



North Carolina Department of Environment and Natural Resources

Division of Water Quality
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Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

April 25, 2012

MEMORANDUM

TO: Pamela R. Williams, Bridge Project Planning Engineer, NCDOT
FROM: Michael R. Parker, NCDWQ, Asheville Regional Office *MRP*
SUBJECT: Division 13 2011 Bridge Replacement Program Scoping Review Comments

In reply to your request, the NCDWQ offers the following comments for the projects listed below:

Project Specific Comments

100117 Bridge No. 117 over the Broad River, NCSR 2776, Buncombe County

1. The Broad River is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

100222 Bridge No. 222 over Herron Cove Branch, NCSR 2098, Buncombe County

1. Herron Cove Branch is class C-trout waters of the State. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

100402 Bridge No. 402 over an unnamed tributary Flat Creek, NCSR 2806, Buncombe County

1. The unnamed tributary to Flat Fork Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

100541 Bridge No. 541 over Glade Creek, NCSR 2788, Buncombe County

1. Glade Creek is class C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

110203 Bridge No. 203 over Carroll Creek, NCSR 1405, Burke County

1. Carroll Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

560314 Bridge No. 314 over Calvin Creek, NCSR 1332, Madison County

1. Calvin Creek is classified C-trout ORW waters. Review of the project reveals the presence of surface waters classified as C-trout; Outstanding Resource Waters of the State in the project study area. The water quality classification of C-trout; ORW is one of the highest classifications in the State. NCDWQ is extremely concerned with any impacts that may occur to streams with this classification. It is preferred that these resources be avoided if at all possible. If it is not possible to avoid these resources, the impacts should be minimized to the greatest extent possible. Given the potential for impacts to these resources during the project implementation, NCDWQ requests that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NCDOT will be required to obtain a State Stormwater Permit prior to construction except in North Carolina's twenty coastal counties. NCDOT will also need to adhere to the Quality Standards listed in 15A NCAC 2B .0225.

2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout.
3. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.

560514 Bridge No. 514 over Long Branch, NCSR 1410, Madison County

1. Long Branch is classified C-trout ORW waters. Review of the project reveals the presence of surface waters classified as C-trout; Outstanding Resource Waters of the State in the project study area. The water quality classification of C-trout; ORW is one of the highest classifications in the State. NCDWQ is extremely concerned with any impacts that may occur to streams with this classification. It is preferred that these resources be avoided if at all possible. If it is not possible to avoid these resources, the impacts should be minimized to the greatest extent possible. Given the potential for impacts to these resources during the project implementation, NCDWQ requests that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NCDOT will be required to obtain a State Stormwater Permit prior to construction except in North Carolina's twenty coastal counties. NCDOT will also need to adhere to the Quality Standards listed in 15A NCAC 2B .0225.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout.
3. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.

560542 Bridge No. 542 over Big Laurel Creek, NCSR 1504, Madison County

1. Big Laurel Creek is classified C-trout ORW waters. Review of the project reveals the presence of surface waters classified as C-trout; Outstanding Resource Waters of the State in the project study area. The water quality classification of C-trout; ORW is one of the highest classifications in the State. NCDWQ is extremely concerned with any impacts that may occur to streams with this classification. It is preferred that these resources be avoided if at all possible. If it is not possible to avoid these resources, the impacts should be minimized to the greatest extent possible. Given the potential for impacts to these resources during the project implementation, NCDWQ requests that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NCDOT will be required to obtain a State Stormwater Permit prior to construction except in North Carolina's twenty coastal counties. NCDOT will also need to adhere to the Quality Standards listed in 15A NCAC 2B .0225.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout.
3. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.

580052 Bridge No. 52 over Little Crooked Creek, NCSR 1105, McDowell County

1. Little Crooked Creek is class C waters.
2. NCDWQ has no specific comments for this bridge project.

580125 Bridge No. 125 over Dogback Spring Branch, NCSR 1560, McDowell County

1. Dogback Spring Branch is class C-trout waters of the State. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project

580232 Bridge No. 232 over Crooked Creek, NCSR 1101, McDowell County

1. Crooked Creek is class C waters.
2. NCDWQ has no specific comments for this bridge project.

580234 Bridge No. 234 over Brevard Creek, NCSR 1241, McDowell County

1. Brevard Creek is class C waters.
2. NCDWQ has no specific comments for this bridge project.

580338 Bridge No. 338 over Walton Crawley Branch, NCSR 1760, McDowell County

1. Walton Crawley Branch is class C waters.
2. NCDWQ has no specific comments for this bridge project.

600048 Bridge No. 48 over Cane Creek, NCSR 1211, Mitchell County

1. Cane Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

600049 Bridge No. 49 over Cane Creek, NCSR 1206, Mitchell County

1. Cane Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

600084 Bridge No. 84 over Pigeon Roost Creek, NCSR 1349, Mitchell County

1. Pigeon Roost Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

600092 Bridge No. 92 over Wiles Creek, NCSR 1330, Mitchell County

1. Wiles Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

600093 Bridge No. 93 over Lyddies Creek, NCSR 1330, Mitchell County

1. Lyddies Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

600119 Bridge No. 119 over Bad Creek, NCSR 1326, Mitchell County

1. Bad Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

600146 Bridge No. 146 over Big Rock Creek, NCSR 1330, Mitchell County

1. Big Rock Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

600169 Bridge No. 169 over Grassy Creek, NCSR 1269, Mitchell County

1. Grassy Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

800038 Bridge No. 38 over Mountain Creek, NC Highway 108, Rutherford County

1. Mountain Creek is class C waters.
2. NCDWQ has no specific comments for this bridge project.

800096 Bridge No. 96 over Big Springs Branch, NCSR 1754, Rutherford County

1. Big Springs Branch is classified as C waters.
2. NCDWQ has no specific comments for this bridge project.

990037 Bridge No. 37 over Brush Creek, NCSR 1317, Yancey County

1. Brush Creek is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

990054 Bridge No. 54 over Falling Waters Branch, NCSR 1100, Yancey County

1. Falling Waters Branch is classified as WS-II HQW waters.
2. NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.
3. Review of the project reveals the presence of surface waters classified as WS-II; High Quality Waters of the State in the project study area. This is one of the highest classifications for water quality. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NCDOT will be required to obtain a State Stormwater Permit prior to construction except in North Carolina's twenty coastal counties.

990134 Bridge No. 134 over the Cane River, NCSR 1379, Yancey County

1. The Cane River is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

990144 Bridge No. 144 over Brush Creek, NCSR 1317, Yancey County

1. Brush Creek is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

990163 Bridge No. 163 over Doeabag Creek, NCSR 1311, Yancey County

1. Doeabag Creek is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

990200 Bridge No. 200 over Little Whiteoak Creek, NCSR 1168, Yancey County

1. Little Whiteoak Creek is classified as B-trout ORW waters. Review of the project reveals the presence of surface waters classified as C-trout; Outstanding Resource Waters of the State in the project study area. The water quality classification of C-trout; ORW is one of the highest classifications in the State. NCDWQ is extremely concerned with any impacts that may occur to streams with this classification. It is preferred that these resources be avoided if at all possible. If it is not possible to avoid these resources, the impacts should be minimized to the greatest extent possible. Given the potential for impacts to these resources during the project implementation, NCDWQ requests that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NCDOT will be required to obtain a State Stormwater Permit prior to construction except in North Carolina's twenty coastal counties. NCDOT will also need to adhere to the Quality Standards listed in 15A NCAC 2B .0225.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout.
3. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.

990230 Bridge No. 230 over Pigpen Creek, NCSR 1333, Yancey County

1. Pig Pen Creek is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

990231 Bridge No. 231 over Pigpen Creek, NCSR 1333, Yancey County

1. Pig Pen Creek is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

990235 Bridge No. 235 over Brush Creek, NCSR 1317, Yancey County

1. Brush Creek is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.

2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

990276 Bridge No. 276 over Left Prong Still Fork Creek, NCSR 1164, Yancey County

1. Left Prong Still Fork Creek is classified as C ORW waters. Review of the project reveals the presence of surface waters classified as C; Outstanding Resource Waters of the State in the project study area. The water quality classification of C-trout; ORW is one of the highest classifications in the State. NCDWQ is extremely concerned with any impacts that may occur to streams with this classification. It is preferred that these resources be avoided if at all possible. If it is not possible to avoid these resources, the impacts should be minimized to the greatest extent possible. Given the potential for impacts to these resources during the project implementation, NCDWQ requests that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NCDOT will be required to obtain a State Stormwater Permit prior to construction except in North Carolina's twenty coastal counties. NCDOT will also need to adhere to the Quality Standards listed in 15A NCAC 2B .0225.

990293 Bridge No. 293 over Bald Mountain Creek, NCSR 1411, Yancey County

1. Bald Mountain Creek is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In addition, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

General Comments Regarding Bridge Replacement Projects

1. NCDWQ is very concerned with sediment and erosion impacts that could result from these projects. NCDOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
2. If foundation test borings are necessary; it shall be noted in the document Geotechnical work is approved under General 401 Certification Number 3687/Nationwide Permit No. 6 for Survey Activities.
3. Any Bridge considered a Low Impact Bridge Project must fall under Nationwide Permit No. 3 to qualify for Low Impact; otherwise, standard permitting procedures will be required. Example (Regional General Permit No. 31, Nationwide Permit No. 23, Nationwide Permit No. 13, etc.)

4. NCDOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.
5. Where streams must be crossed, NCDWQ prefers bridges be used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove preferable. When applicable, NCDOT should not install the bridge bents in the creek, to the maximum extent practicable.
6. Whenever possible, NCDWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the stream banks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.
7. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NCDWQ's *Stormwater Best Management Practices*.
8. Sediment and erosion control measures should not be placed in wetlands or streams.
9. Strict adherence to the most recent version of NCDOT's Best Management Practices For Bridge Demolition and Removal approved by the US Army Corps of Engineers is a condition of the 401 Water Quality Certification.
10. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from NCDWQ first.
11. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly.
12. All pile driving or drilling activities shall be enclosed in turbidity curtains unless otherwise approved by NCDWQ in this certification.
13. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water.
14. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.

15. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
16. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
17. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
18. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.
19. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
20. Unless otherwise authorized, placement of culverts and other structures in waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
21. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
22. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.

23. In most cases, the NCDWQ prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour shall be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure shall be removed and the approach fills removed from the 100-year floodplain. Approach fills shall be removed and restored to the natural ground elevation. The area shall be stabilized with grass and planted with native tree species. Tall fescue shall not be used in riparian areas.

Thank you for requesting out input at this time. NCDOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact **Mike Parker** at 828-296-4500.

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