



North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

September 4, 2015

Mr. David A. Charters, Jr., PE  
Manager, Design & Engineering  
Go Triangle

Dear Mr. Charters,

I am responding to your request for comments regarding the Durham-Orange Light Rail Transit Project – Draft Environmental Impact Statement in Durham and Orange Counties, NC. These comments are based on the documents submitted to the Division of Parks and Recreation on August 25, 2015. Based on the project as proposed the Division has no objections.

Please let me know if you need additional information.

Sincerely,

Justin Williamson  
Environmental Review Coordinator  
North Carolina Division of Parks and Recreation

NORTH CAROLINA STATE CLEARINGHOUSE  
DEPARTMENT OF ADMINISTRATION  
INTERGOVERNMENTAL REVIEW

COUNTY: DURHAM  
ORANGE

F04: MASS TRANSIT

STATE NUMBER: 16-E-0000-0065  
DATE RECEIVED: 08/28/2015  
AGENCY RESPONSE: 09/23/2015  
REVIEW CLOSED: 09/28/2015

MS CAROLYN PENNY  
CLEARINGHOUSE COORDINATOR  
DPS - DIV OF EMERGENCY MANAGEMENT  
FLOODPLAIN MANAGEMENT PROGRAM  
MSC # 4218  
RALEIGH NC

SEP 02 2015

**REVIEW DISTRIBUTION**

DENR LEGISLATIVE AFFAIRS  
DEPT OF AGRICULTURE  
DEPT OF CULTURAL RESOURCES  
DEPT OF TRANSPORTATION  
DPS - DIV OF EMERGENCY MANAGEMENT  
TRIANGLE J COG

**PROJECT INFORMATION**

APPLICANT: Triangle Transit  
TYPE: National Environmental Policy Act  
Draft Environmental Impact Statement

DESC: Proposed is a DEIS for the Durham-Orange Light Rail Transit Project. View documents at <http://ourtransitfuture.com/>

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED:  NO COMMENT  COMMENTS ATTACHED

SIGNED BY:

John D. Bumbaker

DATE:

09 Sept 2015





# North Carolina Department of Public Safety

## Emergency Management

Pat McCrory, Governor  
Frank L. Perry, Secretary

Michael A. Sprayberry, Director

September 9, 2015

State Clearinghouse  
N.C. Department of Administration  
1301 Mail Service Center  
Raleigh, North Carolina 27699-1301

Subject: Intergovernmental Review State Number: 16-E-0000-0065  
Durham-Orange Light Rail Transit Project

As requested by the North Carolina State Clearinghouse, the North Carolina Department of Public Safety Division of Emergency Management Risk Management reviewed the proposed project listed above and offers the following comments:

- 1) A floodplain development permit issued by the local jurisdiction will be required for all construction, grading, development, or the storage of equipment or materials within the Special Flood Hazard Area (SFHA).
- 2) Page 4-165 (Section 4.8.4.2) of the draft EIS states that, "any increase [in the flood level] of less than 0.1 feet is considered negligible and does not require mitigation." The EIS shall reference the source of this standard.
- 3) A hydraulic analysis will be required for new grading, construction, or the storage of equipment or materials within a floodway or non-encroachment area. A No-Rise Certification is required if the proposed element of the project does not increase flood levels during the base flood discharge. A Conditional Letter of Map Revision (CLOMR) will be required if the project results in an increase in flood levels during the base flood discharge. No structures may be impacted by an increase in flood levels.

Thank you for your cooperation and consideration. If you have any questions concerning the above comments, please contact me at (919) 825-2300, by email at [dan.brubaker@ncdps.gov](mailto:dan.brubaker@ncdps.gov) or at the address shown on the footer of this document.

Sincerely,

John D. Brubaker, P.E., CFM  
NFIP Engineer  
Risk Management

**MAILING ADDRESS:**  
4218 Mail Service Center  
Raleigh NC 27699-4218  
[www.ncem.org](http://www.ncem.org)

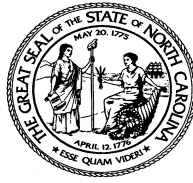


**GTM OFFICE LOCATION:**  
4105 Reedy Creek Road  
Raleigh, NC 27607  
Telephone: (919) 825-2341  
Fax: (919) 825-0408

cc: John Dorman, Program Manager  
John Gerber, NFIP State Coordinator

William Bradham, Inspections Director, Durham City-County Government  
Michael Harvey, Planning Supervisor, Orange County  
Sue Burke, Stormwater Management Engineer, Town of Chapel Hill  
Ernest Odei-Larbi, Civil Engineer III, Town of Chapel Hill

File



**North Carolina Department of Cultural Resources**  
**State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Pat McCrory  
Secretary Susan Kluttz

Office of Archives and History  
Deputy Secretary Kevin Cherry

September 10, 2015

David A. Charters  
GoTriangle  
PO Box 13787  
Research Triangle Park, NC 27709

Re: Assessment of Effects for Historic Properties, Durham-Orange Light Rail Transit Project,  
Durham and Orange Counties, ER 12-0738

Dear Mr. Charters:

Thank you for your letter of August 11, 2015 and copy of the Preliminary Assessment of Effects for the above-referenced undertaking. We have reviewed the assessment of effects on historic properties in the Area of Potential Effects (APE) for the undertaking and agree with them as presented in the Summary of Effects (Figure 12 on page 5-1 Draft).

GoTriangle has done an excellent job in avoiding adverse effects on historic properties in the APE and should be proud of its work to do so. Our only other comment with regard to the project, the NEPA process, and Section 106; is that the Draft and the Final Environmental Impact Statements should clearly outline the environmental commitments for landscaping and other means proposed to reduce the effects of the undertaking on historic properties. The commitments should include the groups, organizations and/or agencies that will be involved in developing plans for any landscaping or other treatments that will be implemented to ensure that no adverse effects will occur.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or [environmental.review@ncdcr.gov](mailto:environmental.review@ncdcr.gov). In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

*for* Ramona M. Bartos

cc: Stanley A. Mitchell, FTA, [Stanley.a.mitchell@dot.gov](mailto:Stanley.a.mitchell@dot.gov)  
Julia Walker, FTA, [Julia.walker@dot.gov](mailto:Julia.walker@dot.gov)



## ☒ North Carolina Wildlife Resources Commission ☒

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Gordon Myers, Executive Director

### MEMORANDUM

**TO:** Lyn Hardison, Environmental Assistance Coordinator  
Division of Environmental Assistance and Outreach, DENR

**FROM:** Travis Wilson, Highway Project Coordinator  
Habitat Conservation Program

**DATE:** September 16, 2015

**SUBJECT:** Go Triangle and Federal Transit Authority; Draft Environmental Impact Statement (DEIS) for the proposed Durham-Orange Light Rail Transit Project (DOLRT), Durham and Orange Counties, SCH Project No. 16-0065

Staff biologists with the N. C. Wildlife Resources Commission have reviewed the subject DEIS and are familiar with habitat values in the project area. The purpose of this review was to assess project impacts to fish and wildlife resources. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

WRC has participated in stakeholder meetings as well as interagency coordination that has occurred during the planning of the DOLRT project. That involvement has allowed us to express concerns involving the potential impacts associated with all the alternatives under consideration. Include the potential to impact portions of Jordan Lake Game Land. Comments made during that coordination are reflected in the identification of preferred alternatives as well as the specific mitigation measures documented in sections 4.6.4 and 6.3.1.1 relevant to the impacts to the Jordan Lake Game Lands.

As the development of the DOLRT project moves forward we will continue to assess the impacts associated with the selected alternative for further avoidance and minimization measures. Thank you for the opportunity to comment. If we can be of any further assistance please contact me at (919) 707-0370.

NORTH CAROLINA STATE CLEARINGHOUSE  
DEPARTMENT OF ADMINISTRATION  
INTERGOVERNMENTAL REVIEW

*Julie Bollinger*

COUNTY: DURHAM  
ORANGE

F04: MASS TRANSIT

STATE NUMBER: 16-E-0000-0065  
DATE RECEIVED: 08/28/2015  
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MS CARRIE ATKINSON  
CLEARINGHOUSE COORDINATOR  
DEPT OF TRANSPORTATION  
STATEWIDE PLANNING - MSC #1554  
RALEIGH NC

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DEPT OF CULTURAL RESOURCES  
DEPT OF TRANSPORTATION  
DPS - DIV OF EMERGENCY MANAGEMENT  
TRIANGLE J COG

**PROJECT INFORMATION**

APPLICANT: Triangle Transit  
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DESC: Proposed is a DEIS for the Durham-Orange Light Rail Transit Project. View documents at <http://ourtransitfuture.com/>

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If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED:  NO COMMENT  COMMENTS ATTACHED

SIGNED BY: *Julie Bollinger*

DATE: 9/18/15






STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY  
GOVERNOR

ANTHONY J. TATA  
SECRETARY

September 17, 2015

MEMO TO: North Carolina State Clearinghouse  
Department of Administration  
Intergovernmental Review

FROM: Julie B. Bollinger, P.E.   
NCDOT-Transportation Planning Branch

SUBJECT: 16-E-0000-0065 – DEIS for the Durham-Orange Light Rail Transit  
Project - Located in Durham and Orange Counties

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Thank you for allowing the Transportation Planning Branch to review the DEIS for the Durham-Orange Light Rail Transit project.

There are many 2040 Metropolitan Transportation Plan (MTP, formerly called LRTP) projects in which the Light Rail Transit project crosses or is adjacent. I am sure you are already aware of this due to your extensive planning process, so I will not list these MTP projects. The MTP was approved June 2013 by the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO).

The DCHC MPO 2040 MTP report, maps, and project lists are at the following website: <http://www.dchcmo.org/programs/transport/2040.asp>. Please continue to coordinate and consult with the DCHC MPO (<http://dchcmo.org/>) on MTP projects and the Durham-Orange Light Rail Transit Project as you continue to move forward.

There are several State Transportation Improvement Program (STIP) projects in which the Light Rail Transit project crosses or is adjacent. I am sure you are already aware of these as well, so I will not list them. STIP documents and funding tables are at the following website: <https://connect.ncdot.gov/projects/planning/Pages/State-Transportation-Improvement-Program.aspx>.

If you have any questions, please do not hesitate to call me at 919-707-0945.

MAILING ADDRESS:  
NC DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION PLANNING BRANCH  
1554 MAIL SERVICE CENTER  
RALEIGH NC 27699-1554

**NCDOT** | **TPB**  
TRANSPORTATION PLANNING BRANCH  
<https://connect.ncdot.gov/projects/planning/>

LOCATION:  
TRANSPORTATION BUILDING  
1 SOUTH WILMINGTON STREET  
RALEIGH, NC 27601  
Phone: 919-707-0900  
Fax: 919-733-9794





North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

Date: September 18, 2015

To: Linda Culpepper, Director  
Division of Waste Management

Through: Jim Bateson, Superfund Section Chief *Jim Bateson*

From: Pete Doorn, Special Remediation Branch Head *Pete Doorn*

Subject: NEPA Project #16-0065, Proposed Durham-Orange Light Rail Transit Project,  
Durham and Orange Counties, North Carolina

The Superfund Section has reviewed the proximity of CERCLIS and other sites under its jurisdiction to the proposed Durham-Orange Light Rail Transit (D-O LRT) Project in Durham and Orange Counties. The D-O LRT project is being proposed as a potential high-capacity transit improvement in the Research Triangle region within the Durham-Orange Corridor between Chapel Hill and Durham.

Forty-eight sites were identified within approximately one-mile of the proposed project corridor. The attached figure illustrates the proposed corridor and the table below lists the identified sites. The Draft Environmental Impact Statement for the project states that for contaminated sites, Triangle Transit will perform Phase I and II Environmental Site Assessments for high risk sites following ASTM standards prior to construction. Medium risk properties will have their closure status or current site status reviewed with NCDENR before starting construction. Superfund Section site files can be reviewed at: <http://portal.ncdenr.org/web/wm/sf-file-records>.

Please contact me at 919.707.8369 if you have any questions.

Program	Site ID #	Site Name	Address	City
IHSB	NONCD0001404	BURLINGTON INDUSTRIES (FORMER)	WEST MAIN ST	DURHAM
IHSB	NONCD0002408	UNC-PHILLIPS HALL	120 E CAMERON AVE	CHAPEL HILL
IHSB	NONCD0001356	BLUE CROSS BLUE SHIELD (DURHAM SERVICE C	HIGHWAY 15-501	DURHAM
IHSB	NONCD0001S14	CLEVELAND STREET	400 CLEVELAND STREET	DURHAM
BFA	17019-13-32	Erwin Square Renovation		Durham
IHSB	NCD080885551	DAUGHERTY CHEMICAL COMPANY	307 WALKER STREET	DURHAM
IHSB	NCD003196193	PIFER INDUSTRIES, INC.	2210 E PETTIGREW ST	DURHAM
BFA	10050-06-32	Golden Belt		Durham

DSCA	DC320007	MODEL LAUNDRY	1001 Holloway St	Durham
DSCA	DC320019	NEW METHOD LAUNDRY & DRY CLEANERS	1201 W Chapel Hill St	Durham
DSCA	DC320025	SCOTT AND ROBERTS DRY CLEANING, INC.	810 W Main ST	Durham
DSCA	DC320011	SCOTT AND ROBERTS DRY CLEANERS	733 Foster St	Durham
DSCA	DC320020	WHITE STAR LAUNDRY AND CLEANERS	637 Broad St	Durham
DSCA	DC320015	DURHAM DRY CLEANERS	2526 Erwin Rd	Durham
DSCA	DC320024	WHITE STAR CLEANERS	904 9th ST	Durham
DSCA	DC320013	ONE HOUR MARTINIZING	1103 W Club Blvd	Durham
BFA	16007-12-32	The Mill Bldg at Erwin Square		Durham
BFA	16035-12-32	Kent Corner		Durham
BFA	16045-12-32	Liggett Apartments		Durham
BFA	10045-06-32	Nu-Tread Tire Company		Durham
DSCA	DC680008	WEBSTER'S CLEANERS	302 E Main St	Carrboro
DSCA	DC680010	CHAPEL HILL CLEANERS	422 W Franklin St	Chapel Hill
DSCA	DC680006	ONE HOUR KORETIZING CLEANERS	301 W Franklin St	Chapel Hill
DSCA	DC320016	CAROLINA CLEANERS	2214 Nelson Hwy	Chapel Hill
BFA	16047-12-32	Stanley Environmental		Durham
BFA	14032-10-32	Burlington Industries - Durham		Durham
BFA	08016-04-68	Padgette Lane		Carrboro
DSCA	DC320012	SHANNON DRY CLEANING AND LAUNDROMAT	3710 Shannon Rd	Durham
DSCA	DC320022	H & S CLEANERS	4015 University DR	Durham
DSCA	DC320023	REGENCY CLEANERS	3912 University DR	Durham
DSCA	DC320010	WEAVERS CLEANERS	1212 Fayetteville St	Durham
BFA	15008-11-32	Durham Central Park Co-Housing Community		Durham
IHSB	NONCD0002858	DURHAM PUBLIC SERVICE CO PROP (FORMER)	309 BLACKWELL ST	DURHAM
BFA	06010-02-32	Erwin Square		Durham
IHSB	NONCD0002693	WAND, JOSEPH PROPERTY	2501 ENGLEWOOD DRIVE	DURHAM
IHSB	NONCD0002870	RPM NISSAN	3930 CHAPEL HILL BLVD	DURHAM
IHSB	NONCD0001337	BENCHMARK MATERIALS	311 S. PLUM ST	DURHAM
IHSB	NONCD0001192	EAKES CLEANERS (FORMER)	827 W MORGAN ST	DURHAM
IHSB	NONCD0001382	BRIGHTLEAF SQUARE	800 BLOCK WEST MAIN STREET	DURHAM
IHSB	NONCD0001639	DUKE MEDICAL CENTER (BELL BUILDING)	TRENT DRIVE	DURHAM
IHSB	NONCD0001648	DURHAM AUDITORIUM		DURHAM
IHSB	NCD003198520	HONEYWELL, INC	921 HOLLOWAY STREET	DURHAM
IHSB	NONCD0002494	BRENNTAG/SOUTHCHEM	2000 E. PETTIGREW ST.	DURHAM
IHSB	NCD075582197	AMORE/WORTH CHEMICAL	2418 EAST PETTIGREW ST	DURHAM

IHSB	NCD980515308	UNIVERSITY OF NC AT CHAPEL HILL	FINLEY GOLF COURSE RD	
IHSB	NCD991278714	CAROCHEM, INC.	540 GULF ST	DURHAM
IHSB	NCD986173938	DURHAM GAS PLANT	909 GILBERT STREET	DURHAM
IHSB	NCR000010272	UNC-COGENERATION FACILITY	575 W CAMERON AVE	CHAPEL HILL

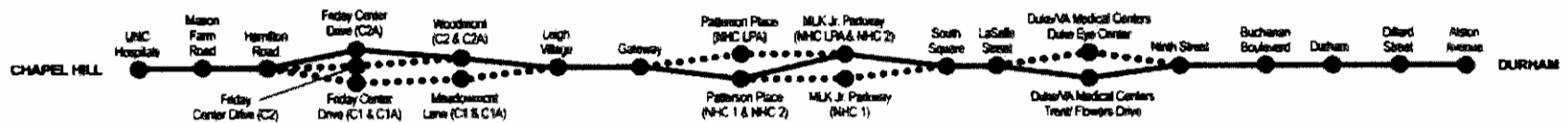
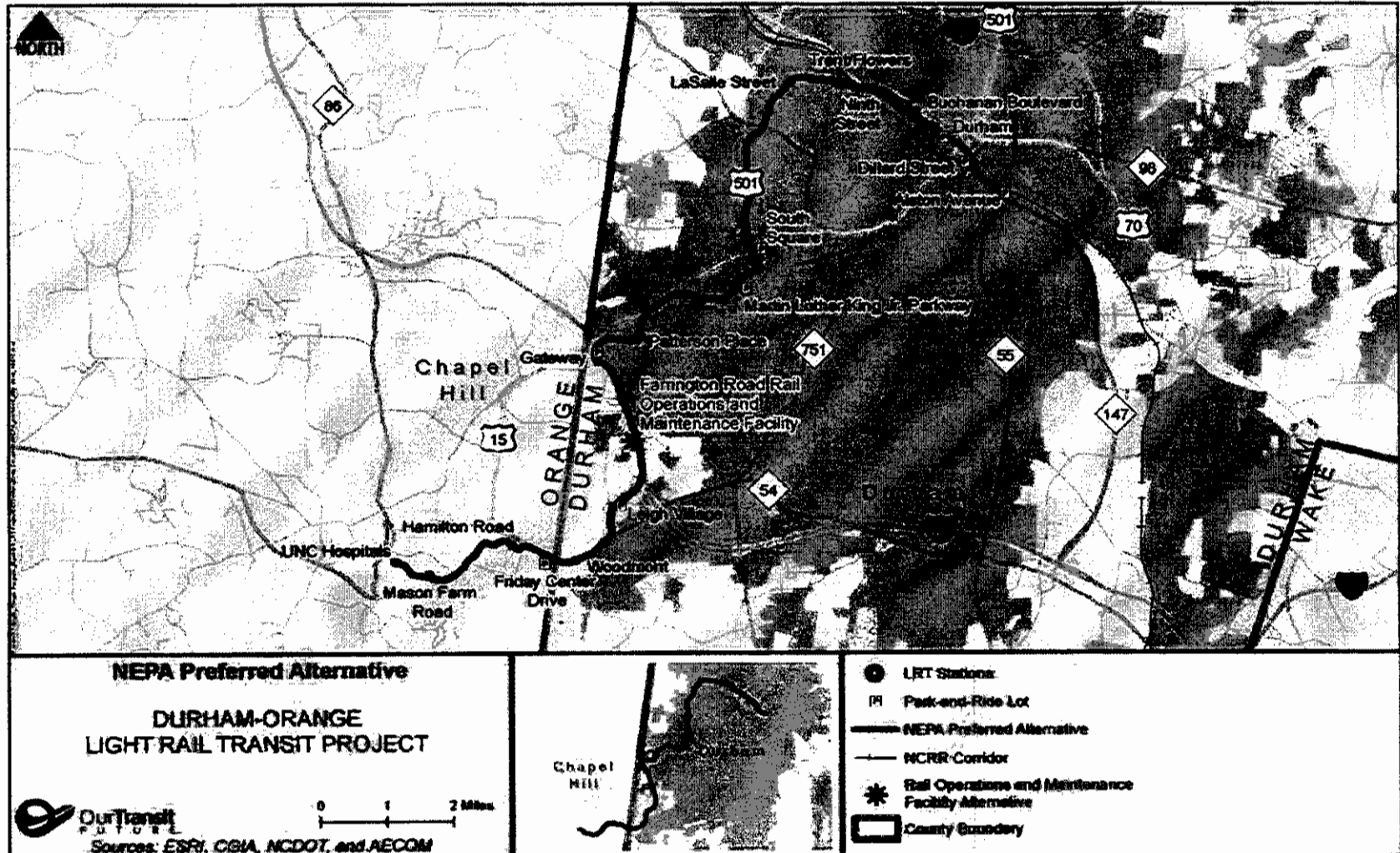
**Programs:**

IHSB – Inactive Hazardous Sites Branch

DSCA – Dry-cleaning Solvent Cleanup Act Program

BFA – Brownfields Program

Figure ES-3: NEPA Preferred Alternative



# North Carolina Department of Environmental Quality

Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

September 21, 2015

## MEMORANDUM

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

Through: Amy Chapman, Supervisor, Transportation Permitting Unit, NC Division of Water Resources *ac*

From: Rob Ridings, Transportation Permitting Unit, NC Division of Water Resources *RR*

Subject: Comments on the Draft Environmental Impact Statement related to proposed Go Triangle Project, Durham-Orange Light Rail. State Clearinghouse Project No. 16-0065.

This office has reviewed the referenced document received September 3, 2015. The NC Division of Water Resources (NCDWR) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. It is our understanding that the project as presented will result in impacts to jurisdictional wetlands, streams, and other surface waters. The NCDWR offers the following comments based on review of the aforementioned document:

### **Project Specific Comments:**

1. For the Final EIS, DWR requests that information related to impacts for any roadway improvements or realignments that are necessary for the project. This may include turning lanes, connectors, entries to park and ride lots, and others.
2. Citizen comments have indicated concerns over possible stormwater runoff in the area of the stated preferred alternative for the Rail Operations & Maintenance Facility (ROMF) at Farrington Road. This particularly includes possible impacts to groundwater that feeds drinking water wells of nearby residents, as well as a large amount of added impervious surface to the watershed. NCDWR requests that all further environmental documentation discuss in detail any avoidance and minimization efforts at any proposed ROMF site, as well as information regarding potential treatment of the stormwater before it drains off the ROMF sites, using Best Management Practices (BMPs). Treatment of stormwater from any new impervious surfaces to prevent downstream pollution and to minimize impact to the watershed, is a requirement in applying for any 401 Water Quality Certification.
3. Streams in the project areas are listed as WS-IV, NSW or WS-V, NSW waters of the State. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDWR recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to these waters. Additionally, the NCDWR requests that design plans provide treatment of the storm water runoff through best management practices. Treatment for road and street stormwater should be designed as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual.

1617 Mall Service Center, Raleigh, North Carolina 27699-1617  
Phone: 919-807-6300 | Internet: [www.ncdenr.gov](http://www.ncdenr.gov)

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4. This project is within the Neuse River and Jordan Lake watersheds. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0233 and 2B.0267. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 02B .0233 and 2B.0267. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, coordinated with the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, coordinated with the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification.

**General Transportation Permitting Comments:**

5. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.
6. Environmental impact statement alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. these alternatives should include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual, which includes BMPs such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.
7. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the applicant is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The North Carolina Division of Mitigation Services may be available to assist with wetland mitigation.
8. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts of greater than 150 linear feet to any single stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The North Carolina Division of Mitigation Services may be available to assist with stream mitigation.
9. Future documentation, including the 401 Water Quality Certification Application, shall continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.
10. An analysis of cumulative and secondary impacts anticipated as a result of this project is required. The type and detail of analysis shall conform to the NC Division of Water Resources Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.
11. The applicant 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.

12. Where streams must be crossed, the NCDWR 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, the applicant should not install the bridge bents in the creek, to the maximum extent practicable.
13. Whenever possible, the NCDWR prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks 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.
15. 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 recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures.
14. Sediment and erosion control measures should not be placed in wetlands or streams.
15. 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.
16. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.
17. Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require an Individual Permit application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the applicant and written concurrence from the NCDWR. Please be aware that any approval will be contingent on appropriate avoidance and minimization of wetland and stream impacts to the maximum extent practical, the development of an acceptable stormwater management plan, and the inclusion of appropriate mitigation plans where appropriate.
18. 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.
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 downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR 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. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3883/Nationwide Permit No. 6 for Survey Activities.
23. 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.
24. 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 the 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.
25. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.
26. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
27. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.
28. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

The NCDWR appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact Rob Ridings at [rob.ridings@ndenr.gov](mailto:rob.ridings@ndenr.gov).

Electronic copy only distribution:

John Thomas, US Army Corps of Engineers, Raleigh Field Office  
Dr. Cynthia Van Der Wiele, US Environmental Protection Agency  
Juanita Shearer-Swink, Go Triangle  
File Copy



# North Carolina Department of Environmental Quality


Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

## MEMORANDUM

DATE: September 23, 2015

TO: Linda Culpepper, Division Director through Sharon Brinkley

FROM: Deb Aja, Western District Supervisor - Solid Waste Section 

RE: NEPA Review Project #16-0065, Durham and Orange Counties, N.C.  
Durham-Orange Light Rail Transit Project

Digitally signed by Deborah Aja  
DN: cn=Deborah Aja, o=Solid  
Waste Section, ou=  
email=deborah.aja@ncdenr.gov,  
c=US  
Date: 2015.09.23 13:51:36 -0400

The Solid Waste Section has reviewed the Draft Environmental Impact Statement for the proposed Durham-Orange Light Rail Transit Project in Durham and Orange Counties, North Carolina. The review has been completed and has seen no adverse impact on the surrounding community and likewise knows of no situations in the community, which would affect this project from a solid waste perspective.

During construction, the applicant should make every feasible effort to minimize the generation of waste, to recycle materials for which viable markets exist, and to use recycled products and materials in the development of this project where suitable. Any waste generated by this project that cannot be beneficially reused or recycled must be disposed of at a solid waste management facility approved to manage the respective waste type. The Section strongly recommends that any contractors are required to provide proof of proper disposal for all waste generated as part of the project. The nearest permitted facilities to the project are the Orange County C&D Landfill, Chapel Hill, the Waste Management - Chatham County Transfer Station, Siler City, the Stone Court Park Transfer Station, Durham, and the City of Durham Transfer Station, Durham, North Carolina. Additional solid waste facility information for solid waste facilities may be found on the Solid Waste Section portal site at: <http://portal.ncdenr.org/web/wm/sw/facilitylist>.

Please contact Mr. John Patrone, Environmental Senior Specialist, for with any questions regarding solid waste management in Orange County and Mrs. Mary Whaley, Environmental Senior Specialist, with questions regarding solid waste management in Durham County. Mr. Patrone may be reached at (336)-776-9673 or by email at [john.patrone@ncdenr.gov](mailto:john.patrone@ncdenr.gov) and Mrs. Whaley may be reached at (910)-693-5023 or by email at [mary.whaley@ncdenr.gov](mailto:mary.whaley@ncdenr.gov).

Cc: Jason Watkins, Field Operations Branch Head  
John Patrone, Environmental Senior Specialist  
Mary Whaley, Environmental Senior Specialist  
Sarah Rice, Compliance Officer  
Dennis Shackelford, Eastern District Supervisor

2090 US Highway 70, Swannanoa, North Carolina 28778  
Phone: 828-296-4500 \ FAX: 828-299-7043 \ Internet: <http://portal.ncdenr.org/web/wm>

# North Carolina Department of Environmental Quality

Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

September 23, 2015

To: Linda Culpepper, Director  
Division of Waste Management

From: Jenny Patterson, Eastern Region Supervisor, Compliance Branch *Jenny Patterson*  
Hazardous Waste Section

Subject: Hazardous Waste Section Comments on the Durham-Orange Light Rail Transit Project  
(Durham and Orange Counties)  
Project Number: 16-0065

The Hazardous Waste Section (HWS) has reviewed the subject Draft Environmental Impact Statement for the proposed project which consists of the construction of a light rail system that will traverse Orange and Durham Counties connecting Chapel Hill and Durham.

Any hazardous waste generated from the demolition, construction, maintenance, operation, and/or remediation (e.g. excavated soil) from the proposed project must be managed in accordance with the North Carolina Hazardous Waste Rules. The demolition, construction, maintenance, operation, and remediation activities conducted will most likely generate a solid waste, and the determination must be made on whether it is a hazardous waste. If a project site generates more than 220 pounds of hazardous waste in a calendar month, the HWS must be notified, and the site must comply with the small quantity generator requirements. If a project site generates more than 2200 pounds of hazardous waste in a calendar month, the HWS must be notified, and the facility must comply with the large quantity generator requirements.

Used oil generated from operation or maintenance must be managed in accordance with the standards for the management of used oil described in 40 CFR 279 if recycled. If the used oil is disposed, then a hazardous waste determination must be made on the used oil.

Should any questions arise, please contact me at 336-767-0031.

State of North Carolina  
 Department of Environment and Natural Resources  
 INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

Reviewing Office: RRO

Project Number 16-0065 Due Date: 9/23/2015  
 County DURHAM

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)
<input type="checkbox"/>	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)
<input type="checkbox"/>	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)
<input type="checkbox"/>	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
<input type="checkbox"/>	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
<input type="checkbox"/>	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)
<input type="checkbox"/>	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.0100 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
<input type="checkbox"/>	Permit to construct & operate Transportation Facility as per 15A NCAC (2D.0800, 2Q.0601)	Application must be submitted at least 90 days prior to construction or modification of the source.	90 days
<input checked="" type="checkbox"/>	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
<input checked="" type="checkbox"/>	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.		
<input type="checkbox"/>	Complex Source Permit required under 15 A NCAC 2D.0800		
<input checked="" type="checkbox"/>	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)
<input type="checkbox"/>	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)
<input type="checkbox"/>	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)
<input type="checkbox"/>	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
<input type="checkbox"/>	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 burn is planned."	1 day (N/A)
<input type="checkbox"/>	Oil Refining Facilities	N/A	90-120 days (N/A)
<input type="checkbox"/>	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)

County <u>DURHAM</u>		Project Number: <u>16-0065</u>	Due Date: <u>9/23/2015</u>	Normal Process Time (statutory time limit)
PERMITS		SPECIAL APPLICATION PROCEDURES or REQUIREMENTS		
<input type="checkbox"/>	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
<input type="checkbox"/>	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
<input type="checkbox"/>	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.		15-20 days N/A
<input type="checkbox"/>	401 Water Quality Certification	N/A		60 days (130 days)
<input type="checkbox"/>	CAMA Permit for MAJOR development	\$250.00 fee must accompany application		55 days (150 days)
<input type="checkbox"/>	CAMA Permit for MINOR development	\$50.00 fee must accompany application		22 days (25 days)
<input type="checkbox"/>	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			
<input checked="" type="checkbox"/>	Abandonment of any wells, if required must be in accordance with Title 15A. Subchapter 2C.0100.			
<input checked="" type="checkbox"/>	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.			
<input type="checkbox"/>	Compliance with 15A NCAC 2H 1000 (Coastal Stormwater Rules) is required.			45 days (N/A)
<input type="checkbox"/>	Catawba, Jordan Lake, Randalman, Tar Pamlico or Neuse Riparian Buffer Rules required.			
<input checked="" type="checkbox"/>	Plans and specifications for the construction, expansion, or alteration of a public water system must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction as per 15A NCAC 18C.0300 et. seq. Plans and specifications should be submitted to 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. All public water supply systems must comply with state and federal drinking water monitoring requirements. For more information, contact the Public Water Supply Section. (919) 707-9100.			30 days
<input checked="" type="checkbox"/>	If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources/Public Water Supply Section at 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. For more information, contact the Public Water Supply Section. (919) 707-9100.			30 days

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

Division	Initials	No comment	Comments	Date Review
DAQ	ddm	<input type="checkbox"/>		9/14/15
DWR-WQROS (Aquifer & Surface)	ds rb	<input type="checkbox"/> <input type="checkbox"/>	<p>- A project that disturbs 1 acre or greater is required to secure an erosion and sedimentation control plan and must comply with construction stormwater permit conditions (NCG010000).</p> <p>-The project is in the Neuse River and Cape Fear Watershed with respectively drain to Falls and Jordan Lakes.</p> <p>The USGS Topographic map did depict a blue line stream and crenulations that are within the project boundary. (Note: the soil survey was not reviewed.)</p> <p>If wetland, stream or riparian buffer impacts are proposed, this project will need to comply with/secure a 404 permit from the USACE, obtain a 401 Water Quality Certification authorization and obtain proper buffer authorization.</p>	9/18/15 9/18/15
DWR-PWS	wah	<input type="checkbox"/>	See last two checked boxes	9/10/15
DEMLR (LQ & SW)	JLH	<input type="checkbox"/>	Although mentioned in the reports, the plan requirement item was checked for further details.	9/24/15
DWM - UST	MRP	<input type="checkbox"/>		9/21/15

### 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

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

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

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

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

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

**Winston-Salem Regional Office**  
450 West Hanes Mill Road, Suite 300  
Winston-Salem, NC 27105  
(336) 771-9800

NORTH CAROLINA STATE CLEARINGHOUSE  
DEPARTMENT OF ADMINISTRATION  
INTERGOVERNMENTAL REVIEW

COUNTY: DURHAM  
ORANGE

F04: MASS TRANSIT

STATE NUMBER: 16-E-0000-0065  
DATE RECEIVED: 08/28/2015  
AGENCY RESPONSE: 09/23/2015  
REVIEW CLOSED: 09/28/2015

MS RENEE GLEDHILL-EARLEY  
CLEARINGHOUSE COORDINATOR  
DEPT OF CULTURAL RESOURCES  
STATE HISTORIC PRESERVATION OFFICE  
MSC 4617 - ARCHIVES BUILDING  
RALEIGH NC

**REVIEW DISTRIBUTION**

DENR LEGISLATIVE AFFAIRS  
DEPT OF AGRICULTURE  
DEPT OF CULTURAL RESOURCES  
DEPT OF TRANSPORTATION  
DPS - DIV OF EMERGENCY MANAGEMENT  
TRIANGLE J COG

**PROJECT INFORMATION**

APPLICANT: Triangle Transit  
TYPE: National Environmental Policy Act  
Draft Environmental Impact Statement

DESC: Proposed is a DEIS for the Durham-Orange Light Rail Transit Project. View documents at <http://ourtransitfuture.com/>

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED:  NO COMMENT  COMMENTS ATTACHED

SIGNED BY:

Renee Gledhill-Earley

DATE:

9.24.15

ER 12-0738

Draft letter

# DMA 9/11/15

Dec 9/18/15

# 0880 9/24/15



SEP 11 2015



**North Carolina Department of Cultural Resources  
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Pat McCrory  
Secretary Susan Kluttz

Office of Archives and History  
Deputy Secretary Kevin Cherry

September 25, 2015

David A. Charters, Jr., PE  
GoTriangle  
PO Box 13787  
Research Triangle Park, NC 27709

Re: Durham-Orange Light Rail Transit Project – Draft Environmental Impact Statement,  
Durham and Orange Counties, ER 12-0738

Dear Mr. Charters:

Thank you for your letter of August 25, 2015, transmitting the Draft Environmental Impact Statement (DEIS) for our review concerning the above project.

As noted in the document, areas within the project area of potential effect (APE) that have the potential to contain National Register eligible archaeological sites have been identified in consultation between our Office of State Archaeology and your archaeological consultants. As also noted in the DEIS, after selection of the alternative to be constructed, if any of these areas will be affected, appropriate archaeological investigations will be undertaken prior to project implementation.

We look forward to working with you and your consultants on future aspects of this project at the appropriate time.

The DEIS correctly notes the “Findings of Effects” on the twenty-five above-ground historic properties and outlines the steps that will be taken to avoid any adverse effects.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation’s Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or [environmental.review@ncdcr.gov](mailto:environmental.review@ncdcr.gov). In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

for Ramona M. Bartos

NCDOT Rail Division Review  
DEIS for Durham –Orange Light Rail Transit  
Draft Environmental Impact Statement

1. The DEIS states that this project would have no impacts to mainline railroad tracks, passenger rail service and freight service passing through the corridor.
2. NCDOT Rail Division concurs with the recommendation that the Alston Avenue location for the ROMF not be considered as the NEPA Preferred Alternative. It is noted that this alternative would impact an existing freight customer and would require the relocation of multiple businesses.
3. In Chapter 3, the EIS notes that there is no impact to the future freight grade separation of Blackwell and Mangum Streets because the LRT tracks are at-grade with those crossings. In fact, the addition of embedded light rail tracks at-grade adjacent to Pettigrew St through Blackwell and Mangum Streets will make the grade separation substantially more costly and difficult, if not making it outright impossible, since a change in the grade of Mangum and Blackwell in addition to a change of the grade of the railroad is the only way to accomplish the necessary vertical clearance. I don't think that is necessarily a problem given that the grade separation of Mangum and Blackwell is unlikely to happen in any event, but it is something to be aware of.
4. The retaining walls built 15' from the LRT track when the LRT track is 55' from the existing main should be built to accommodate the grade and loading for the future track. This is especially true of the wall retaining railroad embankment, where it will be impossible to add a future track without disturbing the LRT wall / LRT embedded track to build a wall capable of maintaining that loading. There will only be 25' from the centerline of a future track to the face of wall, which is just room for the roadbed shoulder and a ditch, so no cut or fill slope will likely be able to be added in between the two to reduce the necessary height. In addition, a future railroad fill wall at minimum distance from the future track would only be 10' from the LRT wall, so would almost certainly put RR surcharge loading on that wall.
  - At a minimum, the foundations of both the cut and fill walls at 40' from existing track need to be built accounting for this future loading so the walls can be modified at the time of that future project.



5. Note there are a couple of traffic related issues that may warrant a closer look, particularly the (crash / environmental / delay) impacts to motor vehicles associated with the LRT having preemption priority at traffic signals over all other traffic as well as the potential for false lane capacities at intersections where addition lanes may be added to maintain intersection capacity. However, I understand NCDOT's Congestion Management Section as well as others in Traffic Engineering are also reviewing these documents and will be providing comments / concerns.

6. It appears good due diligence was exercised to provide grade-separated crossings over most major transportation facilities when feasible. However, where the LRT tracks transition into the median / center of a roadway at-grade, preference would be for the tracks to clear an intersection overhead rather than bisect an intersection as an at-grade crossing. Bisecting an intersection at-grade will present crossing protection challenges and may impact intersection efficiency (hence presenting crash / environmental / delay impacts). As one example, can the elevated tracks be extended over the intersection then transition to ground level within the median for the intersection of Cameron Road at Erwin Road rather than descending to ground level prior to the intersection?

7. Likewise, there are instances of LRT tracks bisecting intersections where the tracks are not going into the median / center of the road. Preference would be to relocate these at-grade crossings where feasible so as not to bisect the intersection. Two examples are: NS Connector at EW Street C (Alt C1) and Friday Center at intersecting driveways (C2), as well as the traffic circle intersection at Pope Road and Old Chapel Hill Road. Tracks bisecting an intersection present grade crossing warning protection challenges and will require all traffic movements to stop for the light rail train, decreasing intersection efficiency.

8. Though the MUTCD allows a "combination of automatic gates and flashing lights signals, or flashing light only signals, or traffic control signals," preference would be to provide automatic gates and flashing light signals (or flashing light signals) with very limited use of traffic control signals exclusively. Automatic gates would provide a stronger deterrent to motorists stopping on LRT tracks especially during the approach of the light rail train. Also, automatic gates and flashing light signals, and flashing light

signals meet the typical motorists' expectation for warning device treatments at a highway-rail at-grade crossing.

9. Where feasible, LRT tracks crossing roadways at a skewed angle should be avoided or the skew minimized (for example at Stancil Drive (alt C2) and George King Road (alt C1A)). Depending on the angle and direction, skewed tracks may hinder vehicular sight distance, present grade crossing protection challenges, and create potential obstacles to bicycles (wheel getting caught in gap between roadway and rail).

10. Where tracks travel between two roadways that form two nearby intersections with a common intersecting roadway and one of the intersections has a traffic signal, consider traffic signalization of both intersections to minimize potential of vehicles queuing on the tracks between the two intersections.

11. In general, for some of the wider roadway cross-sections where at-grade crossings are to be introduced and crossing gates are to be installed, gate length limitations may necessitate island gates to get appropriate lane coverage.

NCDOT Rail Division appreciates the opportunity to comment on the DEIS. We look forward to continued coordination with GoTriangle through the design and construction of this project.



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY  
GOVERNOR

1501 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1501

NICHOLAS J. TENNYSON  
SECRETARY

October 5, 2015

D-O LRT Project – DEIS  
c/o GoTriangle  
Post Office Box 530  
Morrisville, NC 27560

To Whom It May Concern:

The NCDOT Division of Bicycle and Pedestrian Transportation appreciates the opportunity to comment on the Draft Environmental Impact Statement for the Durham Orange Light Rail Project. We have two recommendations on additional items for inclusion in the project and EIS.

Light rail must meaningfully integrate pedestrian and bicycle facilities at the stations as well as along the service corridors in order to successfully provide an alternative to driving and to meet the needs of those who are unable to drive. At a minimum, walking and bicycling form the first mile and last mile of any transit trip, as riders must travel from a nearby residence, business, or other facility. **To be truly transformative, the Durham Orange Light Rail Project should integrate walking and bicycling facilities paralleling the entire project corridor.** This will create a complement of multi-modal options that will make the project more flexible and useful than light rail alone.

Development of light rail provides an opportunity to preserve the right of way for a bicycle/pedestrian corridor integrated with the light rail facility. Including a multi-modal network within the project at the outset provides many benefits, including: saving funds on additional right of way and construction costs versus later addition; seamless integration instead of unwieldy and potentially costly retrofits; and support for early ridership through provision of multi-modal connectivity between stations and trip generators from day one.

In North Carolina, the Charlotte Blue Line provides an example of successfully integrating light rail and bicycle/pedestrian infrastructure to form a complete multi-modal system. The Blue Line includes a bicycle/pedestrian path alongside most of the corridor, which connects to bicycle routes and sidewalks along key corridors in Charlotte. Project proponents realized the importance of providing multi-modal access to the light rail from the outset, and planned accordingly. Integrating the two facilities provides a clear network for transit users to access.

Providing access to a similar bicycle/pedestrian corridor adjacent to the D-O Light Rail will have multiple benefits. The bicycle/pedestrian corridor will allow an opportunity for transit users to

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF BICYCLE & PEDESTRIAN  
TRANSPORTATION  
1552 MAIL SERVICE CENTER  
RALEIGH NC 27699-1552

**KENDRA C. BRIDGES**  
TELEPHONE: (919) 707-2606  
FAX: (919) 715-4421  
WEBSITE: [HTTP://WWW.NCDOT.GOV/BIKEPED/](http://www.ncdot.gov/bikeped/)  
EMAIL: [KCBRIDGES@NCDOT.GOV](mailto:KCBRIDGES@NCDOT.GOV)

**LOCATION:**  
TRANSPORTATION BUILDING  
1 S. WILMINGTON ST.  
SUITE 418  
RALEIGH NC

choose to bicycle or walk one leg of a trip, stop midway through a trip to run an errand, and continue the trip safely using the light rail and the trail in combination. Importantly, providing complementary multi-modal facilities at the outset will help mitigate the loss of connectivity due to elimination of planned bicycle lanes on Erwin Road and Pettigrew Street, recommended in local plans as key connections as noted in the DEIS. Ultimately, the bicycle/pedestrian corridor will provide a high level of connectivity to key destinations in Durham and Orange Counties, increasing the accessibility for these destinations for those who cannot or choose not to drive personal vehicles, creating a flexible and responsive multi-modal network.

In addition to a complementary bicycle/pedestrian corridor adjacent to the light rail corridor, we recommend inclusion of a strong policy to accommodate bicycles on board the light rail. **Bicycle storage on-board light rail should be a prominent feature of project, and should not be limited unnecessarily.** The DEIS is non-committal about the facilities which will be provided on light rail cars for bicycle storage. While we understand that the specific vehicles have not been selected at this stage, a greater commitment to providing adequate bicycle storage on light rail cars will help ensure that passengers who wish to bicycle at each end of their trip will be accommodated. Some light rail systems do not limit bicycles on board trains to the bike racks provided on board, but allow for additional bicycles to be brought on board if space allows.<sup>1</sup> Recommendation of this policy option to not numerically limit bicycles on board light rail would strengthen the multi-modal component of the project. GoTriangle promotes bicycling as an alternative transportation mode, and thus should facilitate accessing light rail by bicycle by allowing as many bicycles on board as practicable, instead of limiting to the number of spaces in any rack provided.

The Durham Orange Light Rail will be an important amenity for the communities it serves, and has the potential to offer meaningful multi-modal connections. Key details, such as those outlined above, will be critical to maximizing the positive impact of this project. Addressing the need for connected bicycle and pedestrian facilities along the station corridor, and providing for adequate bicycle storage on light rail cars, will help to ensure that the Durham Orange Light Rail Project provides integrated, accessible, and flexible multi-modal transportation options for the communities it serves.

Thank you for consideration of our recommendations. If additional information is required, please let us know.

Sincerely,



Kendra Bridges  
Transportation Program Consultant II  
Division of Bicycle and Pedestrian Transportation

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<sup>1</sup> Several light rail systems nationally do not provide numerical limits for bicycles on board, and instead allow for judgement calls on available space to determine bicycle capacity for each train. Bicycle storage on these systems is allowed outside of the designated racks or storage pads standard in light rail cars, as space allows. Metro Minneapolis-St. Paul, Los Angeles Metro, and Dallas Area Rapid Transit are examples.



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

VICE CHANCELLOR FOR FINANCE AND ADMINISTRATION

300 SOUTH BUILDING  
CAMPUS BOX 1000  
CHAPEL HILL, NC 27599-1000

TEL: 919-962-3795  
FAX: 919-962-0647  
[www.unc.edu/financeadmin](http://www.unc.edu/financeadmin)

October 8, 2015

David Charters, Manager  
Design and Engineering, GoTriangle  
D-O LRT Project – DEIS  
c/o Triangle Transit  
Post Office Box 530  
Morrisville, NC 27560

RE: D-O LRT PROJECT DEIS/Draft Section 4(f) Evaluation, Comments from  
The University of North Carolina at Chapel Hill and UNC Health Care System

Dear Mr. Charters,

Thank you for the opportunity to provide comments on the Durham-Orange Light Rail Transit (D-O LRT) Project Draft Environmental Impact Statement (DEIS) and Draft Section 4(f) Evaluation. We appreciate the cooperation and coordination of Triangle Transit staff as the project has developed and look forward to continued collaboration as the project progresses. The comments below are representative of both the University of North Carolina at Chapel Hill and the UNC Health Care System and reflect our understanding of the project to date. As the project continues to develop we reserve the right to provide additional comments on future phases.

The following comments relate to the DEIS/Draft Section 4(f) Evaluation documentation:

- p. 2-33: In addition to the at-grade vehicular crossings noted on Table 2.3-1, we anticipate a need for an at-grade pedestrian crossing as part of the reconstruction of the parking lot south of the Kenan-Flagler Business School. There are currently heavy pedestrian flows to the Business School area from the student family housing on the north side of Mason Farm Road and other residences south of Mason Farm Road. We also request more detailed analysis of the proposed parking lot reconstruction plan to assess impacts to the adjacent undeveloped land and consistency with the Campus Master Plan.

- p. 3-12: Please note that the GoPass is only available to UNC employees and students who are members of our Commuter Alternative Program (who forego an on-campus parking permit) and that GoPass use is restricted to commuting trips to and from the UNC campus.
- p. 3-32: The traffic analysis indicates a Level of Service C in 2040 for the NEPA Preferred Alternative in both the a.m. and p.m. peak hours at the proposed Mason Farm Road at East Drive/Jackson Deck signalized intersection. This intersection, and the UNC Hospitals Station, are adjacent to three parking decks on campus. The traffic analysis detailed in Appendix K-4 (UNC Hospitals Traffic Simulation Report) does not include analysis of ingress/egress movements for the three parking decks. For example, one of the main entrances for the Dogwood Deck, which serves hospital visitors and patients, is directly north of the UNC Hospitals Station and the plans include the loss of a dedicated turn-lane on Mason Farm Road into the deck. In the next phase of the project, please provide a more detailed traffic analysis of the impacts to ingress/egress movements for the three parking decks, as well as impacts to circulation on nearby roadways.
- p. 3-38: Table 3.2-5 does not include the roadway modifications to create the new Mason Farm Road at East Drive/Jackson Deck signalized intersection or the other roadway modifications to develop the UNC Hospitals Station (see Appendix L, Volume 1, Sheet A-01), and page 3-42 notes that “no roadway modification is proposed as part of the NEPA Preferred Alternative at this location.” The traffic analysis in Appendix K-4 notes that the UNC Campus Master Plan shows the proposed Mason Farm Road at East Drive/Jackson Deck roadway realignment and intersection improvement. Please note that these improvements are not currently programmed or funded and thus have no timeline for development. Please clarify that all of the roadway improvements illustrated on Sheet A-01 of the Basis for Engineering plans will be a part of the D-O LRT Project.
- p. 4-21: Please note that seating capacity of the Smith Center is 21,750, not 24,000. Also note that while the Tar Heel Express service operated by Chapel Hill Transit from park-and-ride lots is popular (about 10-15% of patrons use the service), the majority of patrons to Smith Center events drive or carpool, park on or near campus, and walk to the event.
- p. 4-36: Figure 4.1-12 (Future Land Uses in the D-O Corridor) erroneously shows the UNC main campus and Friday Center areas as “Mixed Use.” The Chapel Hill 2020 Land Use Plan shows those areas as “University” land use. Please amend the Future Land Uses figure to accurately depict future UNC land use.
- p. 4-119: Regarding potential impacts to the planned Central Park South open space referenced in Section 4.6.3.1, please note that this open space is of considerable value to the

University. As development of the D-O LRT Project continues we look forward to working with Triangle Transit to protect the integrity and use of the open space area, including maintaining circulation under the elevated portion of the proposed track and siting stormwater mitigations for future development in the area.

- p. 4-123: Regarding recommended mitigation measures for impacts to Finley Golf Course referenced in Section 4.6.4, please note that during construction of the D-O LRT Project the golf course will remain open and Triangle Transit will be required to coordinate with UNC to minimize disruption to Finley Golf Course users and staff. To supplement the *Finley Golf Course Design Concept Plan* (Fazio, 2014) we request that Triangle Transit produce an independent analysis of the fiscal impacts to Finley Golf Course during the construction period of the project and the golf course mitigations. The fiscal analysis should include the potential loss of revenue during construction as well as a detailed plan for maintaining the playability of the course until the mitigations are in place.
- p. 4-123: Regarding recommended mitigation measures for impacts to the existing UNC open space adjacent to Finley Golf Course referenced in Section 4.6.4, please note that while the proposed alignment would primarily cross undeveloped wooded land there are gravel paths in the vicinity of the alignment which are used for cross country events and informal UNC and public recreational activities. The proposed mitigation includes the construction of a grade-separated crossing for the gravel path to accommodate continued connectivity for users. Refinements in the D-O LRT design should be made and appropriate mitigation should be developed to minimize potential impacts to the paths and Open Space. Additionally, Triangle Transit should provide UNC with at least 48 hours advance notice before undertaking any activities that may temporarily close or restrict the use of the gravel paths. Triangle Transit should coordinate closely with UNC to communicate any such closures to UNC Open Space and the associated gravel path users.
- p. 4-211: As noted in the Noise and Vibration Technical Report (Appendix K.24), UNC has a number of medical and research facilities that house highly specialized equipment that is sensitive to vibration. Please continue to coordinate with University and University Hospitals staff as the detailed vibration analysis (see Section 4.10.5.2) in the phase is developed and appropriate mitigations are identified.
- p. 4-252: As noted in Section 4.13.2, the University would provide electricity to the portions of the project on University property. As the project develops we anticipate more detailed coordination with Triangle Transit and Duke Energy on electrical distribution issues.
- p. 4-255: Section 4-14 (Acquisitions, Relocations, and Displacements) notes that a complete list and maps of all full and partial property acquisitions for the project are located in Appendix K but our review of Appendix K did not reveal the list and maps. Please

provide current property information to inform our ongoing discussion. Also, the text notes that “full acquisitions entail the purchase of an entire parcel, whereas partial acquisitions entail the purchase of a portion of a parcel.” Please note that our discussions to date with Triangle Transit have assumed use of easements on University property, rather than property or right-of-way purchase.

- p. 4-263: As noted in Section 4.15.2, the University has significant utility infrastructure within the portion of the D-O LRT Project study area on University property. As the project develops please continue close coordination with University utility stakeholders, as well as our utility partners that provide service on campus, to minimize project impacts to the utility infrastructure and services.
- p. 4-265: As noted in Section 4.15.3, new utility services, such as traction power substations, signal houses, and other station area facilities, will be required to operate the D-O LRT Project. We request that these utility facilities, and any other physical improvements that are part of the project, be designed in close consultation with the University to ensure consistency with the Campus Master Plan and the University’s planning and design objectives.
- Ch. 6: Please refer to letter from UNC and UNC Health Care, dated May 22, 2015 and found in Appendix G – Agency Correspondence, for comments about Section 4(f) impacts to University property.

Please continue to coordinate with UNC regarding the proposed D-O LRT Project and any activities that may affect UNC and the UNC Health Care System. We appreciate your efforts to incorporate our comments into project planning and design and look forward to our continued partnership on this important project.

Sincerely,



Matthew M. Fajack  
Vice Chancellor for Finance and Administration

- cc: Tammy Bouchelle, Triangle Transit  
Meghan Makoid, Triangle Transit  
Gavin Poindexter, AECOM  
Than Austin, UNC  
Patricia Crawford, UNC  
Brad Ives, UNC  
Will Tricomi, UNC  
Anna Wu, UNC  
Karen McCall, UNC Health Care System



October 12, 2015

David A. Charters Jr. PE  
Manager, Design and Engineering  
Go Triangle  
Post Office Box 13787  
Research Triangle Park, NC 27709

Dear Mr. Charters:

The proposed Durham-Orange Light Rail Transit Project is intended to address long-term regional transportation issues related to population growth expected in the Triangle region over the next 30 years. The project focuses on transporting our residents to and from major destinations, with particular emphasis on major employment hubs in our region, including downtown Durham, Duke University and the Duke Medical Center, the University of North Carolina and UNC Hospitals.

While Phase One of this project effectively connects the campuses of Duke University and UNC-Chapel Hill, this effort fails to provide service to either Durham Technical Community College or our higher education neighbor and partner, North Carolina Central University. The project's planners have cited cost and right-of-way issues as factors in excluding direct access to those institutions in Phase One. Current and former Go Triangle leaders have acknowledged that Phase One does not adequately serve these campuses and in conversations with both college and university leaders have mentioned the possibility of these campuses being served by the project in Phase Two. However, we have received no written confirmation of this possibility and we see no mention of it in the current planning documents.

It is understandable that projects of this scope and magnitude must be planned and developed in phases. As virtually everyone acknowledges Phase One of the Triangle Light Rail Project fails to adequately serve the nearly 20,000 individuals who enroll in at least one class at Durham Tech annually, nor our over 800 full-time and part-time employees, I urge project planners to make a public commitment to include service to both Durham Tech and North Carolina Central University in the project's second phase.

Sincerely,



William G. Ingram  
President, Durham Technical Community College



## North Carolina Department of Administration

Pat McCrory, Governor

Bill Daughtride, Jr., Secretary

September 30, 2015

Mr. David Charters  
Triangle Transit  
Post Office Box 530  
Morrisville, NC 27560

**Re: SCH File # 16-E-0000-0065; Proposed is a DEIS for the Durham-Orange Light Rail Transit Project. View documents at <http://ourtransitfuture.com/>**

Dear Mr. Charters:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are the comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink that reads "Teresa Matthews".

Teresa Matthews  
State Environmental Review Clearinghouse

Attachments

Cc: Region J

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North Carolina  
Department of Administration

Pat McCrory, Governor

Bill Daughtride, Jr., Secretary

October 12, 2015

Mr. David Charters  
Triangle Transit  
Post Office Box 530  
Morrisville, NC 27560

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If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink that reads "Teresa Matthews".

Teresa Matthews

State Environmental Review Clearinghouse

Attachments

Cc: Region J

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