.state.nc.us/su/bmp_forms.htm

Part 4: Proposed Impacts and Mitigation

Provide a description of how mitigation will be achieved at your site pursuant to 15A NCAC 2B.0242 for the Neuse Basin and 15A NCAC 2B.060 for the Tar-Pamlico Basin.

If buffer restoration is the method you are requesting, be sure to include a detailed planting plan to include plant type, date of plantings, the date of the one-time fertilization in the protected riparian buffers and a plan sheet showing the proposed location of the plantings. A guide to buffer restoration can be downloaded at the following website: **http://www.nceep.net/news/reports/buffers.pdf**

If payment into a buffer restoration fund is how you plan to achieve your mitigation requirement, then include an acceptance letter from the mitigation bank you propose to use stating they have the mitigation credits available for the mitigation requested.

Part 5: Deed Restrictions

By your signature in Part 6 of this application, you certify that all structural stormwater BMPs required by this variance shall be located in recorded stormwater easements, that the easements will run with the land, that the easements cannot be changed or deleted without concurrence from the State, and that the easements will be recorded prior to the sale of any lot.

Part 6: Applicant's Certification

I, Byron and Jessica Trimmer (print or type name of person listed in Part I, Item 2), certify that the information included on this permit application form is correct, that the project will be constructed in conformance with the approved plans and that the deed restrictions in accordance with Part 5 of this form will be recorded with all required permit conditions.

Signature: _____

Date: 6/26/13

Title: Owner

Part 7: Plan Sheets

Be sure to include a copy of all of your completed application form, plan sheets and maps in Adobe (pdf) format on a CD or floppy disk.

Part 8: Checklist

A complete application submittal consists of the following components. Incomplete submittals will be returned to the applicant. The complete variance request submittal must be received 90 days prior to the EMC meeting at which you wish the request to be heard. Initial below to indicate that the necessary information has been provided.

Applicant's Initials	Item
_____	• Original and two copies of the Variance Request Form and the attachments listed below.
_____	• A vicinity map of the project (see Part 1, Item 5)
_____	• Narrative demonstration of the need for a variance (see Part 2)
_____	• A detailed narrative description of stormwater treatment/management (see Part 4)
_____	• Calculations supporting nitrogen (phosphorus in the Tar-Pamlico Basin) loading estimates (see Part 4)
_____	• Calculations and references supporting nitrogen (phosphorus in the Tar-Pamlico Basin) removal from proposed BMPs (see Part 4)
_____	• Location and details for all proposed structural stormwater BMPs (see Part 4)
_____	• Three copies of the applicable Supplement Form(s) and I&M Form(s) for each BMP and/or narrative for each innovative BMP (see Part 4)
_____	• Three copies of plans and specifications, including:
_____	◊ Development/Project name
_____	◊ Engineer and firm
_____	◊ Legend and north arrow
_____	◊ Scale (1" = 50' is preferred)
_____	◊ Revision number & date
_____	◊ Mean high water line (if applicable)
_____	◊ Dimensioned property/project boundary
_____	◊ Location map with named streets or NC State Road numbers
_____	◊ Original contours, proposed contours, spot elevations, finished floor elevations
_____	◊ Details of roads, parking, cul-de-sacs, sidewalks, and curb and gutter
_____	◊ Footprint of any proposed buildings or other structures
_____	◊ Wetlands delineated, or a note on plans that none exist
_____	◊ Existing drainage (including off-site), drainage easements, pipe sizes, runoff calculations
_____	◊ Drainage basins delineated
_____	◊ Perennial and intermittent streams, ponds, lakes, rivers and estuaries
	◊ Location of forest vegetation along the streams, ponds, lakes, rivers and estuaries

June 28, 2013

Byron Trimmer
8909 Oxbridge Ct.
Raleigh, NC 27163

Subject: Riparian Buffer Credit Reservation Letter

Dear Mr. Trimmer:

Restoration Systems has reserved +/800 sqft of riparian buffer offset credits at a price of $.90/sqft. Making the total $720.00 from its Lane Island Bank Parcel, DWQ #08-0510 v3 to meet the requirements associated with permitting the project located in HUC 03020201 of the Neuse River Basin. These credits are reserved for a period of 60 days from the date of this letter with the option to renew the reservation upon notification of continued need. If you have any questions concerning this transaction please contact me at 919.334.9123.

Sincerely,

Tiffani Bylow
Restoration Systems, LLC

Appendix C: Nitrogen Export Calculations (see Neuse River Basin: Model Stormwater Program for Nitrogen Control)

Figure 2a: Method 1 for Quantifying TN Export from Residential Developments when Building and Driveway Footprints are Not Shown

Step 1: Determine area for each type of land use and enter in Column (2).
Step 2: Total the areas for each type of land use and enter at the bottom of Column (2).
Step 3: Determine the TN export coefficient associated with right-of-way using Graph 1.
Step 4: Determine the TN export coefficient associated with lots using Graph 2.
Step 5: Multiply the areas in Column (2) by the TN export coefficients in Column (3) and enter in Column (4).
Step 6: Total the TN exports for each type of land use and enter at the bottom of Column (4).
Step 7: Determine the export coefficient for site by dividing the total TN export from uses at the bottom of Column (4) by the total area at the bottom of Column (2).

(1) Type of Land Cover	(2) Area (acres)	(3) TN export coeff. (lbs/ac/yr)	(4) TN export from use (lbs/yr)
Permanently protected undisturbed open space (forest, unmown meadow)		0.6	
Permanently protected managed open space (grass, landscaping, etc.)		1.2	
Right-of-way (read TN export from Graph 1)			
Lots (read TN export from Graph 2)			

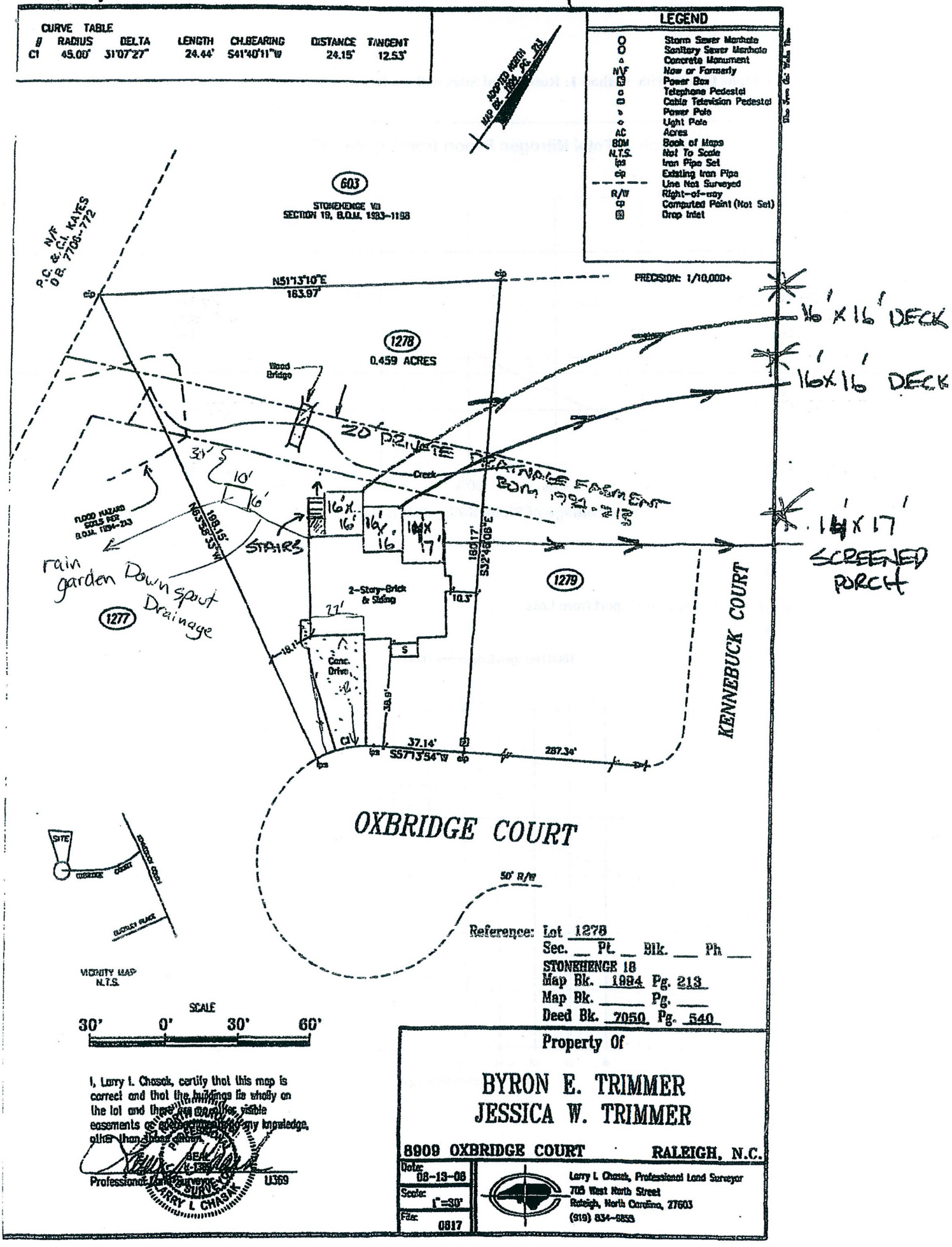
** see Graphs on following page **

Figure 2b: Method 2 for Quantifying TN Export from Residential / Industrial / Commercial Developments when Footprints of all Impervious Surfaces are Shown

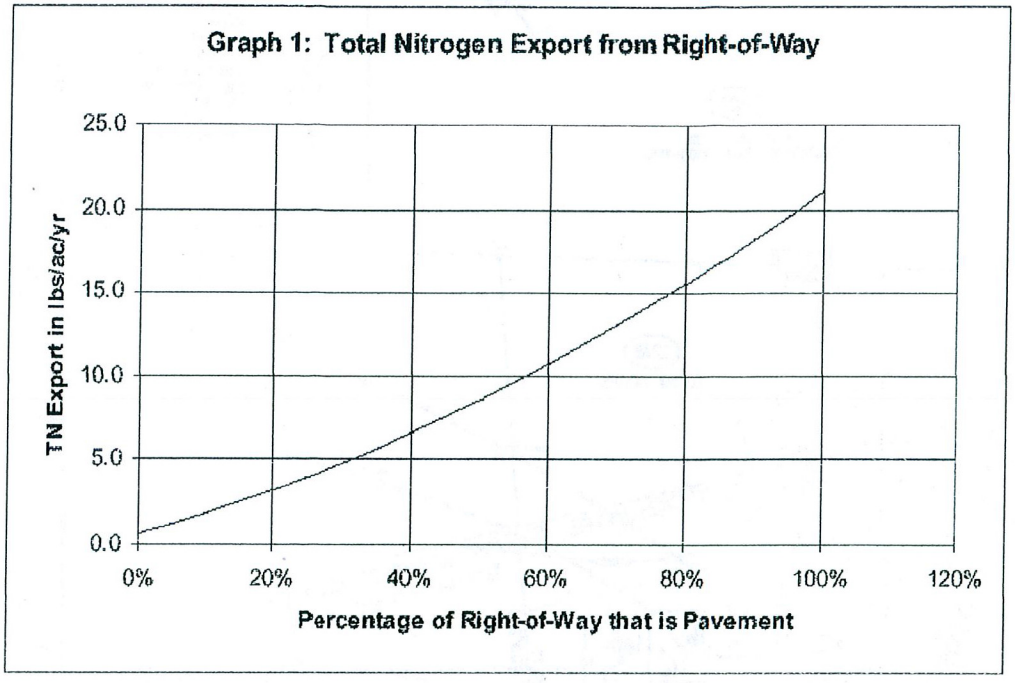
Step 1: Determine area for each type of land use and enter in Column (2).
Step 2: Total the areas for each type of land use and enter at the bottom of Column (2).
Step 3: Multiply the areas in Column (2) by the TN export coefficients in Column (3) and enter in Column (4).
Step 4: Total the TN exports for each type of land use and enter at the bottom of Column (4).
Step 5: Determine the export coefficient for site by dividing the total TN export from uses at the bottom of Column (4) by the total area at the bottom of Column (2).

(1) Type of Land Cover	(2) Area (acres)	(3) TN export coefficient (lbs/ac/yr)	(4) TN export from use (lbs//yr)
Permanently protected undisturbed open space (forest, unmown meadow)	0	0.6	0
Permanently protected managed open space (grass, landscaping, etc.)	0.385	1.2	0.462
Impervious surfaces (roads, parking lots, driveways, roofs, paved storage areas, etc.)	0.075	21.2	1.59
TOTAL	0.46	-	2.052

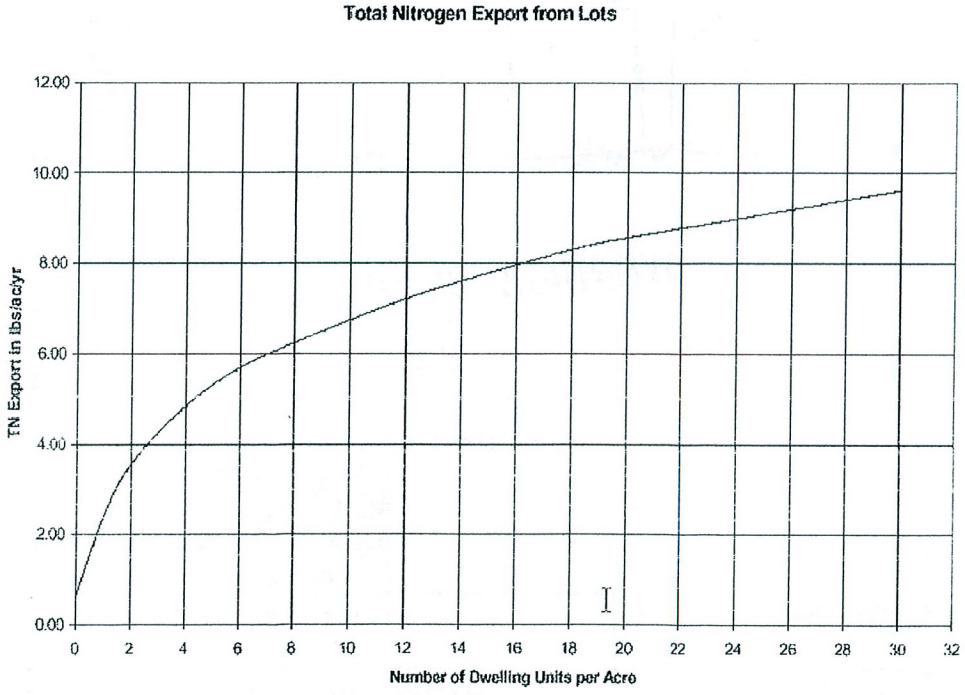
* PROPOSED SCREENED PORCH & DECKS.



Graphs for use with Method 1: Residential Sites with no known building footprints.



Graph 2: Total Nitrogen Export from Lots



Revised Stormwater BMP description for Trimmer Screened Porch and Deck Addition at 8909 Oxbridge Ct.

Revised 6/24/2013

At the suggestion of members of the DWQ and in attempting to maintain the spirit of the Riparian Buffer Protection rules, I am suggestion the following changes to the Design and Stormwater BMP for this project:

1) Reduce the size of the deck to allow for less impact to the Riparian Buffer Zone 1: I am proposing reducing the size of the end section of deck from 16'x16' to 10'x16'. This will reduce total new buffer impact by 136 sqft (from 400sqft noted in the original design to 264sqft in the revised design). This will also bring the deck into alignment with other decks/screened porches in the neighborhood.
    a. 8909 Oxbridge Ct revised Deck/Screened Porch Size: 640sqft
    b. 8900 Oxbridge Ct Deck/Screened Porch Size: 492 sqft
    c. 8904 Oxbridge Ct Deck/Screened Porch Size: 480 sqft
    d. 8905 Oxbridge Ct Deck/Screened Porch Size: 504 sqft
    e. 8908 Oxbridge Ct Deck/Screened Porch Size: 406 sqft
    f. 8912 Oxbridge Ct Deck/Screened Porch Size: 774 sqft
    g. 8913 Oxbridge Ct Deck/Screened Porch Size: 552 sqft
    h. 3429 Kennebuck Ct Deck/Screened Porch Size: 242 sqft
    i. 8917 Oxbridge Ct Deck/Screened Porch Size: 646 sqft
2) In place of the Infiltration trench, install a rain garden in the SW corner of the yard: At the recommendation of DWQ's Stormwater Engineer, I am suggesting that I replace the infiltration trench with a rain garden. By placing the garden in the SW corner of the lot (outside Zone 1), I will be able to divert an existing direct stormwater discharge for approximately 900sqft of roof into the rain garden. This is triple the total proposed impact to Zone 1. The rain garden will be

6'x10'x6' for a total treatment capacity of 1200sqft. I have attached the updated BMP documentation.

3) I have secured Buffer Mitigation credits for the proposed 792sqft (264*3) of Modified Zone 1 impact from the XXXXX Mitigation Credit Bank. The letter indicating that they will be holding the credits for me is attached.

Burdette, Jennifer a

From: Byron Trimmer [btrimmer1@yahoo.com]
Sent: Thursday, August 08, 2013 4:32 PM
To: Burdette, Jennifer a
Subject: Re: Buffer Variance
Attachments: House Existing 4.pdf; Map with New Deck and Existig Deck Drawn to scale.pdf; Trimmer_Reservation Letter.pdf

Jennifer,

Here are the diagrams and buffer credit letter. I'll look at the other doc tonight, but I thought the variance acceptance was the declaration, as there is a statement in there that says the approval is contingent on the buffer and all mitigations becoming permenant.

Thanks and let me know if there's anything else I need to send.

Byron

From: "Burdette, Jennifer a" <Jennifer.Burdette@ncdenr.gov>
To: Byron Trimmer <btrimmer1@yahoo.com>
Sent: Thursday, August 8, 2013 11:00 AM
Subject: RE: Buffer Variance

Byron,

You're welcome. Not all of the stair area would be restored so, the 5.75 depth should be reduced to account for the portion that will be covered by the new deck. Please be sure to include the zones of the riparian buffer on the lot diagram.

One other requirement is to place the rain garden with a drainage easement that would extend from the cul-de-sac and to record a protective covenant to make sure the stormwater bmp and remaining riparian buffer are protected from future changes. Below is a link to a Declaration of Compliance of Stream and Buffer Regulations that was recently approved by the EMC (See the links at the bottom of Item 1). We can use this a model and tweak it to match the circumstances with your lot. The EMC will want to see a draft version of this document. These last details need to be finalized as soon as possible as our deadline for providing information to the EMC is 8/15/13 in order to make it on next month's agenda. In fact, I really need the updated lot diagram and deck plan tomorrow if at all possible.

http://portal.ncdenr.org/web/emc/july-10-wqc-agenda

Thanks,
Jennifer

Jennifer A. Burdette
Environmental Senior Specialist
Wetlands, Buffers, Streams - Compliance and Permitting Unit
(WeBSCaPe Unit)

Wetlands Branch
NCDENR - Division of Water Resources - Water Quality Programs
1650 Mail Service Center
Raleigh, NC 27699-1650
(919) 807-6364 phone
(919) 807-6494 fax

From: Byron Trimmer [mailto:btrimmer1@yahoo.com]
Sent: Wednesday, August 07, 2013 3:39 PM
To: Burdette, Jennifer a
Subject: Re: Buffer Variance

Hi Jennifer,

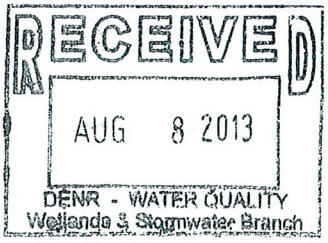
Thanks for the update. By my calculations, the reclaimed area is 49 square feet (5.5ft x 5.75ft of stairs and 5.5ft x 3.167 ft of pavers). I probably would have planted some plants/shrubs there anyway, so I'm happy to add that to the plan. From our discussion on Monday, I owed you and updated lot diagram with deck to scale and an updated diagram showing stairs and desk and an updated letter showing increased buffer mitigation credits. Was there anything else I needed to send?

Thanks,

Byron

On Aug 7, 2013, at 1:56 PM, "Burdette, Jennifer a" <Jennifer.Burdette@ncdenr.gov> wrote:

> Byron,
>
> I checked and found that you can use buffer restoration for the area of the stairs and pavers that will be removed if you plant native shrubs/bushes at a rate of 320 plants per acre. So, if the area is 30 sq ft then only one shrub would be required. You would then need 30 sq ft less compensatory buffer mitigation. Please see the Buffer Restoration Guidance document under Other Helpful Links at the following web page for native species and other helpful information.
>
> http://portal.ncdenr.org/web/wq/swp/ws/401/riparianbuffers
>
> Thanks,
> Jennifer
>
> Jennifer A. Burdette
> Environmental Senior Specialist
> Wetlands, Buffers, Streams - Compliance and Permitting Unit
> (WeBSCaPe Unit)
>
> Wetlands Branch
> NCDENR - Division of Water Resources - Water Quality Programs
> 1650 Mail Service Center
> Raleigh, NC 27699-1650
> (919) 807-6364 phone
> (919) 807-6494 fax



August 7, 2013

Byron Trimmer
8909 Oxbridge Ct.
Raleigh, NC 27163

Subject: Riparian Buffer Credit Reservation Letter

Dear Mr. Trimmer:

Restoration Systems has reserved +/-1150 sqft of riparian buffer offset credits at a price of $.90/sqft. Making the total $1,035.00 from its Lane Island Bank Parcel, DWQ #08-0510 v3 to meet the requirements associated with permitting the project located in HUC 03020201 of the Neuse River Basin. These credits are reserved for a period of 60 days from the date of this letter with the option to renew the reservation upon notification of continued need. If you have any questions concerning this transaction please contact me at 919.334.9123.

Sincerely,

Tiffani Bylow
Restoration Systems, LLC

1101 Haynes St., Suite 211 • Raleigh, NC 27604 • www.restorationsystems.com • Ph 919.755.9490 • Fx 919.755.9492

All Space Calculations for 8909 Oxbridge Court Property:

Total New Deck Square Footage:

- Piece 1: 17'10" x 14' = 249 sqft
- Piece 2: 16' x 16' = 256 sqft
- Piece 3: 10' x 16' = 160 sqft
- Landing: 3' x 3' = 9 sqft
- Stairs: 3' x 5' = 15 sqft
- Total size: 689 sqft

Total Existing Deck Square Footage:

- Piece 1: 11'10" x 16'6" = 195.25 sqft
- Piece 2: 16'1" x 7' = 112.58 sqft
- Stairs: 5'9" x 8' = 46 sqft
- Pavers: 3'2" x 8" = 25.33 sqft
- Total Existing Deck: 379 sqft

Total Space Outside Existing Footprint:

- Piece 1 (right side, long and thin): 1'4" x 14' = 18.67 sqft
- Piece 2 (right side, between stairs and side): 11' x 2'2" = 23.83 sqft
- Piece 3 (Center section): 13'7" x 9' = 122.25 sqft
- Piece 4 (left side): 16' x 10' = 160 sqft
- Landing: 3' x 3' = 9 sqft
- Stairs: 3' x 5' = 15 sqft
- Total New Deck Space: 349 sqft

Total Buffer Restoration Area (Pavers and Stairs):

- Stairs: 5'6" x 3'7" = 19.7 sqft
- Pavers: 5'6" x 3'2" = 17.5 sqft
- Total Restoration Area: 37 sqft

Buffer Mitigation Breakdown for 8909 Oxbridge Ct Property

Total New Impact (zone 1): 349 sqft

Total Buffer Restoration (zone1): 37 sqft

Total Zone 1 impact: 313 sqft

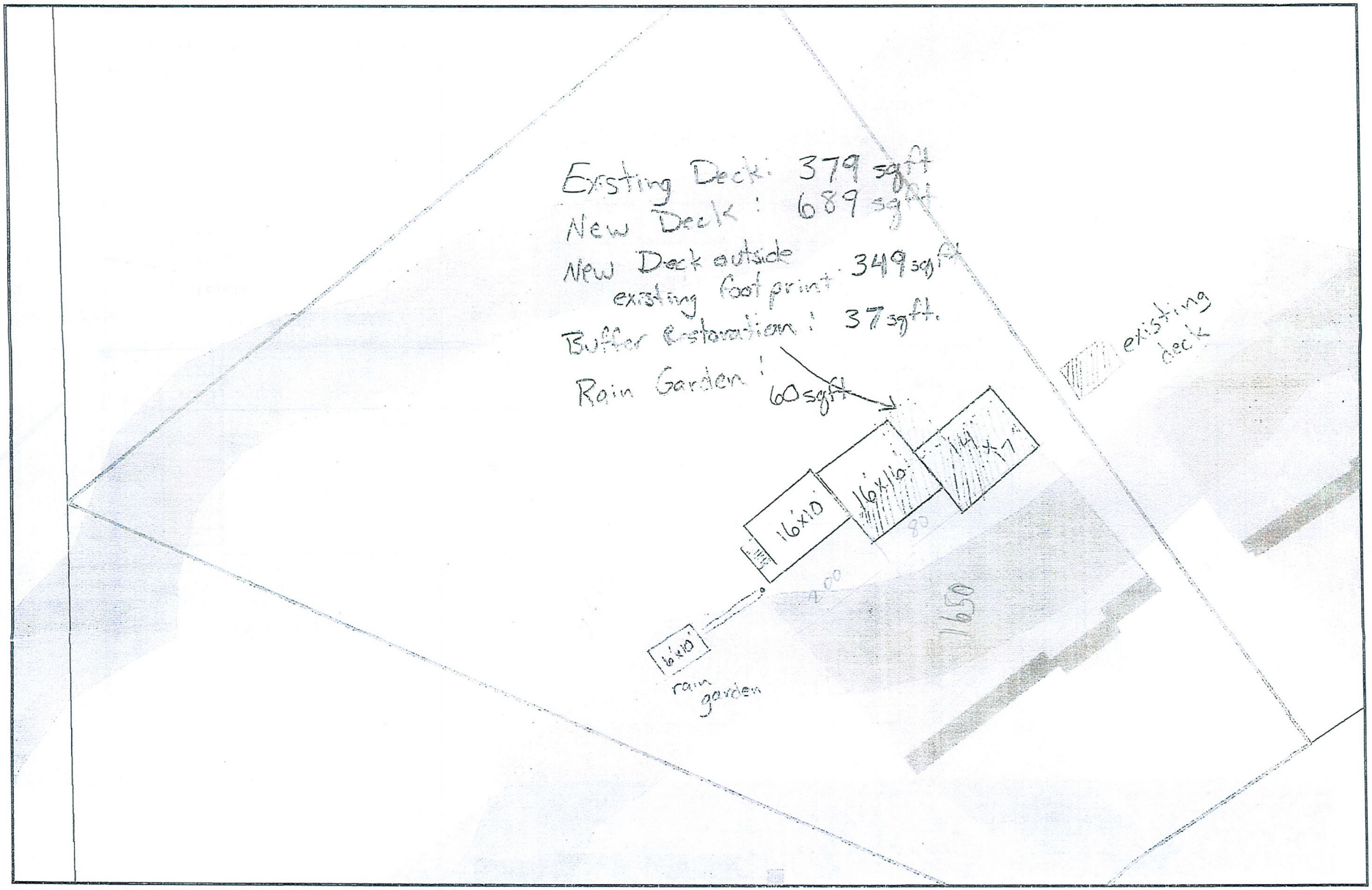
Rain Garden (zone 2): 60 sqft

Total Zone 2 impact: 60 sqft

Total Buffer Mitigation credits required: 313*3 + 60*1.5 = 1029 units

Total Buffer mitigation credits reserved for Byron Trimmer: 1150 units

To restore the buffer in this space, we will be planting two azaleas. These plants do well in shade and we have several flourishing in space around the existing deck. Mulch consistent with the rest of the yard will make up the rest of the ground cover, since the azaleas will grow to cover the area within a few years.

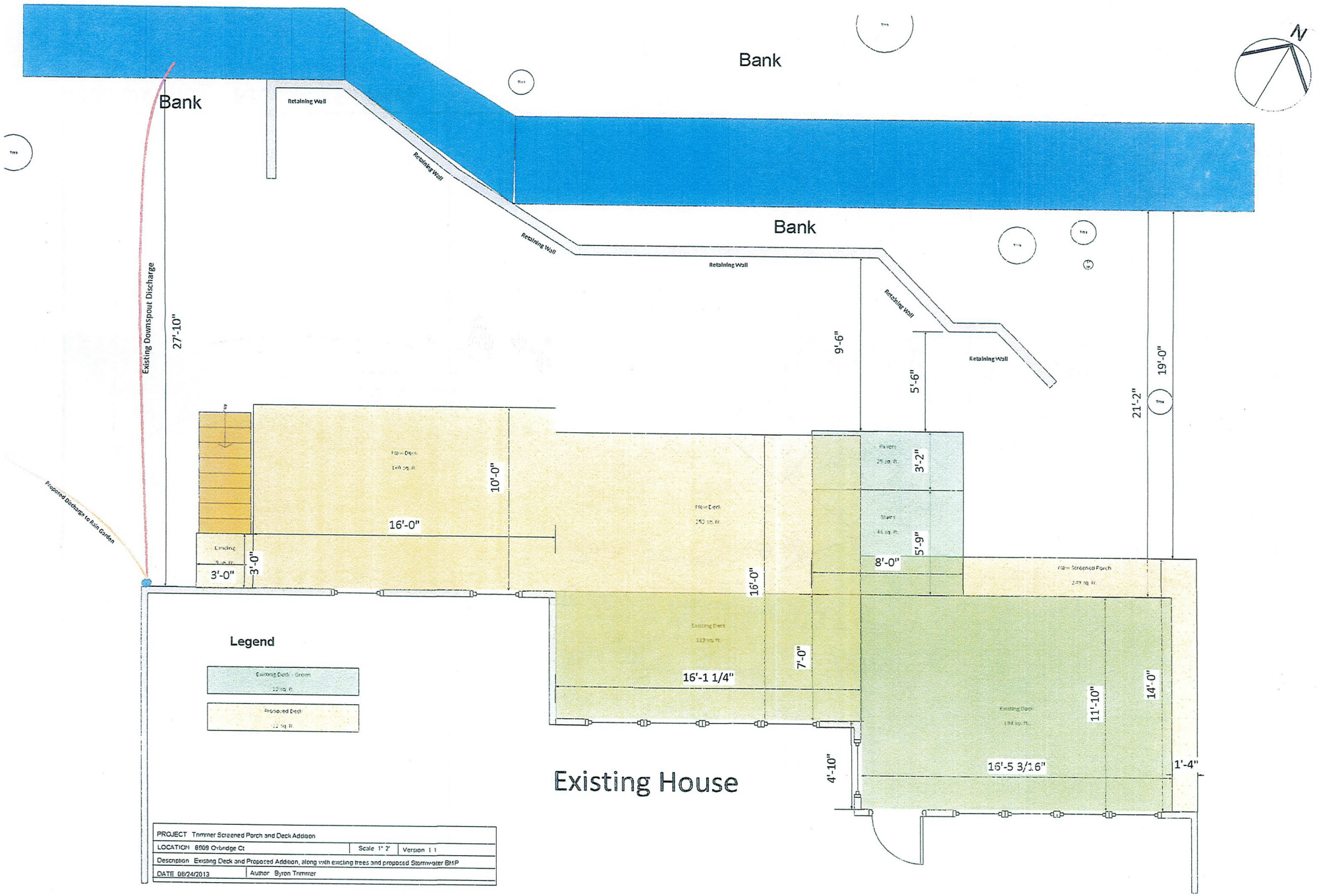


8909 Oxbridge Riparian Buffers

N

0 12.5 25 50 Feet

1 inch = 25 feet



PROJECT	Trimmer Screened Porch and Deck Addition		
LOCATION	8809 Ovbridge Ct	Scale 1" 2'	Version 1 1
Description	Existing Deck and Proposed Addition, along with existing trees and proposed Stormwater BMP		
DATE	08/24/2013	Author	Byron Trimmer