WATERSHED Investments

April 7, 2015

Sue Homewood
DWR - Winston Salem Regional Office
450 W Hanes Mill Rd, Suite 300
Winston Salem, NC 27105

Subject Comments to Rule 15A NCAC 02B 0295 Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers

Dear Ms Homewood

Thank you for your efforts to consolidate and streamline the State's buffer rules With consideration of the subsequent rule modifications I'm providing, I support the passing of this rule as an important part of our state's strategy to improve impaired waters

The following comments are intended to improve rule objectives and clarity

Definitions
Compensatory Buffer Mitigation Bank – This definition applies to mitigation providers and indicates they need a mitigation banking instrument This Item is a sound requirement and should apply to the North Carolina Division of Mitigation Services, the predominant provider of mitigation credits in the State and one that may implement projects through its design-bid-build program No such instrument has been developed but should be required explicitly in the requirements of this rule

Restoration/Enhancements Site – The Division's current approach to defining restoration and enhancement is more objective than the proposed definitions (e g , stem counts of trees with a dbh of 5 inches) The proposed definition allows for subjectivity which raises uncertainty and may result in inconsistent implementation Would canopy cover determination vary based on individual? To me, these definitions provide less clarity and would require further guidance on how they would be implemented I'd suggest trying to make it more objective and quantified

Baseline condition - The rule should provide clarity as to the baseline period from which site conditions will be judged Is it the rule's effective date? The timeframe that the aquatic system was analyzed for rulemaking purposes? A combination of these? Something else? This would allow mitigation providers assessing sites to have improved clarity as to the land use condition that would qualify a site for potential riparian buffer credits

Item 0295(l)(6) Retro-active credits
More conditions are needed for the use of retro-active credits As currently written, there is excessive latitude to use credits funded for different purposes and under different rules that would result in a net environmental loss

The main reason for this position is that buffer impacts were not regulated or mitigated prior to rule existence Without accounting for the loss of streamside forest on pre-buffer rule permits, there is no understanding whether pre-rule projects have accounted for those losses
I suggest that either of the following conditions be satisfied prior to allowing use of retroactive credits

1 A statement within the approved Bank Parcel Development Plan or a letter from the Authority prior to the project's implementation that state's the Authority will allow buffer credits from the site, if any exist, for prospective rules Even with such a letter, I'd advocate that these credits should sunset 10 years after project implementation if such rules are not in place, or

2 Buffer impacts prior to the effective date of the buffer rules should be accounted for and compensated for prior to the granting of retroactive credits The accounting would cover buffer impacts from the strategies baseline period to the effective date of the buffer rules (i e , buffers lost) and environmental projects that restored buffer function (i e , buffers gained) The results of this accounting would justify whether credits should be available for sale If there has been a net gain, then parties with potentially available credits would need to agree upon a framework for dividing any available credits Accounting for those impacts would be complicated, but necessary in order to assure there are no environmental losses from retroactive crediting

Item 0295(l)(2)(c) Alternative Financial Assurances
I encourage maintaining the proposed rule language that allows flexibility to mitigation providers for providing financial assurances This will encourage mitigation providers by lowering barriers and reducing costs while allowing for security for the project s completion The cost of a $100,000 dollar or more financial bond for construction, then another for monitoring can be a significant annual cost, excessive, and a deterrent to mitigation providers In proportion to the project, these costs are increased on smaller projects that only involve low-impact activities such as planting trees These smaller projects will become more prevalent as bigger mitigation sites become fewer in number

Alternative financial assurances should provide the same security and allow mitigation providers to pass along their reduced cost and help promote mitigation Also, these assurances should be proportionate to the cost or size of the project to accommodate the need to implement smaller projects in areas where those may be the only project sites available

Please take the above comments into consideration as you proceed through the remainder of the rulemaking process

Thank you,
Mike Herrmann

NCDENR

North Carolina Department of Environment and Natural Resources

Pat McCrory Governor	Michael Ellison, Director Division of Mitigation Services	Donald R van der Vaart Secretary

TO	DIVISION OF WATER RESOURCES
FROM	MICHAEL ELLISON
SUBJECT	COMMENTS ON 15A NCAC 02B 0 295, MITIGATION PROGRAM REQUIREMENTS FOR PROTECTION AND MAINTENANCE OF RIPARIAN BUFFERS
DATE	4/16/2015
CC	DONALD R VAN DER VAART, SECRETARY TOM REEDER, ASSISTANT SECRETARY FOR THE ENVIRONMENT

The Division of Mitigation Services (DMS) appreciates the opportunity to comment on the proposed permanent rule 15A NCAC 02B 0295, Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers

DMS supports the consolidation and increased flexibility the new rule offers As a partner agency with DWR in the protection and improvement of our state's water quality and a valuable source of data and experience in buffer mitigation DMS is a distinctive source of expertise related to buffer, stream, wetland, and nutrient offset mitigation project implementation

It is DMS's view that, as proposed, 15A NCAC 02B 0295 provides modest progress, but fails to optimize clarification and consolidation on the riparian buffer mitigation rules This Rule is an opportunity to establish practicable expectations for riparian buffer mitigation that protects water quality through the implementation of well-planned, cost effective, and successful mitigation projects Unfortunately, some aspects of the Rule remain unnecessarily complicated, difficult to interpret, costly, and impractical to implement These short-comings, however, are easily remedied and it is our hope that they will be as part of the final adopted rule

The proposed Rule departs from the temporary rule in a number of ways Most significant is the use of the term 'planted' to replace "established" in (n)(2)(B) Likewise, the requirement in (n)(4)(A) to track the survival of planted stems is unnecessary Both of these deviations from the temporary rule represent burdensome and costly activities that are not meaningful for measuring progress toward success of a mitigation site

DMS staff have reviewed the rule offer the following comments for your consideration "Version 3' as presented on the DWR Website was used for developing these comments The rule paragraphs, subparagraphs and parts (in parentheses) are included as reference

(a) PURPOSE - DMS supports this paragraph

(b) DEFINITIONS

(1)-(3) - DMS supports the definitions of 1, 2, and 3 as proposed

(4) Enhancement Site –The rule states that an enhancement site is characterized by conditions between that of a restoration site and a preservation site 'such that the establishment of woody stems will maximize nutrient removal and other buffer functions " DMS suggests the word maximize be replaced with "*increased*" or "*maximized to the extent practicable*' as maximization is subjective and may be impossible in many circumstances

(5) "Hydrologic Area" –DMS recommends removing web links from the rule or at least making the link general (e g to DWR website) Specific links change frequently and may trigger the need to modify the rule frequently

(6) "Locational Ratio" –DMS believes all of the credit and mitigation ratios in the Rule can be more succinctly presented and that locational ratios should not be used Locational credit ratios are used to adjust the amount of credits necessary to satisfy a permit based on the location of the mitigation relative to the location of the impact

(7) – (8) DMS supports 7 and 8 as proposed

(9) "Non-wasting endowment" - DMS recommends the definition be modified to read '*a fund that provides adequate dedicated financial surety to cover the cost of providing perpetual land management or maintenance of lands or structures*

(11) "Preservation Site" - The Omernik Level II ecoregion component of this definition is unnecessary and so broad as to be not meaningful for any site-specific application DMS recommends that the Omernik reference be removed DMS recommends the following definition "'Preservation Site" means riparian zone sites that are characterized by a forested condition " Efforts to overly define "forest' often result in conflicting outcomes By being more general, the rule will provide the flexibility to implement the rule effectively

(12) "Restoration Site" DMS supports 12 as proposed

(13) "Riparian buffer mitigation unit" – The riparian buffer mitigation unit is defined incorrectly and the terminology should be redefined One square foot of impact in Zone 1 requires three credits of mitigation due to zonal mitigation ratios Zone 2 impacts usually require a 1 5 zonal mitigation ratio DMS recommends replacing this throughout with the following definition

"Riparian Buffer mitigation credit – the unit of measurement for compensatory mitigation shall be the "credit " Authorizations requiring compensatory mitigation shall specify the amount of mitigation required in credits Riparian buffer mitigation projects, as approved by the Department, shall also be quantified in credits and shall be fungible to satisfy all authorized riparian buffer compensatory mitigation requirements

(14-16) DMS supports 14, 15, and 16

(c) APPLICATION REQUIREMENTS, MITIGATION SITE REQUIREMENTS AND MITIGATION OPTIONS DMS agrees with the changes proposed to (c)

(d) AREA OF IMPACT. DMS agrees with the changes proposed to (d)

(e) **AREA OF MITIGATION REQUIRED ON ZONAL MITIGATION RATIOS** A more appropriate location for the ratios in this paragraph would be in each Buffer Rule for each basin or watershed management area Inclusion of these in this Rule only adds to the Rule's complexity These ratios apply to permittees not mitigation providers

(f) **AREA OF MITIGATION REQUIRED ON LOCATIONAL MITIGATION RATIOS** For mitigation banks and the DMS in-lieu fee program, application of the locational mitigation ratios will occur at the time of debit DMS staff has had some informal conversations with DWR staff regarding this issue The rule, as currently configured allows for the locational ratio to be a credit adjustment ratio applied at the time the mitigation requirement is fulfilled DMS is opposed to applying locational ratios at the time of permit because it could unnecessarily penalize the applicant and raise the cost of mitigation

(g) **GEOGRAPHIC RESTRICTIONS ON LOCATION OF MITIGATION** The original rules for the location of riparian buffer mitigation stated that the mitigation should be the same distance from the estuary as the proposed impact or closer to the estuary than the impact and as close to the location of the impact as feasible Due to scale, timing, and in some cases, limited availability, a portion of the historical riparian buffer mitigation requirements have been located downstream of the watershed of impact The proposed rule makes adjacent watershed mitigation allowable, but is silent on whether or not mitigation can be provided even closer to the estuary or more than one watershed away DMS recommends that mitigation should be allowed when it is closer to the estuary than the impact, adjacency notwithstanding The use of Omernik within this paragraph should be deleted for the same reasons as detailed in (11) above

Reference (E) is not applicable to this section of the rule and should be removed

(h) **MITIGATION OPTIONS FOR APPLICANTS** DMS proposes this section be rewritten for clarity There are three primary mitigation options for applicants applicant provided mitigation, payment into the DMS Riparian Buffer Restoration Fund, and purchasing mitigation credits from a mitigation bank Donation of property is a form of applicant-provided mitigation and should be merged with (1) Items (4) and (5) should be moved to the section of the rule that describe the types of riparian buffer mitigation that are allowable– particularly since all of the items in 4 and 5 are available to all three types of providers

DMS strongly opposes the language that requires utilizing riparian buffer restoration or enhancement to offset an area at least equal to the footprint of the buffer impact This simple requirement more than doubles the complexity of mitigation accounting under the proposed rules for all types of mitigation providers This proposed rule creates two classes of requirements, two classes of mitigation credits, and two sets of mitigation accounting ledgers with tedious and unneeded complexity Authorizations will also need more sophistication in

order to comply with the rule, particularly when there are multiple providers associated with an authorized impact, as each will need to know the class and amount of impacts associated with the required mitigation Mitigation projects will also be more complex and require more sophisticated and therefore expensive surveying techniques to measure the different types of mitigation credits DMS believes that simplifying the Rule such that mitigation credits are fungible will lead to lower costs and more effective implementation Limits can be applied on a mitigation project basis to reduce the concerns that one type of mitigation might be over-applied or applied exclusively (e g preservation) This type of limitation is easy to implement and will result in the same environmental outcome, but at a much lower implementation cost

The language written demonstration of practicality" is unclear, undefined and should be removed An applicant s options are defined in § 143-214 20 DMS recommends the following ' The applicant may propose any of the following types of mitigation pursuant to § 143-214 20 '

Simplifying the Rule will also lead to better understanding, compliance, and acceptance of the options therein

(i) **PURCHASE OF BUFFER MITIGATION CREDITS FROM A PRIVATE OR PUBLIC COMPENSATORY BUFFER MITIGATION BANK** DMS has no comment on the proposed changes in this paragraph

(j) **PAYMENT TO THE RIPARIAN BUFFER RESTORATION FUND** References to EEP throughout the Rule should be changed to Division of Mitigation Services and references to 0269 should be changed to 15A NCAC 02R 0601 15A NCAC 02B 0269 was approved to be transferred to Subchapter 02R by the Rules Review Commission on April 16, 2015 with an effective date of May 1, 2015

(k) **DONATION OF PROPERTY** DMS supports the proposed change to (k) DMS is in the periodic rule review process for the 02R rules that govern donations in-lieu of payment (the subject of this reference) However, DMS is also not opposed to striking this reference entirely from this rule as it will be covered in the original rule for donations in-lieu of payment In the past, donation of property as a form of applicant-provided mitigation has often been confused with "donation of land in-lieu of payments ' Care must be taken to avoid that same confusion in the current rule Any semblance of donation of land as a form of payment to DMS should be stricken from this rule

(l) **MITIGATION SITE REQUIREMENTS FOR APPLICANTS AND MITIGATION PROVIDERS** DMS generally supports the modifications to paragraph (l), however, there are some aspects that have the potential for concern depending on how the rules are interpreted

Under (1), the location of the buffer mitigation site should only comply with (f) and (g) Reference to (e) refers to DWR zonal mitigation ratios applied to applicants and should not be listed here

Under (2)(B), the rule states that the endowment shall provide for "perpetual land management and maintenance " DMS believes that the purpose of the endowment is to ensure that the easement restrictions are monitored and in the event that they are not, any violations are turned over to the proper authorities for enforcement The current rule language implies something far more significant and costly and therefore should be eliminated Management and maintenance should only be an element of structural mitigation projects as allowed under the rule Nonstructural projects are designed to be self-sustaining and do not require perpetual land management and maintenance

(2)(C) The rule requires that the assurance be payable to the Authority Insurance need not be payable to Authority and in most cases should probably not be payable to the Authority In cases such as performance bonds, the performance bond company retains the ability to implement the corrective action or to pay the bond Requiring payment to the Authority will increase the cost of the insurance DMS believes the rule should allow the assurance dollars be allowed to go to any qualified entity that can complete the work Since Authorities have rarely, if ever, completed such work, DMS questions whether the Authorities should be allowed to receive such funds under the rules

(4) DMS supports (4) and suggests that other utilities be added as they offer essentially the same conditions as sewer easements This can be accomplished by replacing the word sewer with utility Any utility easement maintained in vegetative cover will achieve buffer functions DMS also suggests that if the easement in zone 2 is suitable for credit, the easement in zone 1 should also be suitable for mitigation credit

(5) DMS supports the proposed changes to (5), however, applicants do not bank or accumulate credits and therefore do not have or need credit ledgers

(6) DMS supports (6) The rule is unclear regarding what is meant when it states projects are eligible for use as buffer mitigation sites for a period of 10 years Does this mean that if a request is not made within 10 years of the rule, no buffer mitigation credit can be pursued on these preexisting projects? DMS supports this interpretation of the rule

(6) The number (6) is used twice under (l) and should be changed to (7) DMS recommends adding "except as provided in this rule to the end of 7(C)

(m) RIPARIAN BUFFER MITIGATION UNITS DMS recommends the word 'unit" be replaced with the word credit " Paragraph (m) would more accurately be labeled Riparian

Buffer Mitigation Credit Ratios " Credit ratios are applied to convert the physical quantities of a mitigation activity (e g restoration) into mitigation credits DMS recommends that all of the separate credit ratios be combined into one table to reduce confusion As it currently stands, one cannot determine the actual credits until all of the separate ratios are applied For example, this table must be combined with the buffer width table in section (n)

(n) RIPARIAN BUFFER RESTORATION SITE OR ENHANCEMENT SITE Currently 15A NCAC 02B 0295 has 44 combinations of creditable activities not including the stormwater options which are described in paragraph (o)(8) This creates tremendous complexity and calls into question whether or not both regulators and providers will be able to implement the rule consistently and accurately When the credit ratios from (m) and (n) are combined the following actual credit ratios can be calculated as follows

	Distance From Top of Bank		
	20-29	30-100	101-200
Restoration Urban Subject	1 33333	1	2
Restoration Non-Urban Subject	0	1	2
Restoration Urban Non-Subject	1 33333	1	2
Restoration Non-Urban Non-Subject	0	1	2
Enhancement Urban Subject	2 66667	2	4
Enhancement Non-Urban Subject	0	2	4
Enhancement Urban Non-Subject	2 66667	2	4
Enhancement Nonurban Non-Subject	0	2	4
Preservation Urban Subject	4	3	6
Preservation Non-Urban Subject	0	10	20
Preservation Urban Non-Subject	4	3	6
Preservation Nonurban Non-Subject	0	5	10
Coastal Headwater Urban	1 33333	1	2
Coastal Headwater Non-Urban	0	1	2
Grazing Livestock Exclusion Urban	2 66667	2	4
Grazing Livestock Exclusion Non-Urban	0	2	4
Ditch Buffer Restoration Urban	0	1	0
Ditch Buffer Restoration Non-Urban	0	1	0
Ditch Buffer Enhancement Urban	0	2	0
Ditch Buffer Enhancement Non-Urban	0	2	0

These credit ratios are further modified by other complicating limitations such as

- **Ditch buffers credits only generated when buffers are at least 30 feet and no more than 50 feet**
- **Area of buffer mitigation beyond 100 feet must be <10% of total area of buffer mitigation**
- **Area of ephemeral channel mitigation must be <25% of total area of buffer mitigation**
- **Area of the watershed draining to a ditch must at least 4x larger than the restored or enhanced area along the ditch**

Although DMS recommends simplifying the Rule throughout, the above complex table can be reduced (without changing the rule) to

Simpler Version	Distance From Top of Bank		
	20-29	30-100	101-200
Restoration Urban	1 33333	1	2
Restoration Non-Urban	0	1	2
Enhancement Urban	2 66667	2	4
Enhancement Nonurban	0	2	4
Preservation Urban (Subject and Non-Subject)	4	3	6
Preservation Nonurban Subject	0	10	20
Preservation Nonurban Non-Subject	0	5	10
Coastal Headwater Urban	1 33333	1	2
Coastal Headwater Nonurban	0	1	2
Grazing Livestock Exclusion Urban	2 66667	2	4
Grazing Livestock Exclusion Non-Urban	0	2	4
Ditch Buffer Restoration	0	1	0
Ditch Buffer Enhancement	0	2	0

The above table provides a representation of what the true credit ratios are as listed in the current proposed rules DMS recommends additional consolidation to provide clarity and effective and consistent implementation

The table in the proposed rule listed under (n) is another set of credit ratios that modifies the credit yield based on the width of the buffer and varies according to whether the buffer is urban or non-urban DMS recommends that the table in (m) be combined with (n) to form one credit ratio table as listed above Furthermore, (m) uses the term rural whereas (n) uses non-urban, DMS recommends that only one of these terms be used in the rule as terms refer to the same condition

(1) Under paragraph (n) (1), the rule states that the area of the buffer mitigation site beyond 100 linear feet from the top of bank shall comprise no more than 10 percent of the total area of buffer mitigation DMS believes that this is overly restrictive, unnecessary, and perhaps deconstructive to the intent of the rule The more efficient method for determining credits is to adjust the credit ratio in table (n) to properly adjust credit yield (after it has been combined with table (m)) to reflect the functional benefit of restoring enhancing or preserving riparian buffers in this zone The table in (l)(1) states that the credit ratio for the 100-200 foot corridor is 50% compared with the 0-100 foot corridor The reduced credit yield is a disincentive to producing credits in the 100-200 foot corridor The 10 percent cap is designed to further limit the production of credit in this zone

(2)(B) DMS strongly opposes the substitution of the word ' established" with "planted' in (2)(B) and would cite this as a substantive change from the existing temporary rule that is in place The mitigation plan should put forth a plan for establishing a forest that is based on sound science and fundamental economics Planting stems is often not the best method to establish or restore an area to a forested condition and can often lead to poorer results Utilizing

the word planted is prescriptive and prevents the evolution and practice of utilizing the most effective ecological science to establish forests This change in wording will also increase the financial burden of the rule on the regulated public without resulting in better environmental outcomes

(3) DMS has no comment

(4) DMS strongly opposes the rule language that requires that annual monitoring reports to show the "*survival* of the trees or tree and shrub species *planted* This represents a significant and potentially costly change from the temporary rule The monitoring reports should demonstrate that the forest is being established Whether the species originated from seeds, stumps, plantings, or other sources or practices is immaterial to the establishment of the riparian buffer which is the objective of both the project and the monitoring program The success criterion is 260 trees per acre- this is a measurement of stocking levels commonly used in forest management Any monitoring required should simply measure progress toward the success criterion Any additional requirements place an unnecessary financial burden on the regulated public As currently worded, mitigation providers must flag each planted stem in the vegetation plots and make an annual determination as to whether that individual plant is surviving This is expensive and unnecessary and provides no meaningful information to inform project success Since the number and type of species planted is known, the number and type of species surviving is also known The provider and the regulator can easily determine if there is any deviation from the desired species composition without identifying and measuring individual plants each year Lastly, while annual monitoring is often utilized because DWR releases mitigation bank credits on an annual cycle, annual monitoring is not necessary to determine success or to decide when adaptive management techniques are needed DMS recommends that the Rule allow for the proposal of alternative monitoring cycles in the mitigation plan

DMS has concerns with the language that if success is not achieved at the end of five years, "additional years of monitoring may be required " For providers to fully understand the ramifications, costs, and risks, this language needs to be more specific

(o) ALTERNATIVE BUFFER MITIGATION OPTIONS The only subparagraphs (mitigation activities) in (o) that mitigation practitioners would reasonably consider to be alternative" are (8) stormwater treatment options and (9) case-by-case options yet to be developed for use as buffer mitigation All of the other mitigation techniques in (1) though (7) are similar to current mitigation techniques and result in fungible credits There is no reason to distinguish these mitigation techniques from other forms of forested riparian buffer mitigation activities DMS strongly recommends consolidating all forms of riparian buffer mitigation practices into a single paragraph of the rule followed by a paragraph with the credit ratios for all of the techniques This would significantly improve clarity To be clear, DMS disagrees with the categorization of (1) through (7) as alternative ' types of mitigation and will only support a Rule that categorizes these techniques as types of riparian buffer mitigation methods

Paragraph (o) states that "Some or all of a buffer mitigation requirement may be met through any of the alternative mitigation options described in this Paragraph This directly conflicts with other portions of the rule that limit how much of these types of mitigation may be applied toward a permit DMS recommends that all forms of riparian buffer mitigation produce fungible credits

(1) **Coastal Headwater Stream Mitigation** DMS supports the inclusion of this form of riparian buffer mitigation However, since most regulatory Coastal Headwater Projects are jurisdictional wetlands, DMS believes that jurisdictional status should not be required for classification as riparian buffer credit

(2) **Buffer Restoration and Enhancement on Non-Subject Streams** DMS supports the inclusion of this form of riparian buffer mitigation The reference to 214-143 25A needs to be corrected

(3) **Preservation of Buffer on Non-subject streams** DMS supports the inclusion of this form of riparian buffer mitigation The reference to 214-143 25A needs to be corrected

(4) **Preservation of Buffers on Subject Streams** DMS supports the inclusion of this form of riparian buffer mitigation

(5) **Enhancement of grazing areas adjacent to streams** DMS supports the inclusion of this form of riparian buffer mitigation

(6) **Mitigation on ephemeral channels** DMS supports the inclusion of this form of riparian buffer mitigation

(7) **Restoration and Enhancement on Ditches** DMS supports the inclusion of this form of riparian buffer mitigation DMS disagrees, however, that the ditch must be "directly connected with and draining towards an intermittent or perennial stream " While it is agreed that the ditch must drain to an intermittent or perennial stream, requiring a direct connection greatly limits the opportunities to remove significant sources of water quality pollution in the Coastal Plain where ditches are often very long A better approach would be to simply reduce the credit ratio for ditches to account for the reduced overbank flow function DMS does not agree with the provision that the watershed draining to the ditch shall be at least four times larger than the restored or enhanced area along the ditch The requirements are already such that only the watershed draining to the ditch can be creditable This additional restriction creates a smaller population of creditable areas that requires additional watershed analysis If the reduced credit ratio is accounted for as described above, the watershed size criterion becomes unnecessary

(8) Stormwater Treatment Options DMS supports the inclusion of this form of riparian buffer mitigation DMS recommends that only this form of mitigation be classified as "alternative ' for the purposes of this Rule since it is the one project type whose implementation, maintenance, and crediting are different from the other forms of riparian buffer mitigation In (F) DMS recommends that ' the designer for the type of BMP installed" be replaced by *a Professional Engineer*" to provide the necessary certification

(9) CASE-BY-CASE APPROVAL FOR OTHER ALTERNATIVE BUFFER MITIGATION OPTIONS DMS supports the flexibility offered by allowing new and improved buffer mitigation options DMS recommends that the word Alternative" be dropped from (9) and recommends that the authority to approve new forms of riparian buffer mitigation reside with the Director of DWR Requiring EMC approval and a 30-day public comment period will add a significant amount of time to the process of approving new techniques DMS recommends that if the EMC component is retained, that the rule specify that the EMC approval be relegated to other forms of buffer mitigation that are not covered in the rule and that their approval is not limited to the individual request (i e that the EMC approval is an approval of the practice proposed) Another recommendation is to give the DWR Director the ability to approve an exception to requirements specific in the rule on a case-by-case basis

Homewood, Sue

From Bolick, Shea <Shea Bolick@durhamnc gov>
Sent Friday, April 17, 2015 12 04 PM
To Homewood, Sue
Subject Public Comments Riparian Buffer Mitigation
Attachments Proposed Revisions to Buffer Rules_15 NCAC 02B 0295_jb_sb pdf

Ms Homewood,

Please find comments concerning 15A NCAC 02B 0295 Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers The comments can be found in the tracked document attached They have also been repeated below in black font for convenience Should you have any questions concerning these comments, please advise

"Authority", which has been defined to include delegated local governments, has been substituted for "Division" in most cases However, it is interesting which mitigation options can be approved by the "Authority" and which can be approved only by the Division

The 5 mitigation options for applicants are
(1) Applicant-provided riparian buffer restoration site or enhancement site - all of the provisions relating to this option refer to approval by the Authority, so the local government would be the authority for buffers under their jurisdiction
(2) Payment to a compensatory buffer mitigation bank Under the definition of Compensatory Buffer Mitigation Bank, it's made clear that the Division is the approving authority I'm fine with this
(3) Donation of real property - this is subject to approval by the Secretary, or the Secretary's designee Doesn't seem like there's much room for the local government authority to have a say in this Since there are delegated authorities, we just want to verify that was the intent
(4) Alternative buffer mitigation options - the only authority given any say in approving the various alternatives is the Division Since Durham is a delegated authority in the Jordan Basin, why couldn't the local government have authority for this This seems to go along with the intent of S L 2014-120 Sec 29
(5) Other buffer mitigation options approved by the EMC as a condition of a variance approval

15A NCAC 02B 0295 (h) - This language seems to be strengthened so as to require the applicant to perform a minimum amount of buffer restoration or enhancement if that option is chosen This may not be practical on small existing lots of record Generally this would cause one to go through a variance procedure just because they have a small lot This would force them to do just that, which is not desirable for any of the parties involved

15A NCAC 02B 0295 (l)(3) - The punctuation leaves something to be desired It seems that these sentences would be better rewritten as "If the applicant or mitigation provider determines that elimination of existing stormwater conveyances is not feasible, then they shall include, for Authority review and approval, a justification and shall provide a delineation of the watershed draining to the stormwater outfall and the percentage of the total drainage treated by the riparian buffer with the mitigation plan specified in Paragraph (n) or Paragraph (o) During mitigation plan review and approval, the Authority may reduce mitigation credit proportionally "

15A NCAC 02B 0295 (o)(2) - What if the buffers are in the Jordan Lake Basin? Guess the State would be the buffer determination authority in cases such as this For delegated entities, is this what the State intended?

15A NCAC 02B 0295 (o)(4) - Although the provisions of this "Sewer easement within the buffer" paragraph have been moved elsewhere, this 30-foot requirement has been eliminated Was a width purposely omitted?

Lastly, we experienced a situation last year in which someone was wanting to utilize payment to a compensatory buffer mitigation bank for local buffer regulations This was not allowed since these were not State buffers and the City was not the delegated authority in the Neuse river basin The City would prefer a mechanism be included in the regulations which would allow the use of State approved compensatory buffer mitigation banks for more stringent local requirements as I am unaware of authority to approve our own compensatory buffer mitigation bank Since I can definitely be educated on this subject, should you have any additional insight into this specific item, please advise

Thanks for further consideration of these comments Should you have any questions, feel free to let me know

Regards,

Shea

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15A NCAC 02B 0295 MITIGATION PROGRAM REQUIREMENTS FOR PROTECTION AND MAINTENANCE OF RIPARIAN BUFFERS

(a) PURPOSE The purpose of this Rule is to set forth the mitigation requirements that apply to applicants listed in ~~Subparagraphs (1) and (2) of this~~ Paragraph (c) of this Rule and to set forth requirements for buffer mitigation providers ~~Buffer mitigation is required when one of the following applies~~

~~(1) The applicant has received an authorization certificate for impacts that cannot be avoided or practicably minimized pursuant to Rules 0233, 0243, 0250, 0259, 0267 or 0607 of this Subchapter, or~~

~~(2) The applicant has received a variance pursuant to Rules 0233, 0243, 0250, 0259, 0267 or 0607 of this Subchapter and is required to perform mitigation as a condition of a variance approval~~

(b) DEFINITIONS For the purpose of this Rule, these terms shall be defined as follows

(1) "Authority" means either the Division or a local government that has been delegated or designated pursuant to Rules 0233, 0243, 0250, 0259, 0267 or 0607 of this Subchapter to implement the riparian buffer program

(2) "Compensatory Buffer Mitigation Bank" means a buffer mitigation site created by a mitigation provider and approved for mitigation credit by the Division through execution of a mitigation banking instrument

~~(2)~~(3) "Division" means the Division of Water Resources of the North Carolina Department of Environment and Natural Resources

~~(3)~~(4) "Enhancement Site" means a riparian zone site characterized by conditions between that of a restoration site and a preservation site such that the establishment of woody stems (i e , tree or shrub species) will maximize nutrient removal and other buffer functions

~~(4)~~(5) "Hydrologic Area" means the Watershed Boundary Dataset (WBD), located at no cost at http //data nconemap com/geoportal/catalog/search/resource/details page?uuid={16A42F31-6DC7-4EC3-88A9-03E6B7D55653} using the eight-digit Hydrologic Unit Code (HUC) prepared by the United States Geological Survey

~~(5)~~(6) "Locational Ratio" means the mitigation ratio applied to the mitigation requirements based on the location of the mitigation site relative to the impact site as set forth in Paragraph (f)

(7) "Mitigation banking instrument" means the legal document for the establishment, operation, and use of a mitigation bank

~~(6)~~(8) "Monitoring period" means the length of time specified in the approved mitigation plan during which monitoring of vegetation success and other anticipated benefits to the adjacent water as listed in the ~~authorization certification~~mitigation approval is done

~~(7)~~(9) "Non-wasting endowment" means a fund that generates enough interest to cover the cost of the long term monitoring and maintenance

~~(8)~~(10) "Outer Coastal Plain" means the portion of the state shown as the Middle Atlantic Coastal Plain (63) on Griffith, et al (2002) "Ecoregions of North and South Carolina " Reston, VA, United States Geological Survey available at no cost at http //www epa gov/wed/pages/ecoregions/ncsc_eco htm

~~(9)~~(11) "Preservation Site" means riparian zone sites that are characterized by a natural forest consisting of the forest strata and diversity of species appropriate for the Omernik Level III ecoregion available at no cost at http //www epa gov/wed/pages/ecoregions/level_iii_iv htm

~~(10)~~(12) "Restoration Site" means riparian zone sites that are characterized by an absence of trees and by a lack of dense growth of smaller woody stems (i e , shrubs or saplings) or sites that are characterized by scattered individual trees such that the tree canopy is less than 25 percent of the cover and by a lack of dense growth of smaller woody stems (i e , shrubs or saplings)

~~(11)~~(13) "Riparian buffer mitigation unit" means a unit representing a credit of riparian buffer mitigation that offsets one square foot of riparian buffer impact

~~(12)~~(14) "Riparian wetland" means a wetland that is found in one or more of the following landscape positions

(A) in a geomorphic floodplain,

(B) in a natural topographic crenulation,

(C) contiguous with an open water equal to or greater than 20 acres in size, or

(D) subject to tidal flow regimes excluding salt/brackish marsh wetlands

~~(13)~~(15) "Urban" means an area that is designated as an urbanized area under the most recent federal decennial census available at no cost at http //www census gov/ or within the corporate limits of a municipality

~~(14)~~(16) "Zonal Ratio" means the mitigation ratio applied to impact amounts in the respective zones of the riparian buffer as set forth in Paragraph (e) of this Rule

(c) ~~APPLICATION~~ MITIGATION REQUIREMENTS~~, MITIGATION SITE REQUIREMENTS AND MITIGATION OPTIONS~~ Buffer mitigation shall be required when one of the following applies

(1) The applicant has received an authorization certificate for impacts pursuant to Rules 0233, 0243, 0250, 0259, 0267 or 0607 of this Subchapter and is required to perform mitigation as a condition of the authorization certificate, or

(2) The applicant has received a variance pursuant to Rules 0233, 0243, 0250, 0259, 0267 or 0607 of this Subchapter and is required to perform mitigation as a condition of a variance approval

Any applicant ~~who seeks approval to impact riparian buffers~~ covered under this ~~Rule who is required by~~ Paragraph ~~(a)~~ shall submit to the ~~Division~~ Authority a written mitigation proposal that calculates the required area of mitigation and describes the area and location of each type of proposed mitigation The applicant shall not impact buffers until the ~~Division~~ Authority approves the mitigation plan- and issues written ~~authorization~~approval ~~For all options except payment of a fee under Paragraphs (j) or (k) of this Rule, the proposal shall include a commitment to provide~~

~~(1) a perpetual conservation easement or similar legal protection mechanism to ensure perpetual stewardship that protects the mitigation site's nutrient removal and other water quality functions,~~

~~(2) a commitment to provide a non-wasting endowment or other financial mechanism for perpetual stewardship and protection, and~~

~~(3) a commitment to provide a completion bond that is payable to the Division sufficient to ensure that land or easement purchase, construction, monitoring, and maintenance are completed~~

~~For each mitigation site, the Division shall identify functional criteria to measure the anticipated benefits of the mitigation to the adjacent water The Division shall issue a mitigation determination that specifies the area, type, and location of mitigation and the water quality benefits to be provided by the mitigation site The mitigation determination issued according to this Rule shall be included as an attachment to the authorization certification The applicant may propose any of the following types of mitigation and shall provide a written demonstration of practicality that takes into account the relative cost and availability of potential options, as well as information addressing all requirements associated with the option proposed~~

~~(1) Applicant provided riparian buffer restoration or enhancement pursuant to Paragraph (i) of this Rule,~~

~~(2) Payment of a compensatory mitigation fee to a mitigation bank if buffer credits are available pursuant to Paragraph (j) of this Rule or payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to Paragraph (k) of this Rule Payment shall conform to the requirements of G S 143-214-20,~~

~~(3) Donation of real property or of an interest in real property pursuant to Paragraph (l) of this Rule, or~~

~~(4) Alternative buffer mitigation options pursuant to Paragraph (m) of this Rule~~

(d) AREA OF IMPACT The ~~authority~~ Authority shall determine the area of impact in square feet to each ~~zone~~ Zone as defined by the applicable riparian buffer Rules 0233, 0243, 0250, 0259, 0267 or 0607 of this Subchapter of the proposed riparian buffer ~~impact~~ by adding the following

(1) The area of the footprint of the use impacting the riparian buffer,

(2) The area of the boundary of any clearing and grading activities within the riparian buffer necessary to accommodate the use, and

(3) The area of any ongoing maintenance corridors within the riparian buffer associated with the use

The ~~authority~~ Authority shall deduct from this total the area of any wetlands that are subject to and compliant with riparian wetland mitigation requirements under 15A NCAC 02H 0506 and are located within the proposed riparian buffer impact area

(e) AREA OF MITIGATION REQUIRED ON ZONAL MITIGATION RATIOS The ~~authority~~ Authority shall determine the required area of mitigation for each ~~zone~~ Zone by applying each of the following ratios to the area of impact calculated under Paragraph (d) of this Rule

Basin/Watershed	Zone 1 Ratio	Zone 2 Ratio
Neuse River Basin (15A NCAC 02B 0233)	3 1	1 5 1
Catawba River Basin (15A NCAC 02B 0243)	2 1	1 5 1
Randleman Lake Watershed (15A NCAC 02B 0250)	3 1	1 5 1
Tar-Pamlico River Basin (15A NCAC 02B 0259)	3 1	1 5 1
Jordan Lake Watershed (15A NCAC 02B 0267)	3 1	1 5 1
Goose Creek Watershed (15A NCAC 02B 0607)	3 1[A]	

[A] The Goose Creek Watershed does not have a Zone 1 and Zone 2 The mitigation ratio in the Goose Creek Watershed is 3 1 for the entire buffer

(f) AREA OF MITIGATION REQUIRED ON LOCATIONAL MITIGATION RATIOS The applicant or mitigation provider shall use the following locational ratios as applicable based on location of the proposed mitigation site relative to that of the proposed impact site Locational ratios shall be as follows

Location	Ratio
Within the 12-digit HUC[A]	0 75 1
Within the eight-digit HUC[B]	1 1
In the adjacent eight-digit HUC[B C]	2 1

[A] Except within the Randleman Lake Watershed Within the Randleman Lake Watershed the ratio is 1 1

[B] Except as provided in Paragraph (g) of this Rule

[C] To use mitigation in the adjacent eight-digit HUC, the applicant shall describe why buffer mitigation within the eight-digit HUC is not practical for the project

(g) GEOGRAPHIC RESTRICTIONS ON LOCATION OF MITIGATION Mitigation shall be performed in the same river basin where the impact is located with the following additional specifications

(1) In the following cases, mitigation shall be performed in the same watershed in which the impact is located

(A) Falls Lake Watershed, as defined in Rule 0275 of this Section,

(B) Goose Creek Watershed, as defined in Rule 0601 of this Subchapter,

(C) Randleman Lake Water Supply Watershed, as defined in Rule 0248 of this Section,

(D) Each subwatershed of the Jordan Lake watershed, as defined in Rule 0262 of this Section, and

(E) Other watersheds as specified in riparian buffer protection rules adopted by the Commission

(2) Buffer mitigation for impacts within watersheds with riparian buffer rules that also have federally listed threatened or endangered aquatic species may be done within other watersheds with the same federally listed threatened or endangered aquatic species as long as the impacts are in the same river basin and same Omernik Level III ecoregion ~~available at no cost at http://www.epa.gov/wed/pages/ecoregions/level_iii_iv.htm~~ as the mitigation site

(h) MITIGATION OPTIONS FOR APPLICANTS The applicant may propose any of the following types of mitigation and shall provide a written demonstration of practicality that takes into account the relative cost and availability of potential options, as well as information addressing all requirements associated with the option proposed

(1) Applicant-provided riparian buffer restoration site or enhancement site pursuant to Paragraph (n) of this Rule,

(2) Payment of a compensatory mitigation fee to a compensatory buffer mitigation bank if buffer credits are available pursuant to Paragraph (i) of this Rule or payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to Paragraph (j) of this Rule Payment shall conform to the requirements of G S 143-214 20,

(3) Donation of real property or of an interest in real property pursuant to Paragraph (k) of this Rule, or

(4) Alternative buffer mitigation options pursuant to Paragraph (o) of this Rule

(5) Other buffer mitigation options when approved by the Environmental Management Commission as a condition of a variance approval

Riparian buffer restoration or enhancement is required with an area at least equal to the footprint of the buffer impact, and the remaining mitigation resulting from the application of the zonal mitigation ratios in Paragraph (e) and locational mitigation ratios in Paragraph (f) may be met through other mitigation options

~~(h) RIPARIAN BUFFER MITIGATION UNITS Mitigation activities shall generate riparian buffer mitigation units as follows~~

~~Mitigation Activity~~	~~Square Feet of Mitigation Buffer~~	~~Riparian Buffer Mitigation Units Generated~~
~~Restoration~~	~~1~~	~~1~~

~~Enhancement~~	~~2~~	~~1~~
~~Preservation on Non-Subject Urban Streams~~	~~3~~	~~1~~
~~Preservation on Subject Urban Streams~~	~~3~~	~~1~~
~~Preservation on Non-Subject Rural Streams~~	~~5~~	~~1~~
~~Preservation on Subject Rural Streams~~	~~10~~	~~1~~

(i) PURCHASE OF BUFFER MITIGATION CREDITS FROM A PRIVATE OR PUBLIC COMPENSATORY BUFFER MITIGATION BANK Applicants who choose to satisfy some or all of their mitigation by purchasing mitigation credits from a private or public compensatory buffer mitigation bank shall meet the following requirements

(1) The compensatory buffer mitigation bank from which credits are purchased shall have available riparian buffer credits approved by the Division,

(2) The compensatory buffer mitigation bank from which credits are purchased shall be located as described in Paragraphs (e), (f), and (g) of this Rule, and

(3) After receiving a mitigation acceptance letter from the compensatory buffer mitigation bank, proof of payment for the credits shall be provided to the Authority prior to any activity that results in the removal or degradation of the protected riparian buffer

(j) PAYMENT TO THE RIPARIAN BUFFER RESTORATION FUND Applicants who choose to satisfy some or all of their mitigation requirement by paying a compensatory mitigation fee to the Riparian Buffer Restoration Fund shall meet the requirements of Rule 0269 of this Section Payment made to the NC Ecosystem Enhancement Program (the Program) shall be contingent upon acceptance of the payment by the Program The Program shall consider their financial, temporal, and technical ability to satisfy the mitigation request to determine whether they shall accept or deny the request

(k) DONATION OF PROPERTY Applicants who choose to satisfy their mitigation requirement by donating real property or an interest in real property to fully or partially offset an approved payment into the Riparian Buffer Restoration Fund pursuant to Paragraph (j) of this Rule shall do so in accordance with 15A NCAC 02R 0403

(l) MITIGATION SITE REQUIREMENTS FOR APPLICANTS AND MITIGATION PROVIDERS For each mitigation site proposed by an applicant or mitigation provider under Paragraphs (n) or (o), the Authority shall identify functional criteria to measure the anticipated benefits of the mitigation to the adjacent water The Authority shall issue a mitigation determination that specifies the area, type, and location of mitigation and the water quality benefits to be provided by the mitigation site All mitigation proposals shall meet the following criteria

(1) The location of the buffer mitigation site shall comply with the requirements of Paragraphs (e), (f), and (g) of this Rule In the Catawba watershed, buffer mitigation may be done along the lake shoreline as well as along intermittent and perennial stream channels throughout the watershed

(2) The mitigation proposal shall include a commitment to provide

(A) a perpetual conservation easement or similar preservation mechanism to ensure perpetual stewardship that protects the mitigation site's nutrient removal and other water quality functions,

(B) a non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands or structures, and

(C) financial assurance in the form of a completion bond, credit insurance, letter of credit, escrow, or other vehicle acceptable to the Authority payable to, or for the benefit of, the Authority in an amount sufficient to ensure that the property is secured in fee title or by easement, and that planting or construction, monitoring and maintenance are completed as necessary to meet success criteria as specified in the approved mitigation plan This financial assurance obligation shall not apply to the NC Ecosystem Enhancement Program

(3) Diffuse flow of runoff shall be maintained in the riparian buffer Any existing impervious cover or stormwater conveyances such as ditches, pipes, or drain tiles shall be eliminated and the flow converted to diffuse flow If the applicant or mitigation provider determines that elimination of existing stormwater conveyances is not feasible, then they shall include a justification and shall provide a delineation of the watershed draining to the stormwater outfall and the percentage of the total drainage by area treated by the riparian buffer with the mitigation plan specified in Paragraph (n) or Paragraph (o) for Authority approval, during mitigation plan review and approval The Authority may reduce mitigation credit proportionally

(4) Sewer easement within the buffer If the proposed mitigation site contains a sewer easement in Zone 1, that portion of the sewer easement within Zone 1 is not suitable for buffer mitigation credit If the proposed mitigation site contains a sewer easement in Zone 2, the portion of the sewer easement in Zone 2 may be suitable for buffer mitigation credit if

(A) the applicant or mitigation provider restores or enhances the forested buffer in Zone 1 adjacent to the sewer easement,

(B) the sewer easement is required to be maintained in a condition that meets the vegetative requirements of the collection system permit, and

(C) diffuse flow is provided across the entire buffer width

(5) The applicant or mitigation provider shall provide a site specific credit/debit ledger to the Authority at regular intervals as specified in the mitigation plan approval or Mitigation Banking Instrument once credits are established and until they are exhausted

(6) Projects that have been constructed and are within the required monitoring period on the effective date of this Rule are eligible for use as buffer mitigation sites Projects that have completed monitoring and released by the Division on or before the effective date of this Rule are eligible for use as buffer mitigation sites for a period of 10 years from the effective date of this Rule

(6) Buffer mitigation credit, nutrient offset credit, wetland mitigation credit, and stream mitigation credit shall be accounted for in accordance with the following

(A) Buffer mitigation used for buffer mitigation credit shall not be used for nutrient offset credits,

(B) Buffer mitigation credit shall not be generated within wetlands that provide wetland mitigation credit required by 15A NCAC 02H 0506, and

(C) Buffer mitigation credit may be generated on stream mitigation sites as long as the width of the restored or enhanced riparian buffer meets the requirements of Subparagraph (n)(1)

(m) RIPARIAN BUFFER MITIGATION UNITS Mitigation activities shall generate riparian buffer mitigation units as follows

Mitigation Activity	Square Feet of Mitigation Buffer	Riparian Buffer Mitigation Units Generated
Restoration Site	1	1
Enhancement Site	2	1
Preservation Site on Non-Subject Urban Streams	3	1
Preservation Site on Subject Urban Streams	3	1
Preservation Site on Non-Subject Rural Streams	5	1
Preservation Site on Subject Rural Streams	10	1

~~(l)~~(n) RIPARIAN BUFFER RESTORATION SITE OR ENHANCEMENT SITE ~~Division~~ Authority staff shall make an on-site determination as to whether a potential mitigation site qualifies as a restoration site or enhancement site as defined in Paragraph (b) of this Rule Riparian buffer restoration sites or enhancement sites shall meet the following requirements

(1) Buffer restoration sites or enhancement sites may be proposed as follows

Urban Areas	
Buffer width (ft)	Proposed Percentage of Full Credit
Less than 20	0 %
20-29	75 %
30-100	100 %
101-200 A	50 % [A]

Non-Urban Areas	
Buffer width (ft)	Proposed Percentage of Full Credit
Less than 20	0 %
20-29	0 %
30-100	100 %
101-200 [A]	50 % [A]

[A] The area of the buffer mitigation site beyond 100 linear feet from the top of bank shall comprise no more than 10 percent of the total area of buffer mitigation

~~(2) The location of the restoration or enhancement shall comply with the requirements of Paragraphs (e), (f), and (g) of this Rule In the Catawba watershed, buffer mitigation may be done along the lake shoreline as well as along intermittent and perennial stream channels throughout the watershed~~

~~(3) Diffuse flow of runoff shall be maintained in the riparian buffer Any existing impervious cover or stormwater conveyances such as ditches, pipes, or drain tiles shall be eliminated and the flow converted to diffuse flow If elimination of existing stormwater conveyances is not feasible, then the applicant or mitigation provider shall provide a delineation of the watershed draining to the stormwater outfall and the percentage of the total drainage treated by the riparian buffer for Division approval, the Division may reduce credit proportionally~~

~~(4)~~(2) The applicant or mitigation provider shall submit to the Authority a restoration or enhancement plan for written approval~~by the Division~~ The restoration or enhancement plan shall demonstrate compliance with the requirements of ~~Subparagraphs (1) through (3) of~~ this Paragraph and Paragraphs (l) and (m) and shall also contain the following~~in addition to the elements required in Paragraph (c) of this Rule~~

(A) A map of the proposed restoration or enhancement site,

(B) A vegetation plan that shall include a minimum of four native hardwood tree species or four native hardwood tree and native shrub species, where no one species is greater than 50 percent of established stems, ~~established~~ planted at a density sufficient to provide 260 stems per acre at the completion of monitoring Native hardwood and native shrub volunteer species may be included to meet the final performance ~~standards~~standard of 260 stems per acre The ~~Division~~ Authority may approve alternative vegetation plans upon consideration of factors, including site wetness and plant availability to meet the requirements of this Part,

(C) A grading plan (if applicable) The site shall be graded in a manner to ensure diffuse flow through the entire riparian buffer,

(D) A schedule for implementation, including a fertilization and herbicide plan if applicable, and

(E) A monitoring plan, including monitoring of vegetative success and other anticipated benefits to the adjacent water~~as listed in the authorization certification~~

~~(5)~~(3) Within one year after ~~the Division has approved the restoration or enhancement~~Authority approval of the mitigation plan, the applicant or mitigation provider shall present documentation to the ~~Division~~ Authority that the riparian buffer has been restored or enhanced unless the ~~Division~~ Authority agrees in writing prior to that date to a longer time period~~due to the necessity for a longer construction period~~

~~(6) The mitigation area shall be placed under a perpetual conservation easement or similar legal protection mechanism to provide for protection of the property's nutrient removal and other water quality functions~~

~~(7)~~(4) The applicant or mitigation provider shall submit written annual reports for a period of five years after the restoration or enhancement has been conducted showing

(A) the survival of ~~that~~ the trees or tree and shrub species planted,

(B) whether the vegetation of the site is expected to meet ~~are meeting~~ success criteria, and

(C) that diffuse flow through the riparian buffer has been maintained

The applicant or mitigation provider shall replace trees or shrubs and restore diffuse flow if needed during that five-year period If the Authority determines that the objectives identified in this Paragraph have not been achieved at the end of the five-year monitoring period the Authority may require ~~Additional~~ additional years of monitoring~~may be required if the objectives under Paragraph (i) have not been achieved at the end of the five-year monitoring period~~

~~(8) The mitigation provider shall provide a site-specific credit/debit ledger to the Division at regular intervals once credits are established and until they are exhausted~~

~~(9) The mitigation provider shall provide a completion bond that is payable to the Division sufficient to ensure that land purchase, construction, monitoring, and maintenance are completed A non-wasting endowment or other financial mechanism for perpetual maintenance and protection shall be provided~~

~~(j) PURCHASE OF BUFFER MITIGATION CREDITS FROM A PRIVATE OR PUBLIC MITIGATION BANK. Applicants who choose to satisfy some or all of their mitigation by purchasing mitigation credits from a private or public mitigation bank shall meet the following requirements.~~

~~(1) The mitigation bank from which credits are purchased is listed on the Division's webpage (http://portal.nodenr.org/web/wq/swp/ws/401) and has available riparian buffer credits;~~

~~(2) The mitigation bank from which credits are purchased shall be located as described in Paragraphs (e), (f), and (g) of this Rule, and~~

~~(3) After receiving a mitigation acceptance letter from the mitigation provider, proof of payment for the credits shall be provided to the Division prior to any activity that results in the removal or degradation of the protected riparian buffer.~~

~~(k) PAYMENT TO THE RIPARIAN BUFFER RESTORATION FUND. Applicants who choose to satisfy some or all of their mitigation determination by paying a compensatory mitigation fee to the Riparian Buffer Restoration Fund shall meet the requirements of Rule .0269 of this Section. Payment made to the NC Ecosystem Enhancement Program (the Program) shall be contingent upon acceptance of the payment by the Program. The Program shall consider their financial, temporal, and technical ability to satisfy the mitigation request to determine whether they shall accept or deny the request.~~

~~(l) DONATION OF PROPERTY. Applicants who choose to satisfy their mitigation determination by donating real property or an interest in real property to fully or partially offset an approved payment into the Riparian Buffer Restoration Fund pursuant to Paragraph (k) of this Rule shall meet the following requirements.~~

~~(1) The value of the property interest shall be determined by an appraisal performed in accordance with Part (l)(4)(D) of this Rule. The donation shall satisfy the mitigation determination if the appraised value of the donated property interest is equal to or greater than the required fee. If the appraised value of the donated property interest is less than the required fee calculated pursuant to Rule .0269 of this Section, the applicant shall pay the remaining balance due.~~

~~(2) The donation of real property interests shall be granted in perpetuity.~~

~~(3) Donation of real property interests to satisfy the full or partial payments under Paragraph (k) shall be accepted only if such property meets the following requirements.~~

~~(A) The property shall be suitable for restoration or enhancement to successfully produce viable riparian buffer compensatory mitigation credits in accordance with Paragraph (i) of this Rule or the property shall be suitable for preservation to successfully produce viable riparian buffer compensatory mitigation credits in accordance with Part (m)(2)(C) of this Rule;~~

~~(B) The property shall be located in an area where the Program may reasonably utilize the credits, based on historical or projected use, to offset compensatory mitigation requirements;~~

~~(C) The estimated cost of restoring or enhancing and maintaining the property shall not exceed the projected mitigation credit value of the property minus land acquisition costs, except where the applicant supplies additional funds acceptable to the Program for restoration or enhancement and maintenance of the buffer;~~

~~(D) The property shall not contain any building, structure, object, site, or district that is listed in the National Register of Historic Places established pursuant to Public Law 89-665, 16 U.S.C. 470 as amended;~~

~~(E) The property shall not contain any hazardous substance or solid waste such that water quality may be adversely impacted unless the hazardous substance or solid waste can be properly remediated before the interest is transferred;~~

~~(F) The property shall not contain structures or materials that present health or safety concerns to the general public. If wells, septic, water, or sewer connections exist, they shall be filled, remediated or closed at owner's expense in accordance with state and local health and safety regulations before the interest is transferred. Sewer connections in Zone 2 may be allowed for projects in accordance with Part (m)(2)(E) of this Rule;~~

~~(G) The property and adjacent properties shall not have prior, current, or known future land use that may jeopardize the functions of the compensatory mitigation;~~

~~(H) The property shall not have any encumbrances or conditions that are inconsistent with the requirements of this Rule or purposes of Rules .0233, .0243, .0250, .0259, .0267 or .0607 of this Subchapter;~~

~~(I) Fee simple title to the property or a perpetual conservation easement on the property shall be donated to the State of North Carolina, a local government, or a qualified holder under N.C. General Statute 121-34 et seq. and 26 USC 170(h) of the Internal Revenue Code as approved by the Department and the donee; and~~

~~(J) The donation shall be accompanied by a non-wasting endowment or other financial mechanism for perpetual maintenance and protection sufficient to ensure perpetual long-term monitoring and maintenance. However, when a local government has donated a perpetual conservation easement and entered into a binding~~

~~intergovernmental agreement with the Program to manage and protect the property consistent with the terms of the perpetual conservation easement, that local government shall not be required to provide a non-wasting endowment~~

~~(4) At the expense of the applicant or donor, the following information shall be submitted to the Program with any proposal for donations or dedications of interest in real property~~

~~(A) Documentation that the property meets the requirements of Subparagraph (l)(3) of this Rule,~~

~~(B) A US Geological Survey 1:24,000 (7.5 minute) scale topographic map, county tax map, USDA Natural Resource Conservation Service County Soil Survey Map, and county road map showing the location of the property to be donated, along with information on existing site conditions, vegetation types, presence of existing structures, and easements,~~

~~(C) A current property survey performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the State Board of Registration for Professional Engineers and Land Surveyors as set forth in 21 NCAC 56 1600~~

~~(D) A current appraisal of the value of the property performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the Appraisal Board as set forth in 21 NCAC 57A 0501, and~~

~~(E) A complete attorney's report on title with a title commitment for policy in the name of the State of North Carolina in the dollar amount of the appraised value~~

~~(m)~~(o) ALTERNATIVE BUFFER MITIGATION OPTIONS Some or all of a buffer mitigation requirement may be met through any of the alternative mitigation options described in this Paragraph Any proposal for alternative mitigation shall meet the requirements of Paragraphs ~~(c), (e), (f)~~(l), and ~~(g)~~ (m)of this Rule~~,~~ and the requirements set out in the named Subparagraph addressing that option~~, and the following requirements~~

~~(1) Any proposal for alternative mitigation shall be provided in writing to the Division and shall meet the following content and procedural requirements for approval by the Division~~

~~(A) Projects that have been constructed and are within the required monitoring period on the effective date of this Rule are eligible for use as alternative buffer mitigation Projects that have completed monitoring and released by the Division on or before the effective date of this Rule are eligible for use as alternative buffer mitigation for a period of 10 years from the effective date of this Rule,~~

~~(B) The mitigation area shall be placed under a perpetual conservation easement or similar legal protection mechanism to provide for protection of the property's nutrient removal and other water quality functions, and~~

~~(C) A completion bond payable to the Division sufficient to ensure that land purchase, construction, monitoring, and maintenance are completed~~

~~(D) A non-wasting endowment or other financial mechanism for perpetual maintenance and protection shall be provided~~

~~(2) ALTERNATIVE BUFFER MITIGATION NON-STRUCTURAL, VEGETATIVE OPTIONS~~

~~(A)~~(1) Coastal Headwater Stream Mitigation Wooded buffers planted along Outer Coastal Plain headwater stream mitigation sites may also be approved as riparian buffer mitigation credit ~~as long as~~if the site meets all applicable requirements of Paragraph ~~(i)~~ (n) of this Rule In addition, all success criteria ~~including woody species, stem density, diffuse flow, and stream success criteria~~ specified in the approval of the stream mitigation site by the Division ~~in any required written approval of the site~~ shall be met The area of the buffer shall be measured perpendicular to the length of the valley being restored The area within the proposed buffer mitigation site shall not also be used as wetland mitigation The applicant or mitigation provider shall monitor the site for at least five years from the date of planting ~~by providing~~and provide annual reports for written Division approval

~~(B)~~(2) Buffer Restoration and Enhancement on Non-Subject Streams Restoration or enhancement of buffers may be conducted on intermittent or perennial streams that are not subject to the applicable riparian buffer Rules 0233, 0243, 0250, 0259, 0267 or 0607 of this Subchapter~~rules~~ These streams shall be confirmed as intermittent or perennial streams by Division staff certified per G S 143-215 25A using the Division publication, Methodology for Identification of Intermittent and Perennial Streams and Their Origins (v 4 11, 2010) available at no cost at http //portal ncdenr org/web/wq/swp/ws/401/waterresources/streamdeterminations The proposal shall meet all applicable requirements of Paragraph ~~(i)~~(n) of this Rule

~~(C)~~(3) Preservation of Buffer on Non-subject streams Preservation of buffers on intermittent or perennial streams that are not subject to the applicable riparian buffer Rules 0233, 0243, 0250,

0259, 0267 or 0607 of this Subchapter~~rules~~ may be proposed in order to permanently protect the buffer from cutting, clearing, filling, grading, and similar activities that would affect the functioning of the buffer These streams shall be confirmed as intermittent or perennial streams by Division staff certified per G S 143-215 25A using the Division publication, Methodology for Identification of Intermittent and Perennial Streams and Their Origins (v 4 11, 2010) The preservation site shall meet the requirements of ~~Subparagraphs~~Subparagraph ~~(i)~~(n)(1)~~, (i)(3), (i)(6)~~ and ~~Parts (l)(3)(D), (E), (F), (H) and (J) of this Rule~~the requirements set forth in 15A NCAC 02R 0403(c)(7), (8) and (11) ~~Preservation shall be proposed only when restoration or enhancement with an area at least equal to the footprint of the buffer impact has been proposed~~

~~(D)~~(4) Preservation of Buffers on Subject Streams Buffer preservation may be proposed on streams that are subject to the applicable riparian buffer Rules 0233, 0243, 0250, 0259, 0267 or 0607 of this Subchapter in order to permanently protect the buffer from cutting, clearing, filling, grading, and similar activities that would affect the functioning of the buffer beyond the protection afforded by the existing buffer rules on sites that meet the definition of a preservation~~site along streams, estuaries, or ponds that are subject to buffer rules~~ The preservation site shall meet the requirements of ~~Subparagraphs~~ Subparagraph ~~(i)~~(n)(1)~~, (i)(3), (i)(6)~~ and the requirements set forth in 15A NCAC 02R 0403(c)(7), (8) and (11)~~ Parts (l)(3)(D), (E), (F), (H) and (J) of this Rule Preservation shall be proposed only when restoration or enhancement of an area at least equal to the footprint of the buffer impact has been proposed~~

~~(E) Sewer easement within the buffer If the proposed mitigation site contains a sewer easement in Zone 1, that portion of the sewer easement within Zone 1 is not suitable for buffer mitigation If the proposed mitigation site contains a sewer easement in Zone 2, the portion of the sewer easement in Zone 2 may be suitable for buffer mitigation if~~

~~(i) the applicant or mitigation provider restores or enhances the forested buffer in Zone 1 adjacent to the sewer easement,~~

~~(ii) the sewer easement is at least 30 feet wide,~~

~~(iii) the sewer easement is required to be maintained in a condition that meets the vegetative requirements of the collection system permit, and~~

~~(iv) diffuse flow is provided across the entire buffer width~~

~~The proposal shall meet all applicable requirements of Paragraph (i) of this Rule for restoration or enhancement The proposal shall meet all applicable requirements of Part (m)(2)(C) of this Rule for preservation~~

~~(F)~~(5) Enhancement of grazing areas adjacent to streams Buffer credit at a 2 1 ratio shall be available for an applicant or mitigation provider who proposes permanent exclusion of grazing livestock that otherwise degrade the stream and riparian zone through trampling, grazing, or waste deposition by fencing the livestock out of the stream and its adjacent buffer The applicant or mitigation provider shall provide an enhancement plan as set forth in Paragraph (n)~~(i)~~ The applicant or mitigation provider shall demonstrate that grazing was the predominant land use since the effective date of the applicable buffer rule

~~(G)~~(6) Mitigation on ephemeral channels For purposes of riparian buffer mitigation as described in this Part, an "ephemeral channel" is defined as a natural channel exhibiting discernible banks within a topographic crenulation (V-shaped contour lines) indicative of natural drainage on the 1 24,000 scale (7 5 minute) quadrangle topographic map prepared by the U S Geologic Survey, or as seen on digital elevation models with contours developed from the most recent available LiDAR data available at no cost at http //www ncfloodmaps com/lidar htm Ephemeral channels only flow for a short period of time after precipitation in the immediate area and do not have periods of base flow sustained by groundwater discharge The applicant or mitigation provider shall provide a delineation of the watershed draining to the ephemeral channel The entire area proposed for mitigation shall be within the contributing drainage area to the ephemeral channel The ephemeral channel shall be directly connected to an intermittent or perennial stream and contiguous with the rest of the mitigation site protected under a perpetual conservation easement The area of the mitigation site on ephemeral channels shall comprise no more than 25 percent of the total area of buffer mitigation The proposal shall meet all applicable requirements of Paragraph ~~(i)~~(n) of this Rule for restoration or enhancement The proposal shall meet all applicable requirements of Part ~~(m)(2)(C)~~ (o)(3) or (o)(4) of this Rule for preservation

~~(H)~~(7) Restoration and Enhancement on Ditches For purposes of riparian buffer mitigation as described in this Part, a "ditch" is defined as a man-made channel other than a modified natural stream that was constructed for drainage purposes To be used for mitigation, a ditch shall meet all of the following criteria

~~(i)~~(A) be directly connected with and draining towards an intermittent or perennial stream,

~~(ii)~~(B) be contiguous with the rest of the mitigation site protected under a perpetual conservation easement,

~~(iii)~~(C) stormwater runoff from overland flow shall drain towards the ditch,

~~(iv)~~(D) be between one and three feet in depth, and

~~(v)~~(E) the entire length of the ditch shall have been in place prior to the effective date of the applicable buffer rule

The width of the restored or enhanced area shall not be less than 30 feet and shall not exceed 50 feet for crediting purposes The applicant or mitigation provider shall provide a delineation of the watershed draining to the ditch The watershed draining to the ditch shall be at least four times larger than the restored or enhanced area along the ditch The perpetual conservation easement shall include the ditch and the confluence of the ditch with the intermittent or perennial stream, and provide language that prohibits future maintenance of the ditch The proposal shall meet all applicable requirements of Paragraph ~~(i)~~(n) of this Rule for restoration or enhancement

~~(3)~~(8) ~~ALTERNATIVE BUFFER STORMWATER TREATMENT OPTIONS~~Stormwater Treatment Options All stormwater treatment options shall meet the following requirements

~~(A) For all structural options Riparian buffer restoration or enhancement is required with an area at least equal to the footprint of the buffer impact, and the remaining mitigation resulting from the multipliers may be met through structural options,~~

~~(B)~~(A) Structural measures already required by other local, state or federal rule or permit cannot be used as alternative buffer mitigation credit, except to the extent such measure(s) exceed the requirements of such rule or permit Stormwater Best Management Practices (BMPs), including bioretention facilities, constructed wetlands, infiltration devices and sand filter are all potentially approvable (BMPs) by the Division for alternative buffer mitigation credit Other BMPs may be approved only if they meet the nutrient removal levels outlined in Part ~~(3)(C)~~(8)(B) of this Subparagraph Existing or planned BMPs for a local, state, or federal rule or permit may be retrofitted or expanded to improve their nutrient removal if this level of treatment would not be required by other local, state, or federal rules In this case, the predicted increase in nutrient removal may be counted toward alternative buffer mitigation credit,

~~(C)~~(B) Minimum treatment levels Any structural BMP shall provide at least 30 percent total nitrogen and 35 percent total phosphorus removal as demonstrated by a scientific and engineering literature review as approved by the Division The mitigation proposal shall demonstrate that the proposed alternative removes an equal or greater annual mass load of nutrients to surface waters as the buffer impact authorized in the authorization certificate or variance, following the calculation of impact and mitigation areas pursuant to Paragraphs (d), (e), and (f) of this Rule To estimate the rate of nutrient removal of the impacted buffer, the applicant or mitigation provider shall use the NC Division of Water Quality – Methodology and Calculation for determining nutrient reductions associated with Riparian Buffer Establishment available at no cost at http //portal ncdenr org/c/document_library/get_file?uuid=55c3758f-5e27-46cf-8237-47f890d9329a&groupId=38364~~ a method previously approved by the Division~~ The applicant or mitigation provider may propose an alternative method of estimating the rate of nutrient removal for consideration and review by the Division,

~~(D)~~(C) All proposed structural BMPs shall follow the Division's 2009 Stormwater Best Management Practice Design Manual available at no cost at http //portal ncdenr org/web/lr/bmp-manual If a specific proposed structural BMP is not addressed in this Manual, the applicant or mitigation provider shall follow Chapter 20 in this Manual for approval,

~~(E)~~(D) All structural options are required to have Division approved operation and maintenance plans,

~~(F)~~(E) All structural options are required to have continuous and perpetual maintenance and shall follow the Division's 2009 Stormwater Best Management Practice Design Manual,

~~(G)~~(F) Upon completion of construction, the designer for the type of BMP installed shall certify that the system was inspected during construction and that the BMP was constructed in ~~substantial~~ conformity with plans and specifications approved by the Division,

~~(H)~~(G) Removal and replacement of structural options If a structural option is proposed to be removed and cannot be replaced on-site, then a structural or non-structural measure of equal or better nutrient removal capacity in a location as specified by Paragraph (f) and (g) of this Rule shall be constructed as a replacement,

~~(I)~~(H) Renovation or repair of structural options If a structural option must be renovated or repaired, it shall be renovated to provide equal or better nutrient removal capacity than as originally designed, and

~~(J)~~(I) Structural options as well as their operation and maintenance are the responsibility of the landowner or easement holder unless the Division gives written approval for another responsible party to operate and maintain them Structural options shall be located in recorded drainage easements for the purposes of operation and maintenance and shall have recorded access easements to the nearest public right-of-way These easements shall be granted in favor of the party responsible for operating and maintaining the structure, with a note that operation and maintenance is the responsibility of the landowner, easement holder or other responsible party~~, and~~

~~(K) Bonding and endowment A completion bond payable to the Division sufficient to ensure that land purchase, construction, monitoring, and maintenance are completed and a non-wasting endowment or other financial mechanism for perpetual maintenance and protection shall be provided~~

~~(4)~~(9) CASE-BY-CASE APPROVAL FOR OTHER ALTERNATIVE BUFFER MITIGATION OPTIONS Other alternative riparian buffer mitigation options may be ~~considered~~ submitted to ~~by~~ the Division for review and recommendation to the Environmental Management Commission on a case-by-case basis as long as the options otherwise meet the requirements of this Rule Prior to recommendation to the Environmental Management Commission the Division shall issue a ~~after~~ 30-calendar day public notice through the Division's ~~Water Quality Certification~~ Mailing List in accordance with 15A NCAC 02H 0503 ~~as long as the options otherwise meet the requirements of this Rule~~ Division staff shall present recommendations including comments received during the public notice period to the Environmental Management Commission for a final decision with respect to any proposal for other alternative buffer mitigation options not ~~specified~~ described in this Rule

~~(n) ACCOUNTING FOR BUFFER CREDIT, NUTRIENT OFFSET CREDIT AND STREAM MITIGATION CREDIT Buffer mitigation credit, nutrient offset credit, wetland mitigation credit, and stream mitigation credit shall be accounted for in accordance with the following~~

~~(1) Buffer mitigation used for buffer mitigation credit shall not be used for nutrient offset credits,~~

~~(2) Buffer mitigation or nutrient offset credit shall not be generated within wetlands that provide wetland mitigation credit required by 15A NCAC 02H 0506, and~~

~~(3) Either buffer mitigation or nutrient offset credit may be generated on stream mitigation sites as long as the width of the restored or enhanced riparian buffer meets the requirements of Subparagraph (i)(1)~~

History Note *Authority 143-214 1, 143-214 5, 143-214 7, 143-214 20 143-215 3(a)(1), 143-215 6A 143-215 6B 143-215 6C 143-215 8A, 143-215 8B, 143-282(c) 143B-282(d) S L 1998-221, S L 1999-329, s 7 1, S L 2001-418, s 4 (a) S L 2003-340, s 5, S L 2005-190, S L 2006-259, S L 2009-337, S L 2009-486, S L 2014-95,*
~~*Temporary Adoption Eff October 24, 2014*~~

Homewood, Sue

From Paugh, Leilani Y
Sent Friday, April 17, 2015 2 34 PM
To Homewood, Sue
Subject Buffer Mitigation rule review – Mitigation Program Requirements for the Protection and Maintenance of Riparian Buffers (15A NCAC 02B 0295)

HI Sue
We have reviewed the proposed Buffer mitigation rule and are in support of the overall concept to make available more buffer mitigation options The proposed rule also helps clarify the mitigation site requirements and ratio calculations The rule promotes development of mitigation in close proximity to the impact through improved ratios while not overly limiting the mitigation service area Most importantly, it strikes a good balance between allowances for alternative mitigation on ephemeral channels and ditches and requirements of mitigation on intermittent and perennial channels Thereby it recognizes the potential effects of storm water runoff on water quality without expansion of jurisdictional definitions
Thank you for the opportunity to review
LeiLani Paugh
Natural Environment Section
ICI/OSM Group Supervisor
919-707-6146

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Homewood, Sue

From Norton Webster <norton webster@gmail com>
Sent Friday, April 17, 2015 4 05 PM
To Homewood, Sue
Subject Buffer Mitigation Rule

Ms Homewood,

Thank you for the opportunity to comment on the proposed permanent rule 15A NCAC 02B 0295 Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers I have been involved with buffer mitigation for nine years providing buffer mitigation credit to the private market as well as the North Carolina Division of Mitigation Services (formerly the Ecosystem Enhancement Program) through their full-delivery program Buffer mitigation sites are essential to the protection and restoration of water quality in North Carolina The purpose of the proposed permanent rule is to provide for consistency of mitigation for the various buffer river basins which includes the Neuse River, Catawba River, Randleman Lake, Tar-Pamlico River, Jordan Lake, and Goose Creek

Preservation and retroactive credit generation are two areas of concern with the proposed rule The use of preservation should be limited to only a portion of any given mitigation project with no more than 25% of credits generated from a mitigation site being preservation Preservation should be used as a "tool ' to increase the ecological benefits of a site by incentivizing protection of existing buffers since these areas would not provide mitigation credit if preservation was not considered For example, there may be a restoration site that has a section of existing forested riparian buffer that is fully functioning with restoration opportunity on the up and downstream sides of the areas Including this existing forested area between the two restoration areas provides for an ecological corridor as well as covers the area under one conservation easement Again, preservation should never be allowed as a stand-alone project Preservation alone does not contribute to an increase in the improvement of water quality Subject features pursuant to rules 0233, 0243, 0250, 0259, 0267 or 0607 have some protection under the law

Retroactive credits should only be allowed if the site has been constructed within the last three years or after the enactment of the buffer rules and these areas of buffer mitigation have been approved by the Division Older sites where credits are being considered presents problems in determining what the historic watershed baseline conditions were prior to any mitigation activity Clear documentation of existing site conditions needs to exist to consider sites for retroactive credits Retroactive credit sites need to demonstrate that they meet the intent of the rule and provide for water quality improvements The ecological benefits of a retroactive site in some cases would be just based on judgment without any documented baseline conditions to prove water quality improvements Only sites that are currently being monitored and have verified historic baseline conditions should be allowed

My comments are presented below by Section

(a) Purpose The purpose of the rule is properly described in this section

(b) Definitions The terms are properly defined in this section

(c) Application Requirements, Mitigation Site Requirements and Mitigation Options *(2) A non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands* The purpose of the non-wasting endowment or other dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management The mitigation buffer site is designed as a natural, self-sustaining system that should not require active management

(d) Area of Impact This section is acceptable

(e) Area of Mitigation Required on Zonal Mitigation Ratios These are acceptable zonal mitigation ratios

(f) Area of Mitigation Required on Locational Mitigation Ratios The locational mitigation ratios are acceptable

(g) Geographic Restrictions on Location of Mitigation The geographic restrictions on location of mitigation are acceptable

(h) Riparian Buffer Mitigation Units Preservation mitigation activity should only be used on a restrictive basis since it does not contribute to a gain in buffer area Preservation mitigation activities should be restricted to no more than 25% of the total mitigation credit provided which includes enhancement and restoration mitigation credits A preservation only mitigation site should not be allowed

(i) Riparian Buffer Restoration Site or Enhancement Site (8) *The applicant or mitigation provider shall provide a site specific credit/debit ledger to the Authority at regular intervals as specified in the mitigation plan approval or Mitigation Banking Instrument once credits are established and until they are exhausted* Division of Mitigation Services should provide ledgers on at least a semi-annual basis (10) *The applicant or mitigation provider shall provide a non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands* The purpose of the non-wasting endowment or other dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management

(j) Purchase of Buffer Mitigation Credits from a Private or Public Compensatory Mitigation Bank The terms of purchase of buffer mitigation credits are acceptable

(k) Payment to the Riparian Buffer Restoration Fund NC Ecosystem Enhancement Program should be revised to NC Division of Mitigation Services

(l) Donation of Property Donation of property should require the approval of the Division before any property donations are accepted

(m) Alternative Buffer Mitigation Options (1)(C) *A non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands or structures* The purpose of the non-wasting endowment or other dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management Preservation mitigation activities should be restricted to no more than 25% of the total mitigation credit provided which includes enhancement and restoration mitigation activities A preservation only mitigation site should not be allowed

(n) Accounting for Buffer Credit, Nutrient Offset Credit and Stream Mitigation Credit The terms of accounting for credit are acceptable

Thank you for your time, consideration, and opportunity to comment

Sincerely,

Norton Webster

Homewood, Sue

From Daniel Ingram <dingram@res us>
Sent Friday, April 17, 2015 4 32 PM
To Homewood, Sue
Subject comments on the proposed permanent rule 15A NCAC 02B 0295 Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers

Ms Homewood,

Thank you for the opportunity to comment on the proposed permanent rule 15A NCAC 02B 0295 Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers Buffer mitigation is essential to the protection and restoration of water quality in North Carolina while also allowing for responsible economic development I fully support the intent of the proposed permanent rule to provide for consistency of mitigation for the various buffer river basins which includes the Neuse River, Catawba River, Randleman Lake, Tar-Pamlico River, Jordan Lake, and Goose Creek My specific comments follow

In coastal plain areas riparian buffer mitigation should be allowed in active pasture that abuts seasonally flooded riverine wetlands These open water swamp systems are valuable aquatic resources and frequently contain defined channels and braided channels The buffer mitigation area should be defined as beginning at the seasonal OHWM In these instances the protective easement should extend a minimum 30 feet into the riverine wetland

The use of preservation should be limited to only a portion of any given mitigation project with no more than 25% of credits generated from a mitigation site being preservation Preservation should be used as a "tool" to increase the ecological benefits of a site by incentivizing protection of existing buffers since these areas would not provide mitigation credit if preservation was not considered For example, there may be a restoration site that has a section of existing forested riparian buffer that is fully functioning with restoration opportunity on the up and downstream sides of the areas Including this existing forested area between the two restoration areas provides for an ecological corridor as well as covers the area under one conservation easement Again, preservation should never be allowed as a stand-alone project Preservation alone does not contribute to an increase in the improvement of water quality Subject features pursuant to rules 0233, 0243, 0250, 0259, 0267 or 0607 have some protection under the law

Retroactive credits should only be allowed if the site has been constructed within the last three years or after the enactment of the buffer rules and these areas of buffer mitigation have been approved by the Division Older sites where credits are being considered present problems in determining what the historic watershed baseline conditions were prior to any mitigation activity Clear documentation of existing site conditions needs to exist to consider sites for retroactive credits Retroactive credit sites need to demonstrate that they meet the intent of the rule and provide for water quality improvements The ecological benefits of a retroactive site in some cases would be just based on judgment without any documented baseline conditions to prove water quality improvements Only sites that are currently being monitored and have verified historic baseline conditions should be allowed

Thank you for your time and the opportunity to comment

Daniel Ingram
919-622-3845

Resource Environmental Solutions

Homewood, Sue

From John Hutton <jhutton@wildlandseng com>
Sent Friday, April 17, 2015 4 52 PM
To Homewood, Sue
Cc Shawn Wilkerson
Subject Comments on the proposed permanent rule 15A NCAC 02B 0295

Hi Sue,

I hope you are doing well Below are Wildlands comments on the proposed permanent rule 15A NCAC 02B 0295 Preservation and retroactive credit generation are two areas of concern with the proposed rule

The use of preservation should be limited to only a portion of any given mitigation project with no more than 25% of credits generated from a mitigation site being preservation Preservation should be used as a "tool" to increase the ecological benefits of a site by incentivizing protection of existing buffers since these areas would not provide mitigation credit if preservation was not considered For example, there may be a restoration site that has a section of existing forested riparian buffer that is fully functioning with restoration opportunity on the up and downstream sides of the areas Including this existing forested area between the two restoration areas provides for an ecological corridor as well as covers the area under one conservation easement Again, preservation should never be allowed as a stand-alone project Preservation alone does not contribute to an increase in the improvement of water quality Subject features pursuant to rules 0233, 0243, 0250, 0259, 0267 or 0607 have some protection under the law

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Thank you for your consideration of these comments

John Hutton | *Vice President*
O 919 851 9986 x102 **M** 919 723 8203

Wildlands Engineering, Inc
312 West Millbrook Road, Suite 225
Raleigh, NC 27609

Homewood, Sue

From King, Scott <Scott King@mbakerintl com>
Sent Friday, April 17, 2015 5 10 PM
To Homewood, Sue
Subject Consolidated Buffer Rule comments

Thank you for the opportunity to comment on the proposed permanent rule 15A NCAC 02B 0295 Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers I have been involved with buffer mitigation for nine years providing buffer mitigation credit to the private market as well as the North Carolina Division of Mitigation Services (formerly the Ecosystem Enhancement Program) through their full-delivery program Buffer mitigation sites are essential to the protection and restoration of water quality in North Carolina The purpose of the proposed permanent rule is to provide for consistency of mitigation for the various buffer river basins which includes the Neuse River, Catawba River, Randleman Lake, Tar-Pamlico River, Jordan Lake, and Goose Creek

Preservation and retroactive credit generation are two areas of concern with the proposed rule The use of preservation should be limited to only a portion of any given mitigation project with no more than 25% of credits generated from a mitigation site being preservation Preservation should be used as a "tool" to increase the ecological benefits of a site by incentivizing protection of existing buffers since these areas would not provide mitigation credit if preservation was not considered For example, there may be a restoration site that has a section of existing forested riparian buffer that is fully functioning with restoration opportunity on the up and downstream sides of the areas Including this existing forested area between the two restoration areas provides for an ecological corridor as well as covers the area under one conservation easement Again, preservation should never be allowed as a stand-alone project Preservation alone does not contribute to an increase in the improvement of water quality Subject features pursuant to rules 0233, 0243, 0250, 0259, 0267 or 0607 have some protection under the law

Retroactive credits should only be allowed if the site has been constructed within the last three years or after the enactment of the buffer rules and these areas of buffer mitigation have been approved by the Division Older sites where credits are being considered presents problems in determining what the historic watershed baseline conditions were prior to any mitigation activity Clear documentation of existing site conditions needs to exist to consider sites for retroactive credits Retroactive credit sites need to demonstrate that they meet the intent of the rule and provide for water quality improvements The ecological benefits of a retroactive site in some cases would be just based on judgment without any documented baseline conditions to prove water quality improvements Only sites that are currently being monitored and have verified historic baseline conditions should be allowed

My comments are presented below by Section

(a) Purpose The purpose of the rule is properly described in this section
(b) Definitions The terms are properly defined in this section
(c) Application Requirements, Mitigation Site Requirements and Mitigation Options *(2) A non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands* The purpose of the non-wasting endowment or other dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management The mitigation buffer site is designed as a natural, self-sustaining system that should not require active management
(d) Area of Impact This section is acceptable
(e) Area of Mitigation Required on Zonal Mitigation Ratios These are acceptable zonal mitigation ratios
(f) Area of Mitigation Required on Locational Mitigation Ratios The locational mitigation ratios are acceptable
(g) Geographic Restrictions on Location of Mitigation The geographic restrictions on location of mitigation are acceptable
(h) Riparian Buffer Mitigation Units Preservation mitigation activity should only be used on a restrictive basis since it does not contribute to a gain in buffer area Preservation mitigation activities should be restricted to no more

than 25% of the total mitigation credit provided which includes enhancement and restoration mitigation credits A preservation only mitigation site should not be allowed

(i) Riparian Buffer Restoration Site or Enhancement Site (8) *The applicant or mitigation provider shall provide a site specific credit/debit ledger to the Authority at regular intervals as specified in the mitigation plan approval or Mitigation Banking Instrument once credits are established and until they are exhausted* Division of Mitigation Services should provide ledgers on at least a semi-annual basis (10) *The applicant or mitigation provider shall provide a non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands* The purpose of the non-wasting endowment or other dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management

(j) Purchase of Buffer Mitigation Credits from a Private or Public Compensatory Mitigation Bank The terms of purchase of buffer mitigation credits are acceptable

(k) Payment to the Riparian Buffer Restoration Fund NC Ecosystem Enhancement Program should be revised to NC Division of Mitigation Services

(l) Donation of Property Donation of property should require the approval of the Division before any property donations are accepted

(m) Alternative Buffer Mitigation Options (1)(C) *A non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands or structures* The purpose of the non-wasting endowment or other dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management Preservation mitigation activities should be restricted to no more than 25% of the total mitigation credit provided which includes enhancement and restoration mitigation activities A preservation only mitigation site should not be allowed

(n) Accounting for Buffer Credit, Nutrient Offset Credit and Stream Mitigation Credit The terms of accounting for credit are acceptable

Thank you for your time, consideration, and opportunity to comment

Sincerely,
Scott

Scott King | Environmental Specialist | Ecosystem Restoration Group | Michael Baker International
8000 Regency Parkway – Suite 600, Cary, NC 27518 | [Office] 919-481-5731 | [Fax] 919-463-5490
scott king@mbakerintl com | www mbakerintl com

Michael Baker
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April 17, 2015

Sue Homewood
NC DWR - Winston Salem Regional Office
450 W Hanes Mill Rd , Suite 300
Winston Salem, NC 27105

Subject Written comments for the proposed permanent rule 15A NCAC 02B 0295 (*Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers*)

To Whom It May Concern –

Thank you for the opportunity to submit written comment on the proposed permanent rule 15A NCAC 02B 0295 (*Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers*) Restoration Systems has been involved with buffer mitigation for nine years, providing buffer mitigation credit to the private market and the North Carolina Division of Mitigation Services (formerly the Ecosystem Enhancement Program) through their full-delivery program Buffer mitigation sites are essential to the protection and restoration of water quality in North Carolina The purpose of the proposed permanent rule is to provide consistency of mitigation under the various river basins with riparian buffer protection, a purpose we whole heartily support Below, we have provided our comments in an outline format based on the sections of the proposed rule

Before we address the rule by section, there two issues that concern us greatly, development of preservation only mitigation sites and retroactive credit generation

Preservation as Buffer Mitigation
The use of preservation should be limited to only a portion of any given mitigation project with no more than 25% of credits generated from a mitigation site being preservation Preservation should be used as a "tool" to increase the ecological benefits of a site by incentivizing protection of existing buffers since these areas would not provide mitigation credit if preservation was not considered For example, there may be a restoration site that has a section of existing forested riparian buffer that is fully functioning with restoration opportunity on the up and downstream sides of the areas Including this existing forested area between the two restoration areas provides for an ecological corridor as well as covers the area under one conservation easement Again, preservation should never be allowed as a stand-alone project Preservation alone does not contribute to an increase in the improvement of water quality Subject features pursuant to rules 0233, 0243, 0250, 0259, 0267 or 0607 have some protection under the law

Retroactive Credit Generation
Restoration Systems opposes retroactive credit generation Out of necessity we have applied for credits after the fact -- but only for competitive reasons As a matter of public policy moving forward we are opposed in all instances to the award of credits to sites which have already been

conserved with an easement From the public's point of view when a site has been permanently protected no further credit permitting should occur, since the public has gained or will gain all positive sites attributes without additional credit being awarded As well as undermining the interest of the public, retroactive awards lead to market abuses and distortion In 2009 a firm was awarded millions of dollars worth of credits with zero additional site activity years after the public had gained the values of the site The marginal cost to the producer was effectively zero — and the gain to the environment was non-existent The only party how came out ahead was the producer who had in effect "gamed" the system

Additional comments are presented below by Section

(a) Purpose The purpose of the rule is properly described in this section
(b) Definitions The terms are properly defined in this section
(c) Application Requirements, Mitigation Site Requirements and Mitigation Options

- *(2) A non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands* The purpose of the non-wasting endowment or other dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management The mitigation buffer site is designed as a natural, self-sustaining system that should not require active management

(d) Area of Impact This section is acceptable
(e) Area of Mitigation Required on Zonal Mitigation Ratios These are acceptable zonal mitigation ratios
(f) Area of Mitigation Required on Locational Mitigation Ratios The locational mitigation ratios are acceptable
(g) Geographic Restrictions on Location of Mitigation The geographic restrictions on location of mitigation are acceptable
(h) Riparian Buffer Mitigation Units Preservation mitigation activity should only be used on a restrictive basis since it does not contribute to a gain in buffer area Preservation mitigation activities should be restricted to no more than 25% of the total mitigation credit provided which includes enhancement and restoration mitigation credits A preservation only mitigation site should not be allowed
(i) Riparian Buffer Restoration Site or Enhancement Site

- (8) *The applicant or mitigation provider shall provide a site specific credit/debit ledger to the Authority at regular intervals as specified in the mitigation plan approval or Mitigation Banking Instrument once credits are established and until they are exhausted* Division of Mitigation Services should provide ledgers on at least a semi-annual basis

- (10) *The applicant or mitigation provider shall provide a non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands* The purpose of the non-wasting endowment or other

dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management

(j) Purchase of Buffer Mitigation Credits from a Private or Public Compensatory Mitigation Bank The terms of purchase of buffer mitigation credits are acceptable

(k) Payment to the Riparian Buffer Restoration Fund NC Ecosystem Enhancement Program should be revised to NC Division of Mitigation Services

(l) Donation of Property Donation of property should require the approval of the Division before any property donations are accepted

(m) Alternative Buffer Mitigation Options

- (1)(C) *A non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands or structures* The purpose of the non-wasting endowment or other dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management Preservation mitigation activities should be restricted to no more than 25% of the total mitigation credit provided which includes enhancement and restoration mitigation activities A preservation only mitigation site should not be allowed

(n) Accounting for Buffer Credit, Nutrient Offset Credit and Stream Mitigation Credit The terms of accounting for credit are acceptable

Thank you for your time, consideration, and opportunity to comment

Sincerely,

Raymond Holz
Project Manager

SOUTHERN ENVIRONMENTAL LAW CENTER

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April 17, 2015

RECEIVED
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APR 20 2015
Winston-Salem
Regional Office

Via U S and Electronic Mail
Sue Homewood
Division of Water Resources
N C DENR
450 West Hanes Mill Road, Suite 300
Winston-Salem, N C 27105
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Re Buffer Mitigation Rule Proposed Rule – 15A N C Admin Code 02B 0295

Dear Ms Homewood

Please accept these comments on the proposed revisions to 15A N C Admin Code 02B 0295 (Proposed Rule") The Southern Environmental Law Center submits these comments on behalf of itself, Sound Rivers, and the North Carolina Conservation Network Sound Rivers is grassroots organization dedicated to protecting, preserving, and promoting the environmental quality of the Tar-Pamlico and Neuse rivers [1] The Conservation Network works to protect North Carolina's air, water, and quality of life The Proposed Rule continues the Department of Environment and Natural Resources' ("DENR") recent efforts to dismantle riparian buffer protections—substantially weakening the best, lowest-cost method of protecting water quality in North Carolina The Proposed Rule carries forward recent rule revisions that were designed to increase mitigation options without regard to water quality benefits

DWR s mission is "To protect and enhance North Carolina's surface water and groundwater resources for the health and welfare of the citizens of North Carolina, and the economic well-being of the state In light of the declining state of North Carolina's waters, largely as a result of nonpoint sources of water pollution, riparian buffer mitigation rules must maintain or enhance existing standards if DWR is to fulfill this mission Unfortunately, the Proposed Rule fails to provide that necessary protection

The need for more, not less, stringent riparian buffer rules – is most clearly depicted in the 2009 Neuse River Basinwide Water Quality Plan (Neuse River WQP") and 2010 Tar-Pamlico Basinwide Water Quality Plan ('Tar-Pam WQP') The plans identify those areas where successes have been made, areas that continue to threaten water quality, and methods of improving water quality within the respective river basins Each of these elements of the plans support stronger, and more strongly enforced, riparian buffer rules

[1] Sound Rivers was formed in April 2015 through the merger of the Pamlico-Tar River Foundation and the Neuse River Foundation

Reductions in point source discharges in the Neuse and Tar-Pamlico river basins have largely been successful The Neuse River WQP notes that ' point source dischargers have substantially reduced their nitrogen contribution over the last several years" and that ' [t]he majority of the point source dischargers have exceeded the required 30% reduction ' Neuse River WQP at 358 Similarly, the Tar-Pam WQP states that point sources have "consistently and reliably kept nutrient loadings beneath the caps without relying on banked credits " Tar-Pam WQP at 6 10

Nonpoint source discharges, however, continue to be a substantial problem in the Neuse and Tar-Pamlico river basins In the Neuse River WQP, DWR found that '[r]unoff is recognized as contributing to water quality decline in ***at least 1,600 freshwater miles*** in the Neuse River Basin " Neuse River WQP at 358 (emphasis added) Those 1,600 miles of degraded waters represent "50% of the freshwater stream miles in the Neuse River Basin " *Id* Although those numbers are staggering, they "likely underestimate the true stream miles affected by the many different types of nonpoint source runoff " *Id*

Likewise in the Tar-Pam, despite improvements from point sources, "the implementation of the NSW strategy has thus far not resulted in meeting water quality standards in the Pamlico River Estuary " Tar-Pam WQP at 6 6 Furthermore the modeling conducted by DWR to calculate point and non-point source loading of nutrients concluded that 92% of the nitrogen load in the Tar-Pamlico is from non-point sources of pollution Tar-Pamlico Basin Nutrient Sensitive Waters Implementation Strategy Phase III Agreement

The only possible conclusion from this data is that "more needs to be done to reduce nutrient load " Neuse River WQP at 358 The consequences of failing to do more are clear – and plainly recognized by DWR and the EMC – many more stream miles are likely to become impaired during the next assessment period if this trend continues ' *Id* at 358-59

Fortunately, DWR is well aware of the steps that must be taken to prevent the decline in water quality in the Neuse and Tar-Pamlico rivers and waters across the state as a result of nonpoint sources It is essential to implement "better stormwater controls throughout the watershed on both existing and new development as well as from forestry harvesting and agricultural practices " In addition, the Tar-Pam WQP states as a voluntary goal to develop, strengthen, and enforce riparian buffer ordinances Tar-Pam WQP at 6 31

A key question for the EMC in shaping the permanent rule to follow the temporary rule mandated by the 2014 legislation should be do the changes forced by SL 2004-95 in fact protect water quality? The answer, unfortunately, is a clear no As discussed below, within the context of specific rule sections, the EMC should use this opportunity to enhance existing buffer mitigation rules to ensure that mitigation replaces lost function of riparian buffers

We recommend the following revisions to the Proposed Rule

1 Decrease credit given for buffers greater than 100 feet

The Proposed Rule awards 50% mitigation credit to buffers between 101 and 200 feet wide *See* Proposed 0295 (i) The science shows that additional water quality benefits beyond 75 feet are generally regarded to be minimal In nutrient sensitive waters like the Tar-Pamlico and Neuse Rivers, decreasing the amount of buffer restoration and enhancement done within the first 100 feet of buffer will degrade water quality As reflected in the Division of Water Resources' response to the Ecosystem Enhancement Program s comments during the last comment period on riparian buffer mitigation rules, nutrient reduction potential decreases significantly between 76 and 200 feet *See* DWR Response to August 2013 EEP Letter at 3 (attached as Ex 1) DWR estimated '~16% increase [in N removal] between 76 and 200 feet " Based on that analysis, DWR staff recommended 25% buffer credit between 101-200 feet The Proposed Rule should be revised to adopt this lower credit amount to reflect the decreased nutrient removal observed in buffers between 101 and 200 feet

2 Require the elimination of impervious cover and stormwater conveyances.

Buffers only provide water quality benefits if diffuse flow passes through the buffer The Proposed Rule, however, allows DWR to award full credit to projects that do not eliminate existing "impervious surface cover or stormwater conveyances such as ditches, pipes, or drain tiles " *See* Proposed 0295(i)(3) Allowing existing impervious cover and stormwater conveyances to remain in the buffer will render the buffer ineffective The Proposed Rule should be revised to prohibit awarding riparian buffer credit unless existing impervious surfaces and stormwater conveyances are removed

3 Restore the ratio for enhancement credit to 3.1.

The temporary rule that the Proposed Rule modifies, decreased the required mitigation to earn one mitigation credit through buffer enhancement from 3 1 to 2 1, reducing mitigation provided by that unit by one third As a result, an enhancement project will now produce additional mitigation credit, with corresponding higher payments to mitigation providers, but provide significantly less water quality benefit The Proposed Rule continues this weakening of water quality protections without justification *See* Proposed 0295 (h) The ratio should be restored to 3 1

4 Restore requirements for restoration or enhancement of riparian buffers equal to the footprint of the impacted buffer before credit is awarded for preservation or structural stormwater controls

The Proposed Rule eliminates the requirement that lost riparian buffers be replaced with riparian buffers before granting preservation credit or credit for the use of Alternative Buffer Stormwater Treatment Options *See* Proposed 0295 (m)(2)(C), (m)(2)(D), (m)(3)(A) Of all the mitigation options contemplated by the mitigation rule, restored and enhanced riparian buffers

remain the most reliable long-term option for replacing the function of lost riparian buffers The Final Rule should reinstate the requirement that structural options be paired with buffer restoration or enhancement

5 Eliminate mitigation credit for buffering ditches

The Proposed Rule further weakens mitigation requirements by including mitigation credit for establishing buffers on ditches DWR has previously recognized that ditches do not have sufficient drainage area to provide water quality protection equal to or better than protected riparian buffers Section 0295(m)(2)(H) should be deleted By artificially lowering the water table, ditches eliminate the many factors necessary for nutrient removal capabilities Furthermore, research by N C State University suggests that for riparian buffers along ditches to provide water quality benefits via nitrogen removal (primarily via denitrification), water control structures should also be employed as part of the buffer project [2] If ditches are to be included as buffer mitigation options, the Proposed Rule must be revised to include water control structures that will ensure that water is exposed to the buffers

6 Case-by-case approval of alternative buffer mitigation options must be eliminated

Section 0295(m)(4) must be deleted In short, it would allow the EMC to approve any proposed mitigation without meeting any specific requirements to ensure water quality benefits The section vaguely states that the proposal must "otherwise meet the requirements of this Rule" but provides no indication of which requirements apply The "requirements of this Rule" range widely, from standard buffer mitigation to coastal headwater stream restoration to structural stormwater controls The case-by-case proposal is presumably included to account for options that do not fit in any of these categories—making the standards for determining that a project "otherwise meet[s] the requirements of this Rule ' essential elements of ensuring that mitigation provides water quality benefit As written, the case-by-case analysis provides no limitation on potential mitigation options and must be rejected

Moreover, the provision is unnecessary The Proposed Rule provides plentiful mitigation options It was designed by, and written to accommodate, the largest buffer mitigation providers in the state Retroactive credits were included to accommodate existing projects that were not authorized to provide mitigation credit under the previous mitigation rules *See* Proposed 0295(h) (authorizing retroactive riparian buffer credit for existing projects) The Proposed Rule already includes numerous mitigation options with at best, speculative water quality benefit The case-by-case approval of alternative buffer mitigation options must be rejected

The riparian buffer program is essential to protecting water quality in North Carolina As documented over the last several decades in the Neuse and Tar-Pamlico river basins restricting point source discharges—though essential—cannot protect our rivers and estuaries alone A robust riparian buffer program including meaningful mitigation, must be included The Proposed Rule takes North Carolina farther from the goal of protecting and restoring water quality and should, at a minimum, be amended as described above

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[2] Kunickis S H et al 2010 The effect of riparian buffers with controlled drainage on soil redox potential, 19th World Congress of Soil Science Soil Solutions for a Changing World at 66 (2010)

Thank you for consideration of these comments Please contact me at (919) 967-1450 or ggisler@selenc org if you have any questions regarding their content

Sincerely,

Geoffrey R Gisler

GRG/rd
Enclosures
cc Heather Deck, Sound Rivers (email)

EXHIBIT 1

DWR responses to the EEP document
"Reforms needed immediately in the regulation of riparian buffer mitigation"

General statement regarding potential changes to mitigation rules

DWR has a responsibility to maintain the integrity of the mitigation credits being purchased If DWR allows mitigation projects to be implemented that do not adequately offset the impact, then applicants are wasting their money on credits that do not provide commensurate water quality benefit The DENR mission states that the agency's primary mission is to protect NC's environment and natural resources through

- Operating within the confines of the regulations,
  (Some of the requests made by EEP would require DWR to operate outside of the confines of the existing regulations In such instances, this document recommends rule changes where necessary)

- Being a resource of invaluable public assistance,
  (DWR strives to provide public assistance to applicants ensuring that rules result in available credits that are commensurate with their permitted impacts)

- Being cognizant that an economic cost/benefit analysis is an integral component,
  (The proposed rule, in addition to the recommended modifications listed below, does consider the economic cost/benefit analysis We believe we have balanced the need to keep mitigation costs low while still providing commensurate mitigation credits)

- Making decisions with a respect and understanding for the science, which contains diversity of opinion
  (DWR developed the proposed rule, in addition to the recommended modifications listed below, using science and taking into consideration the diversity of opinions in the field)

just responses

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8-8-13

I. Riparian Buffer Mitigation Widths – the Ironclad 50' Standard

There are two issues raised under this section (a) provide mitigation credit for buffers wider than 50 ft and (b) provide mitigation credit for buffers narrower than 50 ft

Response:

Under the current buffer mitigation rules, applicants may "restore or enhance a non-forested **riparian buffer** " A **riparian buffer** is defined within each of the buffer rules Each rule has an applicability paragraph that defines where the rule shall apply (*e g* in the Neuse "*This Rule shall apply to **50-foot wide riparian buffers** directly adjacent to surface waters in the Neuse River Basin (intermittent streams, perennial streams, lakes, ponds, and estuaries), excluding wetlands*" The rule further goes on to clarify that a subject feature must be depicted on either the USGS topo map or the NRCS soil survey and defines the Zones of the riparian buffer)

To allow buffer mitigation to occur beyond 50-feet requires a rule change

allow credit 50-200 per the table

(a) DWR agrees that mitigation credit should be granted for restored buffer widths in excess of 50 feet on a prorated basis, up to a maximum of 200 feet in the consolidated buffer mitigation rule (15A NCAC 02B 0295) See Table 1 below

(b) DWR also agrees that mitigation credit should be granted for restored buffer widths less than 50 feet on a prorated basis, down to a minimum of 30 feet in non-urban areas and 20-feet in urban areas in the consolidated buffer mitigation rule (15A NCAC 02B 0295) See Table 1 below

The existing buffer rules require mitigation for a minimum of 50 ft of width in order to ensure replacement of impacted buffers Scientific literature provides data to show that nutrient removal is a function of buffer width, along with other site factors such as soil type and subsurface hydrology Similarly, scientific evidence supports that narrower buffers provide some nutrient reduction For buffer widths below 20 ft however, nitrogen removal is highly variable and thus not proposed Allowing for narrower buffers is especially important in urban areas, where available land for riparian buffers is limited The draft consolidated buffer mitigation rules (15A NCAC 02B 0295) provided credit on a prorated basis for narrower buffers in urban areas in (k)(2)(D), and DWR proposes to expand this to cover non-urban areas also

Table 1 - Proposed Buffer credit

Urban Areas (see Figure 1)	
Buffer width (ft)	Proposed Percentage of Full Credit
< 20	0%
20-29	75%
30-100	100%
101-200	25% for area > 100 feet

Non-Urban Areas (see Figure 2)	
Buffer width (ft)	Proposed Percentage of Full Credit
< 30	0%
30-100	100%
101-200	25% for area > 100 feet

Background To develop this proposal, DWR evaluated several scientific resources Mayer (2007) conducted an analysis based on available scientific literature (45 studies, 89 individual buffers) that contained data on riparian buffer and nitrogen (N) concentration in

streams and groundwater The authors developed a nonlinear regression model to estimate nitrogen removal efficiency within three different buffer width ranges Two distinct zones emerged, with 50-75% N removal for buffers up to 75 feet wide and a much lower increase in N removal between 75 and 200 feet (~16% increase between 76 and 200 feet) See Figure 3 at the end of this document for a summary of this data

The Nitrogen Loss Estimation Worksheet (NLEW) Committee (Osmond et al 2011) also reviewed several studies conducted primarily in North Carolina The studies looked at the effect of buffer widths and riparian vegetation on subsurface nitrate reductions The NLEW committee determined that credit should be based on net N reduction rather than gross reduction Net N reduction refers to the additional nitrogen removal that will result from changing an area from some pre-existing use (such as row crops) to a forested riparian buffer The authors identified % N reduction credit for four different ranges of buffer widths These % N reduction credits were used to calculate nitrogen offset credit from riparian reforestation along a 1,000 linear foot stream segment – see Figure 4 at the end of this document for a summary of this data

DWR found that both the Mayer method and the NLEW method demonstrated a significant drop in the additional amount of nutrients removed for wider buffers beyond a certain point DWR used this information to calculate the credits in Table 1 – see Figure 5 at the end of this document to see how the proposed credit ratio exhibits a similar pattern to the nutrient removal provided by buffers of varying widths

II. Riparian Buffer Jurisdiction – Map Jurisdiction.

There are two issues raised under this section (a) the ability to conduct restoration or enhancement on unmapped streams and (b) the ability to conduct restoration or enhancement on all watercourses, including ditches

Response:

As stated above in **I**, the current mitigation rules require that restoration or enhancement take place on non-forested riparian buffers, "*riparian buffers*" as defined in each riparian buffer rule To allow buffer mitigation to occur on non-subject features requires a rule change

(a) DWR agrees that buffer mitigation projects should be allowed on non-subject streams, which is why in 15A NCAC 02B 0295, there is an entire Part [(k)(2)(b)] that provides for restoration, enhancement and preservation on non-subject streams

(b) DWR does not agree that buffer mitigation projects should be allowed on ditches, except as provided for in the Randleman rules The Randleman rules state that ditches or manmade conveyances that deliver untreated stormwater runoff from an adjacent source directly to an intermittent or perennial stream are subject to the Rule, so these types of ditches/manmade conveyances are eligible for mitigation projects

Define buffer but will allow this in Randleman

Background The nutrient offset rules do not explicitly allow for riparian buffers on ditches to offset upland development The nutrient offset rules require that calculations be provided indicating the annual magnitudes of load reductions for a proposed measure A historic calculation of credit was made assuming the riparian buffer functioned the same as a riparian wetland providing treatment during flood events This resulted in a single per-acre credit value which was applied to restored buffers up to 200 feet and on both streams and ditches

The historic calculation assumes a drainage area of 10 8 acres, which is unlikely for a ditch It also assumes deposition from overbank flooding, which rarely occurs in ditches

There are also many issues on potential project sites for ditches

- Is the ditch hydrologically connected to an intermittent or perennial stream?
- Does stormwater runoff from overland flow drain toward the ditch?
- Does the ditch drain towards the intermittent/perennial stream?
- Was the ditch present before the buffer rules came into effect?
- How will the ditch be maintained?

DWR would consider allowing "mitigation projects" on ditches if the applicant/mitigation banker/EEP could demonstrate the net nutrient removal function of the mitigation project, similar to the requirements for stormwater BMPs

III. Riparian Buffer Jurisdiction – Stream Calls on Mapped Streams

The issues raised under this section focus on the requirement to have a stream determination made by DWR staff More specifically, there is a concern that the stream method is not appropriate for modified natural streams that may be severely degraded

Response: → state that severely impaired streams will be eligible.

- DWR will continue to make on-site stream determinations using the *Methodology for Identification of Intermittent and Perennial Streams and Their Origins v 4 11.*

Background As stated above in **I**, the current mitigation rules require that restoration or enhancement take place on non-forested riparian buffers, "riparian buffers" as defined in each riparian buffer rule In G S 143-214 25A, the state general assembly required DWR to develop a program to train and certify individuals* to determine the presence of surface waters that would require the application of rules adopted by the EMC for the protection of riparian buffers The statute goes on further to state that DWR shall develop standard forms for use in making and reporting determinations

DWR developed the SWITC methodology in 1999, revised in 2004, 2005 and 2010 This methodology has been thoroughly tested over the years and with appropriate training, is robust enough to determine the difference between a modified natural stream and a ditch

The 2008 buffer audit revealed that a number of sites had features that were determined by DWQ staff (including SWITC instructors with significant experience in applying the method) to be ditches, and therefore not eligible for Neuse riparian buffer mitigation As a result, it was jointly agreed by DWQ and EEP that DWQ staff would make on-site stream determinations on 1st and 2nd order surface water features on all proposed mitigation sites to ascertain the applicability of the Rules

IV. Restoration Success Criteria – Native Hardwood Trees

The issues raised under this section focus on the requirement to plant a minimum of at least two native hardwood tree species and the current DWR practice of not allowing Sweet Gum or Red Maple to be counted towards meeting this requirement

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* Individuals that may be certified include staff with DWR, NCFS (registered foresters only), and delegated local governments (pursuant to G S 143-214 25A)

Response:

- DWR agrees that as written, the use of Sweet Gum and Red Maple counts towards meeting the minimum requirement of the rule, however DWR prefers providers to use a mix of early and later successional species in order to ensure a diverse forest Mitigation providers will be expected to meet planting criteria established by the IRT in buffer areas that are part of a stream mitigation site

Background Planting multiple species of hardwood trees has been standard mitigation practice in North Carolina for riparian buffer mitigation, and has also been standard mitigation practice by the U S Army Corps of Engineers on stream and wetland mitigation sites It is supported by the other resource agencies on the Interagency Review Team (IRT), particularly the NC Wildlife Resources Commission and the US Fish and Wildlife Service

DWR staff have visited hundreds of stream and buffer mitigation sites over the past eight years, and on the vast majority of these sites, the planted riparian zones consisted of a variety of oaks, green ash, sycamore and other species typical of riparian reference forest ecosystems with heights ranging from four to 10 feet The majority of these sites also had abundant Red Maple and Sweet Gum volunteers (*i e* naturally established through seed dispersal) These sites were determined to be on a trajectory toward a diverse riparian forest, which included substantial amounts of Red Maple and Sweet Gum volunteers

On sites where tree survival or vigor has been a concern, this has generally been a result of the soil conditions (e g "Priority 2 stream restoration", soil compaction, presence of plow pans, etc) On such sites, it has been observed that Red Maple and Sweet Gum volunteers experienced similar difficulties as the oaks, ash and other hardwood tree species Nonetheless, Red Maple has been used to replant problem areas during the monitoring period where other species had difficulties

V. Restoration Success Criteria – Planted Stems

The issues raised under this section focus on the requirement to plant 320 trees per acre and the statement that DWR does not count trees derived from existing seed sources, planted seeds, stump sprouts or other volunteer species towards meeting that 320 requirement

Response:

- DWR agrees that using 260 stems per acre at the end of the monitoring period would provide more consistency with the federal performance standards for stream and wetland projects, which is why this change is reflected in 15A NCAC 02B 0295 (g)(5)(B) Current practice is that DWR staff consider the presence of woody volunteers during closeout of buffer sites

VI. Restoration and Enhancement Criteria – Measuring Density

The issues raised under this section focus on tree density for determining restoration or enhancement More specifically, the issues include the inconsistency among rules, the lack of clarity on how to measure density which has resulted in inconsistent calls among DWR staff, and the use of a tree's dripline

Response:

- DWR agrees that the inconsistency among rules has created confusion and inconsistency, which is why in 15A NCAC 02B 0295, there are clear definitions for restoration, enhancement and preservation to be used for all the buffer rules The definitions were written to provide more clarity, while still allowing DWR staff to use best professional judgment in evaluating potential mitigation sites based on their many years of experience

  Restoration Site – riparian zone sites that are characterized by an absence of trees and by a lack of dense growth of smaller woody stems (i e , shrubs or saplings) or sites that are characterized by scattered individual trees such that the tree canopy is less than 25% of the cover and by a lack of dense growth of smaller woody stems (i e , shrubs or saplings)

  Enhancement Site – riparian zone sites that are characterized by conditions between that of a restoration site and a preservation site such that the planting of woody stems (i e , shrubs or saplings) will maximize nutrient removal and other buffer functions

  Preservation Site – riparian zone sites that are characterized by a natural forest consisting of the forest strata and diversity of species appropriate for the physiographic province

Background The goal of buffer mitigation is to offset the buffer impact and its functions with a restored or enhanced buffer, where the restoration or enhancement activities restore nutrient removal and other functions to a buffer that did not have those functions, or to enhance a buffer with degraded function

In the Neuse, Tar-Pamlico and Catawba rules, there is currently no definition for restoration or enhancement In the Randleman and Jordan rules, there are definitions for restoration (site with less than 100 trees per acre) and enhancement (site with greater than 100 stems per acre but less than 200 stems per acre) A tree is defined as 5 inches DBH (diameter at breast height)

Because of the lack of definition or lack of a valuable definition, DWR has had providers propose "restoration" sites where a fully-functional or near-fully-functional (developing) buffer was already present These sites had dense growth of woody stems with one to two-inch DBH, which is roughly equivalent to the size of the trees that would be planted

Similarly, sites were proposed by mitigation providers (some instituted by EEP) for "restoration" with complete closed canopy cover with large, mature trees but minimal understory or ground cover due to livestock access We determined that those sites did not meet the intent of 15A NCAC 02B 0242(9), which provides the applicant with the option to " *restore or enhance a **non-forested** buffer*"

Based on DWR's experience regarding site-specific conditions and the variability related to existing versus potential buffer function, the need exists for DWR staff to make on-site assessments to verify the site's suitability for buffer mitigation in support of the purposes of both the Riparian Buffer Protection Rules and the proposed Consolidated Buffer Mitigation Rule

- where there is a def, we will apply a fixed the radius thing.

Figure 1. Example Proposed Mitigation Credit for 1,000 linear feet (LF) of stream in Urban Areas

- Total credit for a 20 ft buffer = 15,000 ft^2
- Total credit for a 30 ft buffer = 30,000 ft^2
- Total credit for a 100 ft buffer = 100,000 ft^2
- Total credit for a 200 ft buffer = 100,000 + 25,000 = 125,000 ft^2

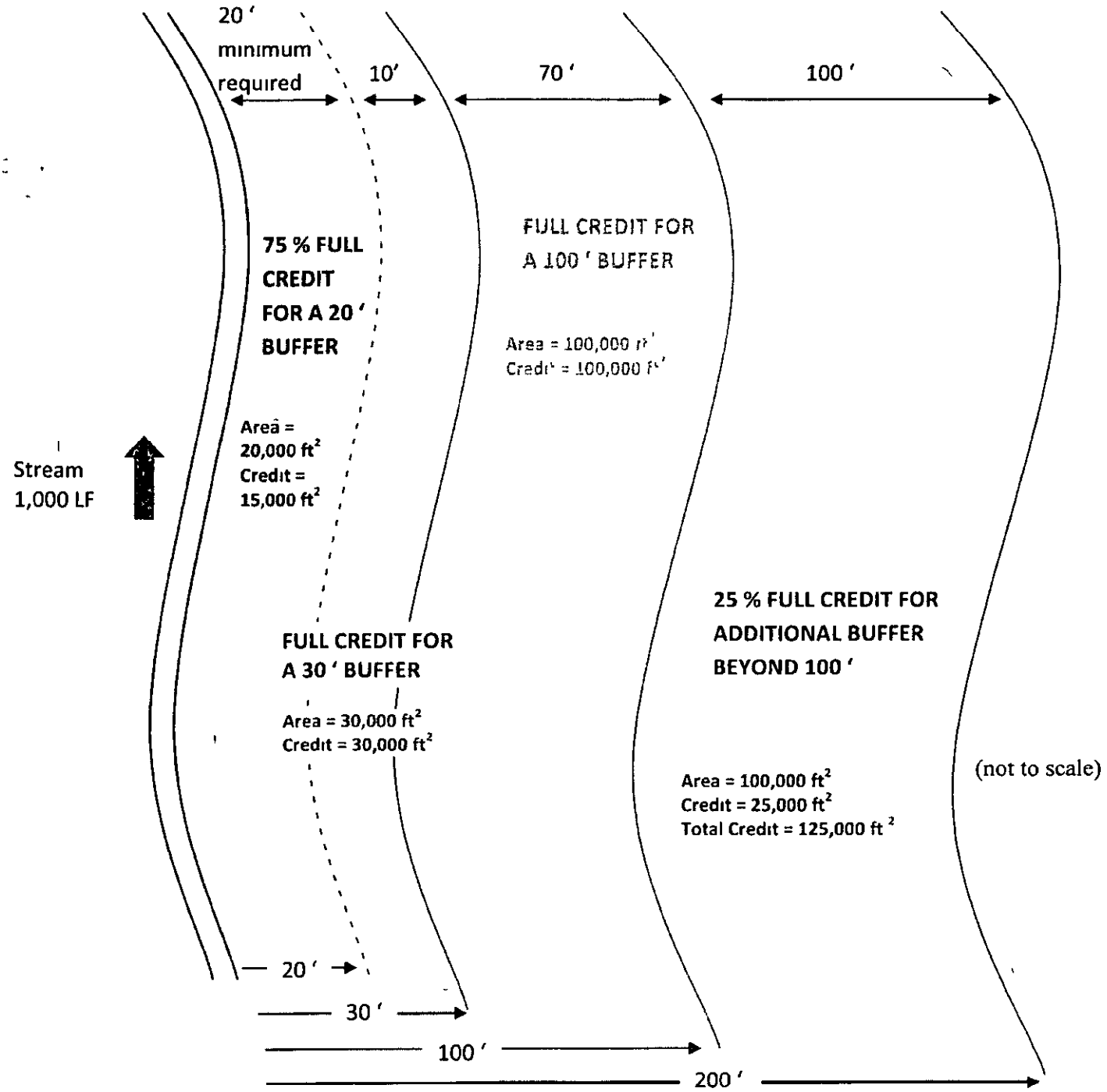

Figure 2 Example Proposed Mitigation Credit for 1,000 linear feet (LF) of stream in Non-Urban Areas

- Total credit for a 30 ft buffer = 30,000 ft^2
- Total credit for a 100 ft buffer = 100,000 ft^2
- Total credit for a 200 ft buffer = 100,000 + 25,000 = 125,000 ft^2

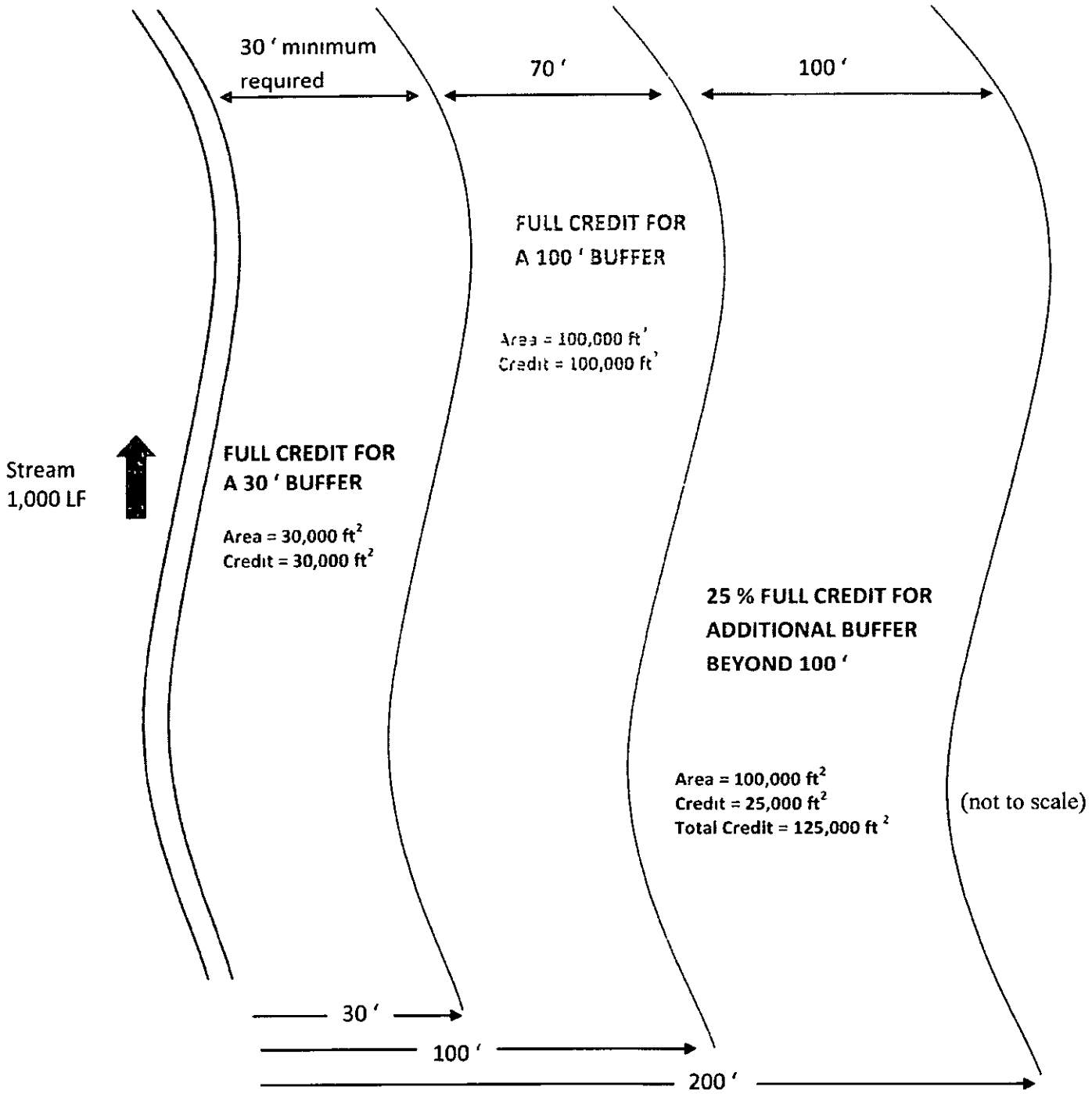

Figure 3 – Gross Nitrogen Removal (%) as a Function of Buffer Width (ft) – Mayer Curve

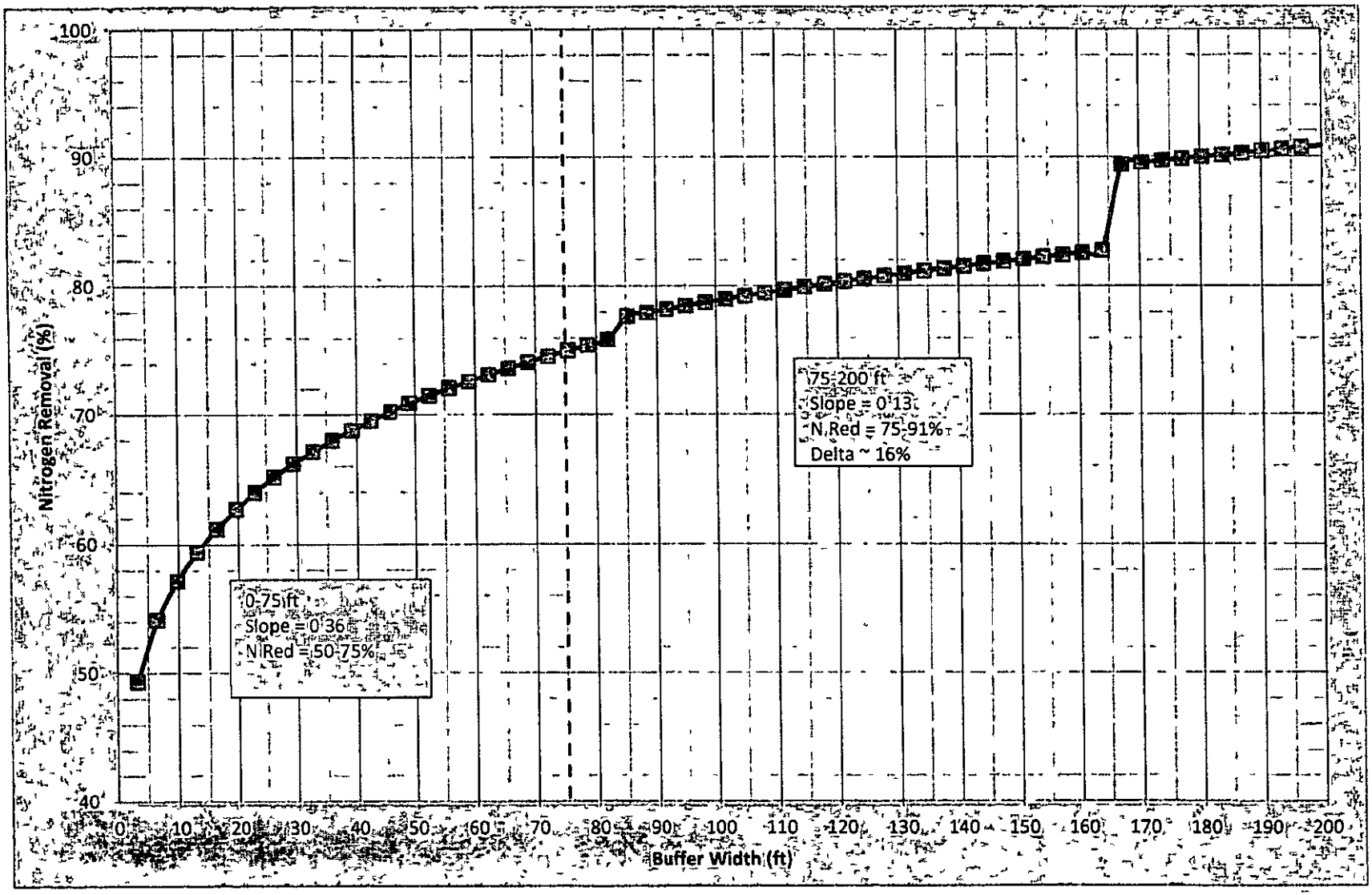

Figure 4 – Net Nitrogen Removal (lbs) as a Function of Buffer Width (ft) – NLEW Method

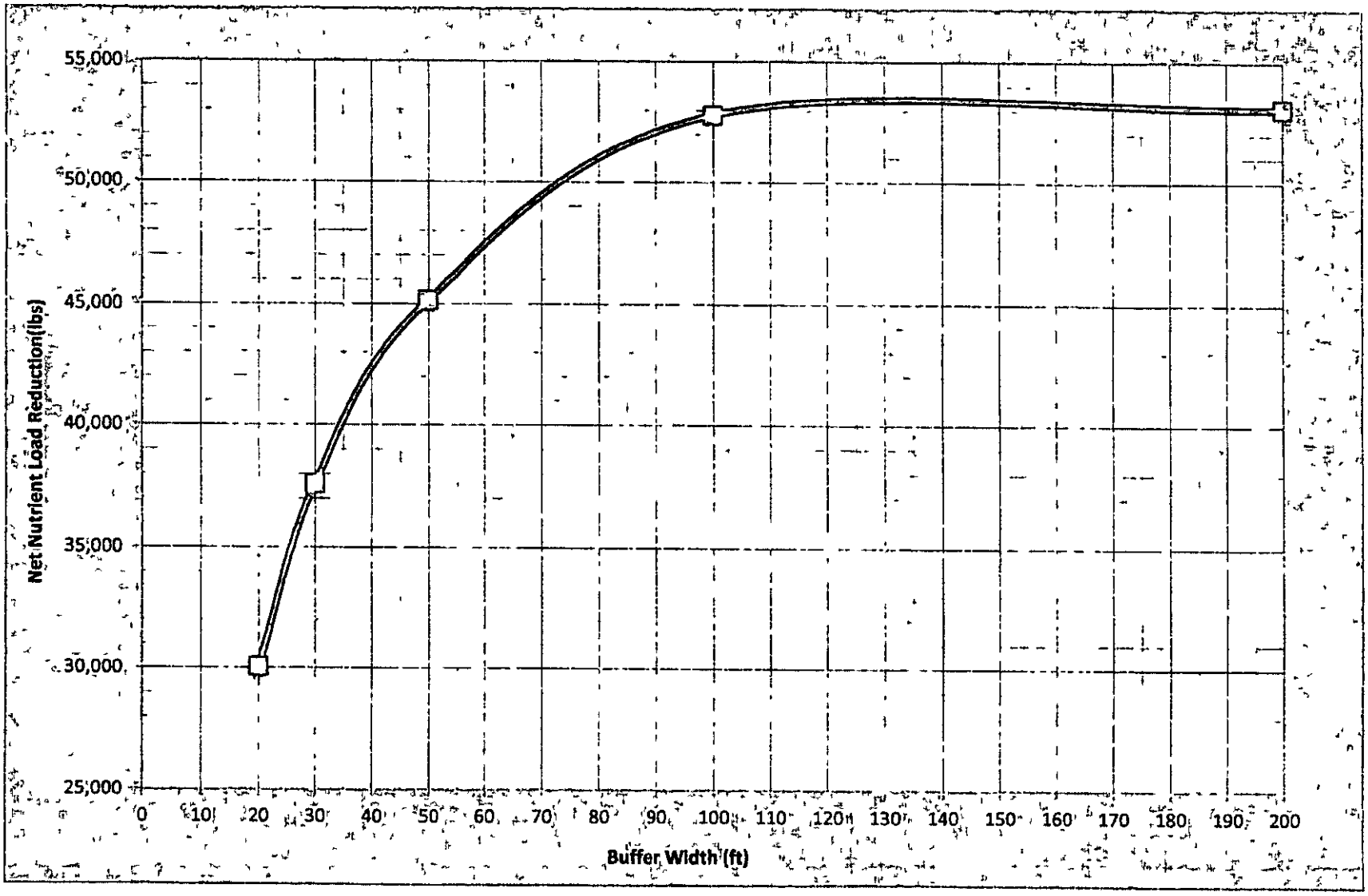
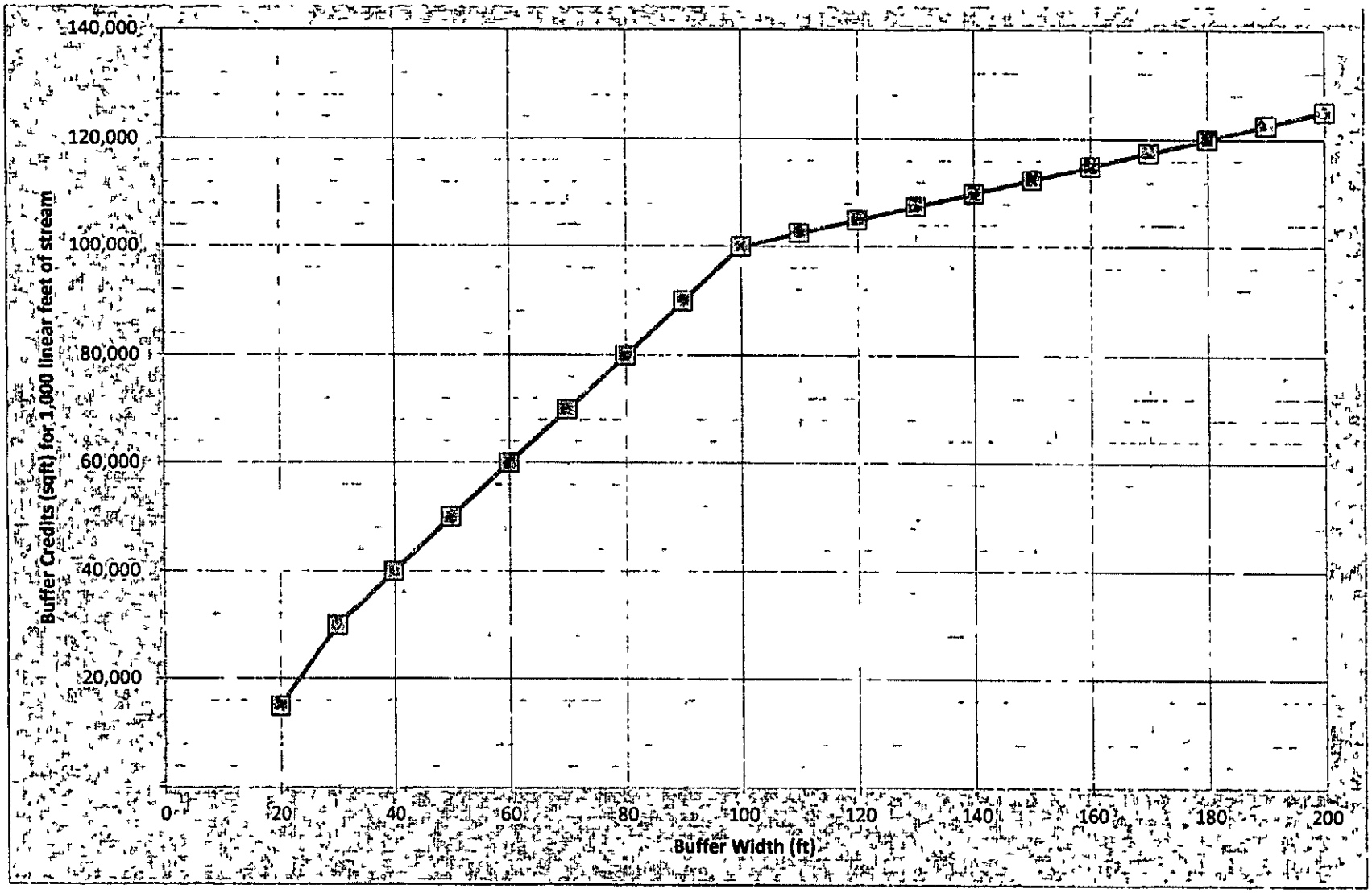
Figure 5 – Proposed Buffer Credits (example is for 1,000 linear feet of stream)