North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

MEMORANDUM

TO: Toya F. Ogallo, Environmental Engineer
River Basin Management Section
Division of Water Resources -

FROM: Lyn Hardison
Division of Environmental Assistance and Outreach
Permit Assistance & Project Review Coordinator

RE: Draft Environmental Assessment
Addition of the Goose Creek Watershed to IBT Certificate under the provisions of G.S. 143-215.221 for Charlotte- Mecklenburg Utilities Department
Mecklenburg and Union Counties
DENR # 1580

Date: January 18, 2013

The Department of Environment and Natural Resources has reviewed the proposal for the reference project. Several of the agencies have concerns and questions pertaining to the endangered species present within the project area, removal of Condition 3 of the IBT Certificate and potential secondary and cumulative impact to the habitats of increase in development density. Please forward this memorandum and the attachments to the applicant so our agencies concerns can be addressed and the necessary adjustments can be made to the draft environmental assessment.

The Department encourages the applicant to continue communicating with the agencies prior to the completion of the report and moving forward with the projects.

Thank you for the opportunity to respond.

Attachment

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-707-8600 \ Internet: www.ncdenr.gov

North Carolina Department of Environment and Natural Resources
Office of Conservation, Planning, and Community Affairs

Pat McCrory
Governor

Linda Pearsall
Director

John E. Skvarla, III
Secretary

MEMORANDUM

Date: 9 January 2013

To: Lyn Hardison, Environmental Coordinator
Office of Legislative and Intergovernmental Affairs

From: Andrea Leslie, Freshwater Ecologist
North Carolina Natural Heritage Program (NHP)

Subject: Environmental Assessment for Addition of the Goose Creek Watershed to IBT Certificate under the provisions of G.S. 143-215.221 for Charlotte-Mecklenburg Utilities Department; DENR Project #1580

The Charlotte-Mecklenburg Utilities Department (CMUD) requests the elimination of Condition 3 in its Interbasin Transfer (IBT) Certificate, which prohibits an IBT in the Mecklenburg County portion of the Goose Creek watershed. This request would allow future infrastructure planning to support development activities in the area.

The Mecklenburg County portion of the Goose Creek watershed comprises the headwaters of Goose Creek, including upper portions of Goose Creek and its tributaries, Duck Creek and Stevens Creek. Portions of all three streams within Mecklenburg County and Union County are part of the Goose Creek Significant Natural Heritage Area (SNHA). The federally and state endangered Carolina heelsplitter (*Lasmigona decorata*) is found in both Goose and Duck Creeks. In addition to Carolina heelsplitter, the Goose Creek SNHA harbors a rare fish and five rare mussels, including the Carolina darter (*Etheostoma collis*, federal species of concern [FSC] and state Special Concern [NC-SC]), the Carolina creekshell (*Villosa vaughaniana*, FSC and state endangered [NC-E]), the Atlantic pigtoe (*Fusconaia masoni*, FSC and NC-E), the notched rainbow (*Villosa constricta*, NC-SC), the Eastern creekshell (*Villosa delumbis*, state significantly rare [NC-SR]), and the creeper (*Strophitus undulatus*, state threatened [NC-T]).

The EA describes rare and protected species in the Goose Creek watershed but did not include three rare mussel species present in the SNHA—the the notched rainbow, the Eastern creekshell, and the creeper. See the most recent description of the Goose Creek Aquatic Habitat in NHP's Union County Inventory at http://portal.ncdenr.org/web/nhp/searchable-publications. Atlantic pigtoe is described in the EA as state threatened, but it is state endangered (see http://www.ncwildlife.org/Portals/0/Conserving/documents/protected_species.pdf), as is Carolina creekshell.

Lifting of the IBT restriction in the Goose Creek watershed would allow CMUD to plan for additional water infrastructure to support more growth. Although this EA does not explicitly state CMUD's intentions to provide sewer infrastructure to the area, it does mention that this is a possibility. Sewer infrastructure would support growth of much higher intensity in the watershed.

The EA maintains that secondary and cumulative impacts of increased land use densities and development in the basin will not be significant due to the recently established mitigation measures. These mitigation measures include a set of regulations that meet those recommended by the NC Department of Environment and Natural Resources (DENR) Site Specific Water Quality Management Plan for the Goose Creek Watershed. We applaud the Town of Mint Hill for enacting these regulations in their Post-Construction Storm Water Ordinance, which includes stormwater management measures that exceed those recommended by the Site Specific Plan and riparian buffer protection on perennial and intermittent streams.

However, while we recognize the difficulty of implementing strong conservation-oriented regulations in a rapidly developing area, there will be more certainty of protecting the Carolina heelsplitter and other sensitive species if riparian buffer protection measures are strengthened to (1) protect 200 feet on all perennial streams and 100 feet on intermittent streams, (2) minimize the variances allowed from the buffer protection regulations, especially those allowing utility lines within the buffer and utility crossings over streams, and (3) widen the undisturbed buffer width for forestry activities and ensure that developers cannot use the forestry exemption to clear riparian vegetation before establishing development sites. In addition, stormwater regulations that require developments that exceed a 6% built-upon area (instead of 10% built-upon area) to control stormwater would be more protective; the NC Wildlife Resources Commission's comments provide additional details on recommended stormwater controls.

NHP appreciates the opportunity to provide comments on this project. If you have any questions, I can be reached at (828) 296-4720 or andrea.leslie@ncdenr.gov. Additionally, the mailing address for this office is 2090 US 70, Swannanoa, NC 28778.

e-copy:
Shari Bryant, NCWRC
Mark Cantrell, USFWS
John Fridell, USFWS
Ryan Heise, NCWRC

North Carolina Wildlife Resources Commission

Gordon Myers, Executive Director

MEMORANDUM

TO: Lyn Hardison, Environmental Assistance Coordinator
NCDENR Division of Environmental Assistance and Outreach (DEAO)

FROM: Shari L. Bryant, Piedmont Region Coordinator
Habitat Conservation Program

DATE: 7 January 2013

SUBJECT: Environmental Assessment for the Addition of the Goose Creek Watershed to IBT Certificate under the Provisions of G.S. 143-215.221, Mecklenburg and Union Counties. DENR Project No. 1580

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the subject document and we are familiar with the habitat values of the area. Our comments are provided in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667e), North Carolina Environmental Policy Act (G.S. 113A-1 through 113A-13; NCAC Title 01 Chapter 25), North Carolina General Statutes (G.S. 113-131 et seq.), and North Carolina Administrative Code 15A NCAC 10I.0102.

Charlotte-Mecklenburg Utilities Department (CMUD) is requesting the removal of Condition 3 in its Interbasin Transfer (IBT) Certificate. Removing Condition 3 from the IBT Certificate will allow CMUD to extend water lines into the Goose Creek watershed. Water demand in the watershed currently is met through private wells and water systems, and limited CMUD service. It is expected a combination of private wells and water systems will be used to meet future water supply demand if Condition 3 is not removed from the IBT Certificate. Condition 3 placed a moratorium on installation of new IBT water lines (water lines crossing the ridgeline) into the Goose Creek watershed until the impact of additional urban growth on the Carolina heelsplitter was fully evaluated. The N.C. Department of Environment and Natural Resources developed the Site Specific Water Quality Management Plan for the Goose Creek Watershed (January 1, 2009) that includes control of stormwater for projects disturbing one acre or more, wastewater discharges (i.e, no new discharges), and toxicity to streams; it also establishes riparian buffers in the Goose Creek watershed. Subsequently the Town of Mint Hill revised its Post-Construction Stormwater Ordinance (March 11, 2010) to include provisions in the Site Specific Water Quality Management Plan. The EA concludes that removing Condition 3 from the IBT Certificate would be insignificant given the watershed mitigation measures that have been implemented by the Town of Mint Hill through its Post-Construction Ordinance.

Goose Creek, Stevens Creek, Paddle Branch, and Duck Creek in the Yadkin-Pee Dee River basin flow

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028

through the project boundaries. There are records for the federal and state endangered Carolina heelsplitter (*Lasmigona decorata*); the federal species of concern and state endangered Atlantic pigtoe (*Fusconaia masoni*) and Carolina creekshell (*Villosa vaughaniana*); the federal species of concern and state special concern Carolina darter (*Etheostoma collis*); the state threatened creeper (*Strophitus undulatus*); the state special concern notched rainbow (*Villosa constricta*); and the state significantly rare Eastern creekshell (*Villosa delumbis*) in the Goose Creek watershed. The Significant Natural Heritage Area – Goose Creek/Duck Creek Aquatic Habitat is located within the project boundaries. Also, Designated Critical Habitat for Carolina heelsplitter is located in portions of Goose Creek and Duck Creek.

Note: in the Environmental Assessment (EA), Section 3.3.3, Rare and Protected Species or Habitats (p. 13), the Atlantic pigtoe is listed as a federal species of concern and state threatened, and Carolina creekshell is listed as a federal species of concern. Both Atlantic pigtoe and Carolina creekshell should be listed as state endangered.

According to the EA, removing Condition 3 from the IBT Certificate does not allow new construction but would facilitate individual connections to existing water service and would allow the Town of Mint Hill to further conduct land use planning and CMUD to plan for future water infrastructure. While no construction of additional infrastructure is being evaluated in the EA, it is indicated that future infrastructure plans could trigger environmental reviews and the NC SEPA process depending on the characteristics of the projects.

We have two general concerns regarding the removal of Condition 3 from the IBT Certificate.

1. The EA and other documents included in the EA's appendix reference the installation of water AND sewer lines in the Goose Creek watershed. It is unclear whether the removal of Condition 3 from the IBT Certificate would allow not only water lines, but also sewer lines to be constructed in the Goose Creek watershed.
2. The Site Specific Water Quality Management Plan (SSMP) for the Goose Creek Watershed improves on measures needed to protect Carolina heelsplitter and its habitat. However, as we expressed in our comments during the review of the SSMP (Bryant, 24 June 2008), we are concerned that some of the measures are not sufficient to protect Carolina heelsplitter and its habitat.

Although we have concerns about the extension of water lines, we have significant concerns regarding the installation of sewer lines into the watershed. While the installation of water lines into the Goose Creek watershed has the potential to increase the density of development, the installation of sewer lines would support a significantly higher density of development within the Goose Creek watershed. It is unclear how sewer infrastructure would be installed within the watershed. We understand that some sewer installations (e.g., the pump station referenced in the EA) likely would trigger an environmental review and the NC SEPA process; however, some projects (e.g., extension of existing sewer lines) may not.

Changes in land use and increases in impervious surfaces may exacerbate channel degradation and sediment impacts to stream ecosystems due to increased stormwater runoff and elevated flooding. In addition, pollutants (e.g., sediment, heavy metals, pesticides, and fertilizers) washed from roads and developed landscapes can adversely affect and extirpate species downstream. In Section 6 of the EA, Mitigation of Adverse Impacts (p. 22), it concludes that implementation of the SSMP, and the incorporation of those recommendations into the Town of Mint Hill's Post-Construction Ordinance (PCO) would mitigate potential impacts, and no further significant secondary or cumulative impacts to the Goose Creek watershed are expected.

According to the EA, Mint Hill's PCO requirements exceed the definitions for required actions as related to stormwater management in the SSMP. The full post-development volume for the 1-year, 24-hour storm is greater than the SSMP's requirement of treating the difference between pre- and post-development volumes. Also, the SSMP includes peak control for only the 1-year, 24-hour storm while the PCO adds peak control requirements for the 10-year, 6 hour and 25-year, 6-hour storms. For residential developments exceeding 10% built upon area, the PCO requires peak control for the appropriate storm frequency (i.e., 10, 25, 50, 100 yr, 6 hr storm) based on downstream flood analysis. If downstream analysis is not used the peak is controlled for 10-year and 25-year, 6 hour storms. According to the EA, controlling 1 year, 24-hour volume achieves peak control for the 2-year, 6 hour storm. The original PCO (June 30, 2007) required 100-foot buffers on all dashed streams and 200-foot buffers on all solid streams on USGS topographic maps. The PCO was updated to include the riparian buffers detailed in the SSMP, and now requires undisturbed riparian buffers within 200-feet of waterbodies within the 100-year floodplain and within 100 feet of waterbodies that are not within the 100-year floodplain. We commend the Town of Mint Hill for implementing stormwater controls that exceed the SSMP; however, we question why the more protective riparian buffers did not remain in the PCO.

Although the SSMP and the Town of Mint Hill's PCO improve on previous watershed protection measures, we remain very concerned that without more protective measures the secondary and cumulative impacts associated the higher density development facilitated by water (and sewer) in the watershed could result in further degradation of the aquatic habitat and possible extirpation of listed species in the Goose Creek watershed.

We continue to recommend the following measures to protect Carolina heelsplitter and its habitat in the Goose Creek watershed.

1. Maintain or establish a minimum 200-foot undisturbed native forested buffer along each side of perennial streams and a 100-foot undisturbed native forested buffer along each side of intermittent streams. Streams should be delineated according to U.S. Army Corps of Engineers or N.C. Division of Water Quality methodology.
2. Sewer lines, water lines, and other utility infrastructure should be kept out of the riparian buffer and the 100-year floodplain. All utility crossings should be kept to a minimum. The directional bore (installation of utilities beneath the riverbed, avoiding impacts to the stream and buffer) stream crossing method should be used for utility crossings.
3. New developments exceeding 6% imperviousness should be required to include stormwater controls designed to replicate and maintain the hydrographic condition (peak and volume controls) at the site prior to the change in landscape. At a minimum, stormwater control should treat the 2-year, 24-hour storm or bankfull event and provide adequate infiltration of stormwater.
4. No new fill or development in the 100-year floodplain.

Also, we encourage local ordinances, if not already in place, to prevent developers from using "forestry exemptions" during deforestation activities that ultimately become development sites. In the SSMP, only the first 10-feet of the riparian buffer directly adjacent to the stream is required to remain undisturbed, in the zone from 10 feet to 50 feet, 50% of the trees greater than 5 inches dbh may be removed; and in the outer 50 feet harvesting is allowed provided sufficient ground cover is maintained to diffuse and infiltrate surface runoff. Although some forestry activities within the riparian buffer may be acceptable (e.g., harvesting dead or infected trees), we continue to believe these riparian buffer widths are insufficient to protect water quality and aquatic habitat within the Goose Creek watershed.

We are concerned about the installation of water (and sewer) lines in the Goose Creek watershed and the impact to Carolina heelsplitter and its habitat resulting from the secondary and cumulative impacts of the increase in development density. Therefore, if Condition 3 of the IBT Certificate is removed, please understand that we will revisit the issues concerning secondary and cumulative impacts on any future water or sewer projects in the Goose Creek watershed.

Thank you for the opportunity to comment on this project. If we can be of further assistance, please contact our office at (336) 449-7625 or shari.bryant@ncwildlife.org.

ec: Mark Cantrell, USFWS
John Fridell, USFWS
Andrea Leslie, NCNHP
Ryan Heise, NCWRC

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

Pat McCrory
Governor

John Skvarla
Secretary

January 7, 2013

MEMORANDUM

TO: Lyn Hardison
Department of Environment and Natural Resources

FROM: Hannah Headrick, DWQ's SEPA Coordinator

SUBJECT: Mecklenburg and Union Counties
DWQ#14460; DENR#1580

The Division of Water Quality (DWQ) has reviewed the subject document.

Goose Creek (AU#s 13-17-18a and 13-17-18b) has a Fair macroinvertebrate bioclassification rating and has a history of standard violations for fecal coliform, bacteria, and turbidity. The Creek remains Impaired in the 2010 and 2012 Integrated Reports; however, the Creek is no longer on the 303(d) list because several management strategies are in place that are expected to address the impairments (including a TMDL for fecal coliform bacteria). Essentially, the stream went from category 5 (Impaired and needing a TMDL) to category 4 (Impaired with management strategy); being listed under category 4 does not indicate water quality conditions have improved.

While we are hopeful that The Town of Mint Hill's Post-Construction Ordinance (PCO) plan will protect water quality in Goose Creek, this has yet to be proven. Removal of condition 3 from CMUD's IBT Certificate will lead to increased growth and development and accompanying secondary and cumulative impacts that will negatively affect water quality. Mecklenburg County's delegated responsibilities are not slated to be audited until 2015, and existing instream water quality data have not shown improvements. Therefore, DWQ prefers that CMUD provide its annual monitoring reports to show what it has been doing towards meeting the PCO plan goals.

Also, the subject document focuses on Mint Hill and does not speak much to the rest of the Goose Creek watershed that will experience growth because of increased water availability. CMUD needs to show that it is successfully implementing Mint Hill's Stormwater and the Goose Creek Watershed Management Plan. It is recommended that CMUD provides both of these annual reports for the past few years as a part of this document.

Please contact me at (919) 807-6434 or hannah.headrick@ncdenr.gov if I can be of any additional help. Thank you.

Ecc: Mike Parker – MRO

1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

Department of Environment and Natural Resources
Project Review Form

1-9-13

Project Number	County	Date Received	Date Response Due
# 1580	Mecklenburg & Union	12/05/2012	~~12/22/2012~~

Environmental Assessment – Addition of the Goose Creek Watershed to IBT Certificate under the provisions of G.S. 143-215.221 for Charlotte-Mecklenburg Utilities Department

This project is being reviewed as indicated below:

Regional Office	Sections	In-House Review
__ Asheville	__ Air	__ Marine Fisheries __ Waste Mgmt
__ Fayetteville	√ Water 12/19/12	__ Coastal Management __ Air Quality
√ Mooresville	√ Aquifer Protection 12/7/12	__ Water Resources Management
__ Raleigh	__ Land Quality Engineer	√ Water Supply Section
__ Washington	__ UST	√ Parks & Recreation
__ Wilmington		√ Water Quality
__ Winston-Salem		__ Water Quality (DOT)
		√ Wildlife Shari Bryant
		__ Wildlife (DOT)_____

RECEIVED
DEC 06 2012
NC DEPT OF ENVIRONMENT AND NATURAL RESOURCES MOORESVILLE REGIONAL OFFICE

	Date:	In-House Reviewer/Agency:

Response (check all applicable)

__ No objection to project as proposed __ No comment

__ Insufficient information to complete review __ Other (specify or attach comments)

RETURN TO:
Lyn Hardison – Lyn.Hardison@ncdenr.gov
943 Washington Square Mall, Washington, NC 27889
Courier # 16-04-01

Department of Environment and Natural Resources

Reviewing Office: Mooresville

INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

Project Number: 1580 Due Date: 12/22/12

After review of this project it has been determined that the ENR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to construct & operate wastewater treatment facilities, sewer system extensions & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts. On-site inspection. Post-application technical conference usual.	30 days (90 days)
☐	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
☐	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
☐	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
☐	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
☐	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.O100 thru 2Q.0300)	Application must be submitted and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113).	90 days
☐	Permit to construct & operate Transportation Facility as per 15 A NCAC (2D.0800, 2Q.0601)	Application must be submitted at least 90 days prior to construction or modification of the source.	90 days
☐	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
☐	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950.		
☐	Complex Source Permit required under 15 A NCAC 2D.0800		
☐	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Section) At least 30 days before beginning activity. A fee of **$65** for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
☐	Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable stormwater conveyances and outlets.		(30 days)
☐	Mining Permit	On-site inspection usual. Surety bond filed with ENR Bond amount varies with type mine and number of acres of affected land. Any arc mined greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
☐	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
☐	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.C. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual bum is planned."	1 day (N/A)
☐	Oil Refining Facilities	N/A	90-120 days (N/A)
☐	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction. certify construction is according to ENR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of $200.00 must accompany the application. An additional processing fee based on a percentage or the total project cost will be required upon completion	30 days (60 days)

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with ENR running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to ENR rules and regulations.	10 days N/A
☐	Geophysical Exploration Permit	Application filed with ENR at least 10 days prior to issue of permit. Application by letter. No standard application form.	10 days N/A
☐	State Lakes Construction Permit	Application fees based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	15-20 days N/A
☒	401 Water Quality Certification	Buffer may be N/A needed in future	60 days (130 days)
☐	CAMA Permit for MAJOR development	$250.00 fee must accompany application	55 days (150 days)
☐	CAMA Permit for MINOR development	$50.00 fee must accompany application	22 days (25 days)
☐	Several geodetic monuments are located in or near the project area. If any monument needs to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687 Raleigh, NC 27611		
☐	Abandonment of any wells, if required must be in accordance with Title 15A. Subchapter 2C.0100.		
☐	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
☐	Compliance with 15A NCAC 2H 1000 (Coastal Stormwater Rules) is required.		45 days (N/A)
☐	Tar Pamlico or Neuse Riparian Buffer Rules required.		

* Other comments (attach additional pages as necessary, being certain to cite comment authority)

APS - no comments. MW 12/7/12

DWQ - considering there is endanger species associated with Goose Creek & maximum buffers of up to 200 ft on each side have been established to protect the heelsplitter, staff doesn't believe that removal of condition #3 is a prudent course of action.

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

☐ **Asheville Regional Office**
2090 US Highway 70
Swannanoa, NC 28778
(828) 296-4500

☑ **Mooresville Regional Office**
610 East Center Avenue, Suite 301
Mooresville, NC 28115
(704) 663-1699

☐ **Wilmington Regional Office**
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 796-7215

☐ **Fayetteville Regional Office**
225 North Green Street, Suite 714
Fayetteville, NC 28301-5043
(910) 433-3300

☐ **Raleigh Regional Office**
3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 791-4200

☐ **Winston-Salem Regional Office**
585 Waughtown Street
Winston-Salem, NC 27107
(336) 771-5000

☐ **Washington Regional Office**
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

MEMORANDUM

TO: Toya F. Ogallo, Environmental Engineer
River Basin Management Section
Division of Water Resources -

FROM: Lyn Hardison
Division of Environmental Assistance and Outreach
Permit Assistance & Project Review Coordinator

RE: Additional Comments
Draft Environmental Assessment
Addition of the Goose Creek Watershed to IBT Certificate under the provisions of G.S. 143-215.221 for Charlotte- Mecklenburg Utilities Department
Mecklenburg and Union Counties
DENR # 1580

Date: January 23, 2013

Please find attached additional comments from US Fish and Wildlife Service which were received in this office after the response due date.

These comments should be forwarded to the applicant and made a part of our previous comment package.

Thank you for the opportunity to respond.

Attachment

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-707-8600 \ Internet: www.ncdenr.gov

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

January 18, 2013

Ms. Lyn Hardison
Environmental Assistance Coordinator
North Carolina Department of Environment and Natural Resources
Division of Environmental Assistance and Outreach (DEAO)
Washington Regional Office
943 Washington Square Mall
Washington, North Carolina 27889

Dear Ms. Hardison:

Subject: Environmental Assessment for the Addition of the Goose Creek Watershed to the Interbasin Transfer Certificate under Provisions of G.S. 143-215.221, Mecklenburg and Union Counties, North Carolina

We have reviewed the subject Environmental Assessment (EA) and offer the following comments in accordance with the provisions of the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. 1531-1543), and the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e).

According to the EA, Charlotte-Mecklenburg Utilities Department (CMUD) is requesting the removal of Condition 3 in the Interbasin Transfer (IBT) Certificate. Condition 3 of the IBT Certificate currently limits the extension of water lines carrying water from the IBT into the Mecklenburg County portion of the Goose Creek watershed that includes the headwaters of the main stem of Goose Creek and its tributaries--Duck Creek, Stevens Creek, and Paddle Branch--until the impacts to the federally listed and state-listed endangered Carolina heelsplitter (*Lasmigona decorata*) from additional urban growth made possible by the IBT are fully evaluated. The EA describes and evaluates measures to address the potential impacts.

According to information provided in the EA, the Town of Mint Hill has revised its Post-Construction Ordinance (PCO) to incorporate measures that meet or exceed the measures required by the North Carolina Department of Environment and Natural Resources' (NCDENR) 2009 Site-Specific Water-Quality Management Plan for the Goose Creek Watershed (SSWQMP). In view of this, the EA concludes that the effects of increased growth and

development made possible by the removal of Condition 3 of the IBT will not be significant to the Carolina heelsplitter. We cannot agree with this conclusion.

Endangered Carolina Heelsplitter. As you are aware, the Carolina heelsplitter has been documented to occur in the main stems of both Goose Creek and Duck Creek, and portions of both of these streams have been designated by the U.S. Fish and Wildlife Service (USFWS) as critical habitat for the species. Critical habitat is defined in the ESA as habitat essential to the conservation of the species and which may require special management considerations or protection.

The Carolina heelsplitter is one of the most critically endangered species in the southeastern United States. Although there are currently considered to be 11 surviving populations of the species, based on the most recent survey data, all of these extant populations are small to extremely small, are isolated from one another, are restricted to scattered sites in short stream reaches, and most are in significant decline. During the most recent monitoring surveys for the species, more than ten live individuals were found in only six of the surviving populations (a total of only 152 live Carolina heelsplitters were recorded for all 11 populations combined). The Goose Creek/Duck population was one of these six populations. In the other five populations, fewer than five individuals were documented in each population, and in most cases only one or two individuals were found; in one case only a single shell was found. This makes the Goose Creek/Duck population extremely important to the survival and recovery of the Carolina heelsplitter.

In addition to the Carolina heelsplitter, nine other species of native freshwater mussels have been documented from the Goose Creek system—the Atlantic pigtoe *(Fusconaia masoni)* (federal species of concern; state-listed as endangered), Carolina creekshell (*Villosa vaughaniana*) (federal species of concern; state-listed as endangered), creeper (*Strophitus undulatus*) (state-listed as threatened), notched rainbow (*Villosa constricta*) (state-listed as special concern), eastern creekshell (*Villosa delumbis*) (state-listed as significantly rare), Carolina lance (*Elliptio angustata*), Eastern elliptio (*Elliptio complanata*), variable spike (*Elliptio icterina*), and Atlantic spike (*Elliptio producta*).

The Goose Creek population is declining. Residential and commercial growth in the Goose Creek watershed in Mecklenburg and Union Counties has contributed to a significant degradation of the aquatic habitat in Goose Creek and a serious decline in the Carolina heelsplitter population within the Goose Creek system. Monitoring conducted by the North Carolina Wildlife Resources Commission (NCWRC), the North Carolina Department of Transportation, our staff, and others has documented a marked decline in the range and abundance of all native mussel species in the Goose Creek system. Four species--the Atlantic pigtoe, Atlantic spike, eastern creekshell, and notched rainbow--appear to have been extirpated from the system in recent years (John Fridell, Asheville Field Office, USFWS, personal observation, 2005-2012). During surveys from 1989 through 1990, Keferl (1991) documented the Carolina heelsplitter in approximately 7.2 kilometers (approximately 4.5 miles) of the main stem of Goose Creek; and during surveys in 2000, biologists with the NCWRC documented the species in a total of approximately 8.8 kilometers (5.5 miles) of the main stem of Duck Creek (NCWRC 2000). Based on the most recent survey data, the Goose Creek/Duck Creek population

appears to be restricted to less than (<) 3.0 kilometers (<1.9 miles) of the main stem of Goose Creek and <6.0 kilometers (<4.3 miles) of Duck Creek.

Habitat is declining. Stream-channel and stream-bank stability, required by freshwater mussels, have been degraded in a number of areas throughout the watershed. In many areas of the creeks, channel substrate has been scoured down to bedrock, and much of the remaining smaller substrates the heelsplitter and other native mussels require (i.e., cobble, gravel, and coarse sand) are unstable. In other scattered reaches of Goose and Duck Creeks, the channel is choked with large quantities of shifting sand and sediments that are too unstable to support native mussel species (Fridell, personal observation, 2005-2012). Changes in the streams' hydrology due to the loss of forest cover and an increase in impervious surface area resulting from development activities within the Goose Creek watershed are believed to be the major factors contributing to this channel/bank instability. In addition, because more rainwater is running off into the stream channel, these factors appear to be major contributors to a significant lowering of the base flows in Goose and Duck Creeks due to a lack of infiltration and groundwater recharge.

In addition to the effects to the stability and quality of aquatic habitats associated with the effects of development and other land-disturbance activities in the watershed, water quality in the Goose Creek system has been significantly impaired. Water-quality monitoring in Goose Creek (conducted by the North Carolina Division of Water Quality [NCDWQ], our staff, and a private consultant) has documented levels of several pollutants harmful to freshwater mussels (i.e., ammonia, heavy metals, sediment, and nutrients) that exceed the state's water quality standards and action levels, and the NCDWQ has placed this stream on the list (303d list) of the state's impaired waters (NCDWQ 2000, 2006, 2012). Although point-source discharges resulting from development are a major source of this impairment, stormwater runoff has been implicated as a significant factor contributing to elevated levels of many of these pollutants (Bales et al. 1999, Chen et al. 2001, NCDWQ 2003, Allan 2005, Mecklenburg County Water Quality Program [MCWQP], and NCDWQ 2005). Goose Creek is listed as impaired for violations of the fecal coliform standards from its source to the Rocky River. A Total Maximum Daily Load has been prepared (MCWQP and NCDWQ 2005).

As a result of water/habitat degradation (aquatic habitat degradation) in the Goose Creek system, this population of the Carolina heelsplitter is rapidly declining in range and numbers and is likely to become extirpated in the near future without implementation of adequate measures to prevent further aquatic habitat degradation and to restore the species' habitat.

Post-Construction Ordinance is Not Adequate. Although Mint Hill's PCO has been revised to meet or exceed (according to the EA in the case of stormwater management control) the measures required by the SSWQMP, we do not believe the SSWQMP (and hence the PCO) goes far enough to be protective of the Carolina heelsplitter.

In the following documents: (1) the 2005 draft *Technical Support Document for Consideration of Federally-listed Threatened or Endangered Aquatic Species in Water Quality Management Planning for the Goose Creek Watershed* provided to the NCDWQ (prepared by an interagency team from the NCWRC, the North Carolina Natural Heritage Program, and our staff); (2) our April 11, 2007, letter to Ms. Colleen Sullins, then Deputy Director, NCDWQ, commenting on

the proposed rules for implementation of a SSWQMP for the Goose Creek Watershed; and (3) our June 30, 2008, letter addressed to Mr. Jeff Manning, Planning Section, NCWDQ, commenting on the proposed rules for implementation of the SSWQMP, we provided recommendations for the measures we believe are necessary to protect the Carolina heelsplitter from future development-related impacts to its habitat and to assist us in stabilizing and recovering the species in the Goose Creek watershed. Please reference these documents for additional information and references supporting and forming the basis of our recommendations on the subject document. We continue to believe that the recommendations provided in these three documents are appropriate, are necessary, and are supported by science.

Specifically, we believe the SSWQMP and the PCO are inadequate in the following areas:

1. The rules for the SSWQMP and the PCO apply only to new development activities that disturb ≥1 acre. Given the degree of water/habitat degradation Goose and Duck Creeks have already suffered and the corresponding decline in the Carolina heelsplitter population and the population levels of other aquatic species in the Goose Creek system, we believe the requirements of the PCO (and SSWQMP) should apply to any new clearing/ground disturbance activity regardless of the size or type of disturbance.

2. The rules for the SSWQMP require controlling only the difference in the pre- and post-development stormwater runoff for the 1-year, 24-hour storm and peak control for 1-year 24-hour storm. According to the EA, the PCO improves upon this requirement by requiring control of the total volume of the 1-year 24-hour storm and peak control of the 10-yr 6-hour and the 25-year 6-hour storm. Because of the degree of channel and stream-bank scouring and degradation that already occurs within the Goose Creek system due to poorly controlled stormwater runoff from disturbed and developed areas, we continue to recommend that any new clearing or ground disturbance activity, regardless of its size, be required to implement: (1) stormwater-control and -treatment measures (peak and volume controls) designed to replicate and maintain the pre-construction hydrograph and (2) measures to promote infiltration (e.g., rain gardens, vegetated wetland retention basins, etc.). Any stormwater measures should include a monitoring and maintenance plan.

3. Both the SSWQMP and PCO require forested riparian buffers within 200 feet of water bodies within the 100-year floodplain and forested riparian buffers within 100 feet of water bodies that are not within the 100-year floodplain. The North Carolina Ecosystem Enhancement Program (NCEEP) (2009) found a 31.67-percent deficiency of riparian areas within 100 feet of Goose Creek. We continue to recommend the requirement for the maintenance or establishment and protection of undisturbed, forested buffers on each side of streams that are naturally vegetated with trees, shrubs, and herbaceous vegetation that extend a minimum of 200 feet from the top of the banks of all perennial streams and a minimum of 100 feet from the top of the banks of all intermittent streams, or the full extent of the 100-year floodplain, whichever is greater. Impervious surfaces, ditches, pipes, roads, utility lines (sewer, water, gas, transmission, etc.), and other infrastructures, breaks, or disturbances that require maintained, cleared rights-of-way and/or compromise the functions and values of the forested buffers should not occur within these riparian

areas. In order to assist in addressing existing problem areas in the watershed that are contributing to aquatic habitat impairment and the decline of the Carolina heelsplitter, the PCO should encourage the reestablishment of riparian buffers in areas where they are currently lacking and require the establishment of riparian buffers when changes in land use occur.

4. Both the SSWQMP and the PCO provide for numerous exempted and allowable uses (certain types of airport facilities, roads, driveways, utility corridors, certain types of mining activities, etc.) and the granting of variances for land-clearing and land-disturbance activities and impervious and semi-impervious surfaces within the riparian buffers and floodplain, many of which do not require any mitigation. The construction of new impervious or partially pervious surface areas and breaks within the riparian buffers and 100-year floodplain significantly affects, and in many cases negates, the functions and values of the riparian buffers and floodplain in protecting and maintaining aquatic habitat and the Carolina heelsplitter (e.g., flood attenuation, groundwater recharge, pollutant removal, stream temperature maintenance, organic nutrient input, etc.) and increases the frequency and severity of flood events. Accordingly, we continue to recommend that no fill, no new impervious surfaces, or no creation of semi-pervious surfaces be allowed within the floodplain or the riparian buffers and that the riparian buffers remain **undisturbed**, except for those uses that would have no effect, or an insignificant effect, on the function and values of the buffers and floodplain. Any use or activity that has a measurable effect on the function of the buffers and floodplain should be allowed only in extremely rare cases and should require mitigative measures adequate to offset any adverse effects to the buffers and floodplain. We would be happy to meet with CMUD and Mint Hill to discuss those uses that we believe could be "exempted" or "potentially allowable" within the buffers.

5. Both the SSWQMP and the PCO state that "No activity that results in direct or indirect discharge is allowed if it causes toxicity to the Carolina heelsplitter . . ." and that "For any direct or indirect discharge that may cause ammonia toxicity to the Carolina heelsplitter freshwater mussel, action shall be taken to reduce ammonia (NH3-N) inputs to achieve 0.5 milligrams per liter or less of total ammonia." Section 9 of the ESA makes it unlawful to "take" (defined to include harming, wounding, killing, harassing, etc.) federally listed fish and wildlife species, such as the Carolina heelsplitter, unless authorized by a permit or biological opinion issued by the USFWS. Accordingly, any activity (including the issuance of permits, regulations, etc., that allow or contribute to "take") that "causes ammonia toxicity to the Carolina heelsplitter" is likely to be in violation of the ESA. Based on the best information currently available to us concerning the toxicity of ammonia to the Carolina heelsplitter, we believe the achievement of 0.5 milligrams per liter or less of total ammonia on a chronic basis is reasonably likely to prevent death, harm, or injury to the Carolina heelsplitter. However, measures to achieve this standard must be taken before harm to the Carolina heelsplitter occurs. Accordingly, we recommend that the PCO outline measures that must be taken to ensure that "toxicity to the Carolina heelsplitter" is likely to be prevented. In addition, this rule should describe how (and by whom) ammonia levels in the system will be monitored and enforced in order to ensure that this standard is being met.

6. The SSWQMP allows for forestry activities, including the removal of 50 percent of trees ≥5 inches in diameter at breast height within 10 feet of the stream and clear-cutting (with no restrictions on rotational periods) within 50 feet of the stream. It is not clear to us whether the same is allowed through the PCO. We believe this is completely inappropriate within the Goose Creek watershed and is likely to result in extirpation of the Goose Creek/Duck Creek population of the Carolina heelsplitter as well as the loss of numerous other species within the Goose Creek system. This is especially likely if rules/ordinances are not in place to ensure that these forestry exemptions are not used to allow forest clearing prior to development activities.

7. Finally, in view of the level of degradation of aquatic habitat that has already occurred within the Goose Creek system, we continue to note the need for a restoration component in (or to compliment) the PCO so that existing poor water quality is remediated. The NCEEP (2009) found a 25-percent loss of natural area land cover (including forest and wetlands) between 1992 and 2007 in the Goose Creek watershed.

We appreciate the opportunity to review and comment on the subject EA. In summary, we remain concerned about the installation of water lines into the Goose Creek watershed and do not agree that the measures and rules discussed and described in the EA and PCO are adequate to protect the Carolina heelsplitter in Goose and Duck Creeks from future impacts from development activities and land-use changes within the watershed. Accordingly, we believe that additional urban growth within the Goose Creek watershed resulting from the removal of Condition 3 from the IBT Certificate will contribute to already degraded conditions and further compromised habitat in the Goose Creek system. If you have any questions, need additional information, or would like to meet to discuss any of our comments, please contact Mr. John Fridell of our staff at 828/258-3939, Ext. 225, or Mr. Mark Cantrell, Ext. 227.

Sincerely,

for Brian P. Cole
Field Supervisor

cc:
Ms. Shari L. Bryant, Eastern Piedmont Region Permit Reviewer, North Carolina Wildlife Resources Commission, P.O. Box 129, Sedalia, NC 27342-0129
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Literature cited:

Allan, C. J. 2005. Water Quality and Stream Stability Monitoring for Goose Creek, Mecklenburg and Union Counties, North Carolina, 2001-2003 (draft final). Department of Geography and Earth Sciences, UNC Charlotte, Charlotte, NC.

Bales, J. D., J. C. Weaver, and J. B. Robinson. 1999. Relation of Land Use to Streamflow and Water Quality at Selected Sites in the City of Charlotte and Mecklenburg County, North Carolina, 1993-98. U.S. Geological Survey Water-Resources Investigations Report 99-4180, Raleigh, NC.

Chen, Z., C. Perrin, S. Gale, and J. Fisher. 2001. A Preliminary Review of Five-year Water Quality Trends in Goose Creek. North Carolina Division of Water Quality and North Carolina State University. Raleigh, NC.

Keferl, E. P. 1991. A Status Survey for the Carolina heelsplitter (*Lasmigona decorata*), a Freshwater Mussel Endemic to the Carolinas. Unpublished report to the U.S. Department of the Interior, Fish and Wildlife Service. 51 pp.

Mecklenburg County Water Quality Program and North Carolina Division of Water Quality. 2005. Total Maximum Daily Loads for Fecal Coliform for Goose Creek, North Carolina [Waterbody ID NC_13-17-18a and 13-17-18b] Final Report Submitted to EPA April 2005.

North Carolina Division of Water Quality. 2000. North Carolina's 2000 § 303(d) List. Water Quality Section, Raleigh, NC.

------. 2003. Yadkin-Pee Dee River Basinwide Water Quality Management Plan. Water Quality Section, Raleigh, NC.

------. 2006. North Carolina's 2006 § 303(d) List. Water Quality Section, Raleigh, NC.

------. 2012. North Carolina's 2012 § 303(d) List. Water Quality Section, Raleigh, NC.

North Carolina Ecosystem Enhancement Program. 2009. Goose Creek & Crooked Creeks Local Watershed Plan Phase I Summary Report. 273 pp.

North Carolina Wildlife Resources Commission. 2000. Atlantic Slope mussels and fish. Pp. 1-25 *in* Annual Performance Report, Vol. IX, July 1999-June 2000, Nongame and Endangered Wildlife Program. 49 pp.