State Agencies

Affiliation	*State*
Sub-Group	*North Carolina Department of Environmental Quality*
First Name	*Deb*
Last Name	*Aja*

Comment

RE: NEPA Review Project# 16-0065, Durham and Orange Counties, N.C.Durham-Orange Light Rail Transit ProjectThe 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.gov/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 [removed contact information].

Comment Responses	*DEIS/Errata References*
Comments noted. The combined FEIS/ROD, including DEIS Errata 94, 107, 116, and 121 will reflect efforts to reduce solid waste, recycle materials, provide spill prevention, and other related concerns as appropriate.	*DEIS Errata 94, 107, 116, and 121*

Affiliation	*State*
Sub-Group	*North Carolina Department of Transportation (NCDOT)*
First Name	*Julie*
Last Name	*Bollinger*

Comment

September 17, 2015MEMO TO: North Carolina State Clearinghouse, Department of Administration Intergovernmental ReviewFROM: Julie B. Bollinger, P.E. NCDOT-Transportation Planning BranchSUBJECT: 16-E-0000-0065 - DEIS for the Durham-Orange Light Rail Transit Project- Located in Durham and Orange CountiesThank 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.dchcmpo.org/programs/transport/2040.asp. Please continue to coordinate and consult with the DCHC MPO (http://dchcmpo.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.qov/projects/planninq/Paqes/StateTransportation-lmprovement-Program.aspx.If you have any questions, please do not hesitate to call me at 919-707-0945.

Comment Responses	*DEIS/Errata References*
The No Build Alternative includes the existing and planned transportation programs and projects scheduled to be built and implemented before forecast year 2040 and contained in the 2040 MTP, excluding only Triangle Transit's Regional Rail program (D-O LRT Project and a commuter rail line between Durham and Raleigh) and related bus transit modifications. See DEIS section 2.3.1 for a list of the projects considered under the No Build Alternative.	*DEIS section 2.3.1* *FEIS/ROD section 1.4* *Table FEIS-2* *DEIS Errata 39*
Triangle Transit will continue to coordinate with the DCHC MPO throughout the development of the project, as clarified in the combined FEIS\ROD section 1.4, Table FEIS-2, DEIS errata 39.	

Affiliation	*State*
Sub-Group	*North Carolina Department of Transportation (NCDOT)*
First Name	*James F.*
Last Name	*Bridges*

Comment

Dave [Charters],Attached are NCDOT Rail Division review comments on the Durham-Orange Light Rail Transit Project DEIS. We look forward to continued coordination with GoTriangle through the design and construction of this project. Please let us know if you have questions or comments. Thanks,James F. Bridges, P.E.Rail Project Development EngineerNCDOT Rail DivisionNCDOT Rail Division Review DEIS for Durham –Orange Light Rail TransitDraft Environmental Impact Statement1.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 out-right 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 transitions 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.

Comment Responses	*DEIS/Errata References*
Under the proposed plan contained within the traffic separation study, the grade separation could not be accomplished without changing the grades of Mangum and Blackwell or a new proposed plan which would involve extending the grade change to the west and east. This was discussed with City of Durham and NCRR while setting the alignment of the NEPA Preferred Alternative through downtown Durham. Triangle Transit understands that the grade separation was unlikely to occur, and if it ever did occur it would require a restudy of the corridor including adjustments of the grade separation of Chapel Hill St. The combined FEIS/ROD will reflect that the NEPA Preferred Alternative would impact the proposed project of grade-separating the existing NCRR corridor at Blackwell and Mangum Streets. However, the grade separation of Blackwell and Magnum Street, which is separate from the D-O LRT Project, has not been funded and is unlikely to be implemented according to the NCDOT Rail Division and the DCHC MPO. Triangle Transit will continue coordination with the NCDOT Rail Division and DCHC MPO during the Engineering phase.Cross-sections have been prepared to show the impacts the future heavy rail track will have on LRT alignment and walls and vice-versa. Foundations will be designed to accommodate such.Detailed traffic operations analysis was performed for all locations where light rail tracks are proposed to enter/exit median-running operation. This analysis is documented in DEIS appendices K.09 and K.10 and summarized in DEIS section 3.2.3.2. This analysis indicates that the NEPA Preferred Alternative would not result in traffic operations impacts at these intersections. As described in DEIS section 4.12.3.5, the preliminary design of the project acknowledges safety concerns and includes provisions for safe operation and appropriate connectivity for pedestrians, bicyclists, and motorists. As noted in section 3.2.3, interfaces between the D-O LRT Project and the roadway network will be designed in accordance with state and federal safety regulations and best practices pertaining to such crossings. Other LRT projects throughout the country have shown that it is more efficient and easier to control the traffic conflicts if the LRT bisects an intersection rather than crossing the roadway twice. This is based upon a thorough traffic analysis and modeling. The use of traffic signals in combination with gates assures greater safety. Control at each of the at-grade crossings is subject to review and recommendations from NCDOT. Triangle Transit understands that NCDOT will be charged with the responsibility to approve the final controls to be implemented and monitor their operation once in use. As noted in DEIS section 3.2.3, interfaces between the D-O LRT Project and the roadway network will be designed in accordance with state and federal safety regulations and best practices pertaining to such crossings. The NEPA Preferred Alternative minimizes skewed crossings designs to the extent practical. The specific examples stated cited in the comment are not included in the NEPA Preferred Alternative (they are part of alternatives that were considered but not recommended [C2 and C1A]). *Triangle Transit acknowledges and agrees. Final Design of at-grade crossings will be subject to NCDOT review and approval.*	*DEIS section 3.2* *DEIS section 3.2.2* *DEIS section 3.2.3.2* *DEIS section 3.2.4* *DEIS Table 3.2-3* *DEIS Table 3.2-5* *FEIS/ROD section 1.4* *FEIS/ROD Table FEIS-2* *DEIS Errata 36, 39, 40, and 45*
Detailed traffic operations analysis was performed for all locations where light rail tracks would interface with signalized roadway intersections. The traffic analysis, which is documented in technical reports in DEIS appendices K.03 through K.11, was developed in coordination with NCDOT Divisions 5 and 7 and the NCDOT Congestion Management Section. Comments on the Administrative DEIS from these groups were solicited and received, and responses to those comments were incorporated in the DEIS. DEIS section 3.2.4 describes the proposed mitigation measures that are planned to mitigate for project-related roadway effects. These effects are summarized in Table 3.2-3. In addition, as described in DEIS section 3.2.2, there are numerous roadway projects planned by NCDOT in the vicinity of the proposed D-O LRT Project. During Engineering, Triangle Transit will continue to coordinate with NCDOT as the designs of these projects advance. As	

described in DEIS section 3.2.4 and as shown in Table 3.2-5, substantial modifications to the roadway are incorporated into the design including additional turn bays and restriping of intersection approaches to accommodate additional receiving lanes in order to minimize impacts to vehicular traffic operations (excessive delays and queues).Additional roadway expansion is not recommended. Additional traffic analysis will be performed during the Engineering phase of the project and the proposed roadway modifications may be refined. It should be noted that several communities in the region are focusing their development efforts on the principles of compact neighborhoods and complete streets. While design criteria, exemptions, and revisions to comprehensive plans zoning associated with these initiatives are not complete at this time, Triangle Transit will continue to work with the local agencies to determine adjustments to project elements, including inclusion of non-geometric mitigation strategies, if such policies are enacted prior to construction. These roadway modifications are further detailed in Table 3.2-5. In coordination with stakeholders and the public during the development of this DEIS, the areas detailed in section 3.2.4.1 (NC 54), 3.2.4.2 (US 15-501), 3.2.4.3 (Erwin Road) and 3.2.4.4 (Downtown Durham) were identified for further study and potential refinement during the Engineering phase. Section 1.4 of the Combined FEIS/ROD, Table FEIS-2, DEIS errata 36, 39, 40, and 45 clarify safety and traffic coordination and mitigation.

Affiliation	*State*
Sub-Group	*North Carolina Department of Transportation (NCDOT)*
First Name	*Kendra*
Last Name	*Bridges*

Comment

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 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.* 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. (* 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 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

Comment Responses *DEIS/Errata References*

As detailed in the Executive Summary of the DEIS, Triangle Transit will work with the Town of Chapel Hill, City of Durham, NCDOT, and local advocates to identify the potential for off-street facilities or on-street facilities on parallel or nearby roadways. Pedestrian crossings of light rail tracks will be designed in accordance with current ADA design requirements to ensure access and mobility for all users. New pedestrian and bicycle infrastructure would be installed in station areas to augment the existing network. Station areas would be designed according to best management practices for bicycle and pedestrian safety. Measures would be taken to discourage pedestrians from crossing the tracks outside of designated track crossings and to enhance safety at permitted crossing locations (p. ES-17).Section 3.6 of the DEIS contains additional details on plans for future bicycle and pedestrian access. Sidewalks, crosswalks, curb ramps, and other pedestrian infrastructure that the light rail alignment would affect would be rebuilt or enhanced as depicted in the Basis for Engineering Design (appendix L).Bicycles will be allowed on board the light rail vehicles (LRVs) and this is reflected in DEIS errata 24 of the combined FEIS/ROD in Table FEIS-2. At this time, Triangle Transit expects that each vehicle will have capacity for four bicycles. Trains will run initially as either single-vehicle or two-vehicle trains, so each train would have capacity for either four or eight bicycles. Operational decisions about the use of space in the LRV will be made during the Engineering phase.Section 1.4 of the combined FEIS/ROD, Table FEIS-2 errata 47 clarifies that often walking and bicycling are the most common modes for the first and last mile of a transit trip.

DEIS section 3.6
DEIS appendix L
FEIS/ROD section 1.4
FEIS/ROD Table FEIS-2

Affiliation	*State*
Sub-Group	*North Carolina Department of Public Safety*
First Name	*John D.*
Last Name	*Brubaker*

Comment
Subject: Intergovernmental Review State Number: 16-E-0000-0065Durham-Orange Light Rail Transit ProjectAs requested by the North Carolina State Clearinghouse, the North Carolina Department ofPublic Safety Division of Emergency Management Risk Management reviewed the proposedproject listed above and offers the following comments:I) 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 [removed contact] or at the address shown on the footer of this document.

Comment Responses	*DEIS/Errata References*
Triangle Transit will obtain any permits by local jurisdictions that are required for construction, grading, development, or the storage of equipment or materials within the SFHA, as section 1.4 of the combined FEIS\ROD, Table FEIS-2, DEIS errata 97 clarifies.Triangle Transit added the source of the flood level standard in section 1.4 of the combined FEIS/ROD, Table FEIS-2, DEIS errata 101.Triangle Transit will comply with all local requirements regarding flood levels.	*FEIS/ROD section 1.4* *Table FEIS-2* *DEIS Errata 101*

Affiliation	*State*
Sub-Group	*North Carolina Department of Environmental Quality*
First Name	*Peter*
Last Name	*Doorn*

Comment

Subject:NEPA Project #16-0065, Proposed Durham-Orange Light Rail Transit Project, Durham and Orange Counties, North CarolinaThe Superfund Section has reviewed the proximity of CERCLIS and other sites under its jurisdiction to the proposed Durham-Orange Light Rail Transit (D-0 LRT) Project in Durham and Orange Counties. The D-0 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[Table and map in appendix]Please contact me at 919.707.8369 if you have any questions.

Comment Responses	*DEIS/Errata References*
As stated in DEIS section 4.11.4, as part of the Engineering phase, when additional information such as final rights-of-way determinations are made, the proposed D-O LRT Project will be reevaluated for potential contamination issues and additional environmental site assessment(s) will be completed. The following are some of the recommendations for that process (DEIS section 4.11.4 provides more information):High risk properties will undergo a full Phase I or Phase II ESA following ASTM standards. This will ensure that any RECs are accurately identified for properties likely to be impacted by the NEPA Preferred and Project Element Alternative.Medium risk properties will have their closure status or current site status reviewed with the North Carolina Department of Environmental Quality (NCDEQ) before starting construction. This will ensure that no new activities have occurred that may elevate the risk level and that the current activities are still indicative of minimal potential for contamination from hazardous material use and/or activities.	*DEIS section 4.11.4*

Affiliation	*State*
Sub-Group	*University of North Carolina at Chapel Hill (UNC)*
First Name	*Mathew M*
Last Name	*Fajack*

Comment

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 SystemDear 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 INC 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 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 Go Pass 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 Master Campus 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 this 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 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 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 LFT 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 on camps, 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.

Comment Responses	*DEIS/Errata References*
p.2-33: An at-grade pedestrian crossing of the D-O LRT tracks is depicted at this location in DEIS appendix L, sheet A-02. More detailed design of this crossing and the parking lot reconstruction will be completed during the Engineering phase in coordination with UNC.	*DEIS Table 3.2-5* *DEIS appendix L* *FEIS/ROD section 1.4* *FEIS/ROD Table FEIS-2*
p. 3-32: During the Engineering phase, additional traffic analysis will be performed in coordination with UNC as needed to evaluate operations of these driveways and any affected nearby roadways.The entrance on Mason Farm Rd. into the parking deck has only a single car storage left turn lane while the entrance to the same deck on East Drive has 5 car storage left turn lane. No significant queuing problems current exists with the single car storage. The introduction of a signal at East and Mason Farm Rd. will create gaps for cars to turn left into the deck, therefore reducing potential delay caused by a left turning vehicle on Mason Farm Rd. We don't envision that eliminating the single car storage left turn lane will result in significant constraints to the traffic operation. The combined FEIS/ROD will reflect that detailed traffic analysis of potential impacts to the ingress/egress movements for the three parking decks and circulation on nearby roadways will be studied further in the Engineering phase. The FEIS/ROD will also reflect that Triangle Transit will coordinate with UNC regarding impacts from the Mason Farm Road Station and parking lot reconstruction on pedestrian movements and adjacent undeveloped land.p.4-21: FEIS will be updated to reflect Dean E. Smith Center capacity as well as Tar Heel Express service information.	
p. 3-38: The preliminary engineering plans and cost estimate for the project includes the modifications depicted on sheet A-01 of the Basis for Engineering Design (DEIS appendix L). Table 3.2-5 will be updated to include these modifications.The roadway work shown on sheet A-01 is proposed to be constructed with this project.p. 4-123: An analysis of the physical and fiscal impacts to the golf course and UNC open space during construction as well as long term fiscal impacts will be conducted during the Engineering phase. The combined FEIS/ROD will reflect that Triangle Transit will continue to coordinate with UNC as the design progresses in this area.	

p. 3-12: Information regarding the GoPass will be reflected in the FEIS/ROD.P. 4-36: Figures in FEIS/ROD will be updated accordingly. p. 4-119 Triangle Transit will continue to coordinate with UNC regarding the UNC Central Park open space p. 4-211: Triangle Transit will continue to coordinate with UNC regarding noise and vibration analysis. Additionally, all equipment used will comply with FCC standards for radio frequency interference (RFI) as well as exposure to electromagnetic fields (EMF).p. 4-252 & 4-263: Triangle Transit will continue to coordinate with UNC and Duke Energy regarding the relocation and addition of utilities p. 4-255: Triangle Transit will continue to coordinate with UNC regarding the acquisition of property and/or easements p. 4-265: Triangle Transit will continue to coordinate with UNC regarding the design and placement of the TPSS.CH 6: Comment noted. Triangle Transit will continue to coordinate and review correspondence during future phases.Section 1.4 of the combined FEIS\ROD, Table FEIS-2, DEIS errata 31, 37, 38, 54, 85, 86, 106, 112, and 120 provide clarifications to the DEIS regarding these comments from UNC.

Affiliation	*State*
Sub-Group	*Durham Tech Community College (DTCC)*
First Name	*Bill*
Last Name	*Ingram*

Comment

Attached please find a letter to David Charters regarding Phase One of the proposed Durham-Orange Light Railproject.William G. Ingramingramb@durhamtech.edu9195367250x6003————————————————————PresidentDurham Technical Community College1637 Lawson StreetDurham, North Carolina 27703LIKE us on Facebook https://www.facebook.com/durhamtechFOLLOW us on Twitter https://twitter.com/durhamtech————————————————Privacy & Confidentiality NoticeEmail correspondence to and from this address may be subject to the North Carolina Public Records Law and shall bedisclosed to third parties when required by statutes. (NCGS Ch. 132)Copyright © 20032015.All rights reserved.October 12, 2015David A. Charters Jr. PEManager, Design and EngineeringGo TrianglePost Office Box 13787Research Triangle Park, NC 27709Dear 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. IngramPresident, Durham Technical Community College

Comment Responses	*DEIS/Errata References*
The DCHC MPO identifies transportation planning priorities for the region. Triangle Transit studies and works to implement those planning priorities. At this time, LRT service to NCCU and DTCC are not in the 2040 MTP; however, the DCHC MPO has indicated the possibility of including the extension to NCCU in its 2045 MTP. There has yet to be a planning priority for DTCC by the DCHC MPO.As such, the considerations of extensions were not part of the scope of proposed D-O LRT Project. Future extensions are not precluded and, if studied, would be analyzed in a separate NEPA process. See DEIS section 9.2.5 and Section 1.4 of the FEIS/ROD, errata 25 that clarifies the alignment of the NEPA Preferred Alternative would not preclude future extensions; however, extensions are not a part of this project.	*DEIS section 9.2.5* *FEIS/ROD section 1.4* *DEIS Errata 25*

Affiliation	*State*
Sub-Group	*State Environmental Review Clearinghouse*
First Name	*Teresa*
Last Name	*Matthews*

Comment

October 12, 2015Re: SCH File# 16-E-0000-0065; DEIS; Proposed is a DEIS for the Durham-Orange Light RailTransit 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. ll3A-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 additional comments made in the review of this document.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, Teresa Matthews, State Environmental Review ClearinghouseAttachmentsCc: Region J MS RENEE GLEDHILL-EARLEYCLEARINGHOUSE COORDINATORDEPT OF CULTURAL RESOURCESSTATE HISTORIC PRESERVATION OFFICEMSC 4617 - ARCHIVES BUILDINGRALEIGH NCREVIEW DISTRIBUTIONDENR LEGISLATIVE AFFAIRSDEPT OF AGRICULTUREDEPT OF CULTURAL RESOURCESDEPT OF TRANSPORTATIONDPS - DIV OF EMERGENCY MANAGEMENTTRIANGLE J COGPROJECT INFORMATIONAPPLICANT: Triangle TransitTYPE: National Environmental Policy ActDraft Environmental Impact StatementREVIEW CLOSED: 09/28/2015DESC: Proposed is a DEIS for the Durham-Orange Light Rail Transit Project. Viewdocuments at http://ourtransitfuture.com/The attached project has been submitted to theN. C. State Clearinghouse forintergovernmental review. Please review and submit your response by the aboveindicated 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 FOLLOWING IS SUBMITTED: c=J NO COMMENT COMMENTS ATTACHED David A. Charters, Jr., PEGo TrianglePO Box 13787Research Triangle Park, NC 27709Ramona .\f. Bartos, AdministratorOffice of Archives and HistoryDeputy Secretary KtT:in Cherry Re: Durham-Orange light Rail Transit Project-Draft Environmental Impact Statement, Durham and Orange Counties, ER 12-0738Dear 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 orenvironmental.review@ncdcr.gov. In all future communication concerning this project, please cite the abovereferenced tracking number. . ., Sincerely,Renee Gledhill-Earley(for Ramona M. Bartos)

Comment Responses	*DEIS/Errata References*
Comment noted.	*Complete DEIS*

Affiliation	*State*
Sub-Group	*North Carolina Department of Environmental Quality*
First Name	*Jenny*
Last Name	*Patterson*

Comment

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.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.

Comment Responses	*DEIS/Errata References*
Construction waste will be disposed of at approved sites. The contractor will comply with all applicable federal and state regulations. Handling and storage of fuels and other materials will follow Occupational Safety and Health Administration, state, and local standards.Preventive measures will be taken to protect the safety of the public, community residents, and construction workers to minimize exposure to hazardous and regulated materials. Provisions will also be made for the identification and management of known and unexpected buried tanks or contaminated materials that might be encountered during soil disturbance activities associated with construction. In addition to contaminated soil and groundwater, the potential exists for structures on acquired lands to contain asbestos, lead paint, or other hazardous materials. As part of the Engineering phase, when additional information such as final rights-of-way determinations are made, the proposed D-O LRT Project will be reevaluated for potential contamination issues and additional environmental site assessment(s) will be completed. Recommendations for that process are provided in DEIS section 4.11.4. Section 1.4 of the combined FEIS/ROD, Table DEIS-2, DEIS errata 107, 116, 117, and 121 address these comments.	*DEIS section 4.11.4* *Table DEIS-2* *FEIS/ROD section 1.4* *DEIS Errata 107, 116, 117, and 121*

Affiliation	*State*
Sub-Group	*North Carolina Department of Environmental Quality*
First Name	*Rob*
Last Name	*Ridings*

Comment

MemorandumThis office has reviewed 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 the 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 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 by 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 area 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.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 2B. 0233 and 2B..0267. Buffer mitigation may be required forbuffer 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 wetland from 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 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 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 a part of the 401

Water Quality Certification Application.12. Where steams 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 buffer, 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 any 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 channels 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 on 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 appreciate 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.

Comment Responses	DEIS/Errata References
Project Specific Comment Responses:1. Project impacts presented in the Water Resource Technical Report in the DEIS Appendix K.22-1 capture traffic mitigation improvements such as auxiliary/turning lanes and access to the ROMF and park and ride lots.2. Environmental documentation for the project will continue to discuss avoidance and minimization efforts in further detail as the design progresses and is refined. The ROMF site will have a site specific stormwater management plan that will be developed as the design progresses. Stormwater management plans will provide information on the specific BMPs to be used to treat impervious surface stormwater runoff prior to discharge. The application for the 401 Water Quality Certification will include this information on stormwater treatment.3. Highly protective sediment and erosion control BMPs will be implemented to reduce the risk of nutrient runoff to project waters. Design plans to provide treatment of the stormwater runoff through best management practices will be provided in the application for the 401 Water Quality Certification. Treatment for road and street stormwater will be designed as detailed in the most recent version of the North Carolina Department of Transportation Stormwater Best Management Practices Toolbox manual.4. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible. The Jordan Lake Buffer Rules acceptable uses within the protected 50-foot wide riparian buffer will be detailed within the application for the 401 Water Quality Certification. Currently anticipated buffer impacts are presented in the DEIS and appropriate buffer mitigation will be provided. A buffer mitigation plan, coordinated with the North Carolina Division of Mitigation Services, will be provided to the NCDWR in the 401 Water Quality Certification application.General Transportation Permitting Comment Responses:5. The environmental document provides an itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping (DEIS Water Resources Section and Figures found in Section 4.8). Mitigation will be necessary as required by 15A NCAC 2H.0506(h). A mitigation plan will be provided to the NCDWR in the 401 Water Quality Certification application.6. Environmental impact statement alternatives have considered design criteria that reduces the impacts to streams and wetlands from stormwater runoff. The alternatives include road designs that provide treatment of the stormwater runoff through BMPs as detailed in the most recent version of the North Carolina Department of Transportation Stormwater Best Management Practices Toolbox.7. Triangle Transit will demonstrate the avoidance and minimization of impacts to wetlands and streams considered during the design process. Mitigation will be required for impacts to wetlands and the mitigation plan will be designed to replace appropriate lost functions and values. The North Carolina Division of Mitigation Services will be contacted with a request to assist with wetland mitigation as part of the application for the 401 Water Quality Certification.8. Mitigation will be required for impacts to project area streams. The mitigation plan will be designed to replace appropriate lost functions and values. The North Carolina Division of Mitigation Services will be contacted with a request to assist with stream mitigation as part of the application for the 401 Water Quality Certification.9. Future documentation, including the 401 Water Quality Certification application, will continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping; the updated listing will reflect changes as the design progresses.10. An analysis of cumulative and secondary impacts anticipated as a result of this project will be provided as required as part of the application for the 401 Water Quality Certification. The type and detail of analysis will conform to the NC Division of Water Resources Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.11. All impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers will be included in the final impact calculations. These impacts, in addition to any construction impacts, to include access, staging, stockpile, borrow and waste areas, temporary or otherwise, will also be included as part of the 401 Water Quality Certification Application.12. Culverts will be countersunk to allow unimpeded passage. Triangle Transit understands that the use of a bridge is preferable to the regulatory agencies. Triangle Transit will avoid the installation of bridge bents within streams to the maximum extent practicable.13. The horizontal and vertical clearances provided by the project bridges will allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters will not be blocked. Bridge supports (bents) will not be placed in streams to the maximum extent	*FEIS/ROD section 1.4* *DEIS Errata 92 through 103*

practicable.15. Bridge deck drains will not discharge directly into project area streams. Stormwater shall be directed across bridges and will be pre-treated through BMPs before entering project area streams. The most recent version of the North Carolina Department of Transportation Stormwater Best Management Practices Toolbox manual will be followed for approved BMP measures.14. Sediment and erosion control measures will not be placed in wetlands or streams.15. Borrow/waste areas will avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will be presented in the 401 Water Quality Certification and will be included in the compensatory mitigation required.16. The 401 Water Quality Certification application will specifically address the proposed methods for stormwater management. Stormwater will not be permitted to discharge directly into streams or surface waters.17. An Individual Permit application to the US Army Corps of Engineers and corresponding 401 Water Quality Certification is anticipated, and will present the design BMPs used for the protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. The submittal of a formal Individual Permit application will be performed by Triangle Transit for written concurrence from the NCDWR. Appropriate avoidance and minimization of wetland and stream impacts will be presented in the Individual Permit application, as well as the storm water management plans and the mitigation plan.18. Concrete will be used during construction, and a dry work area will be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete will not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.19. Temporary access roads or detours may be constructed, and when no longer needed, these sites will be graded to preconstruction contours and elevations. Disturbed areas will be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area will be cleared, but not grubbed. Clearing temporary area access roads or detours will leave stumps and root mats intact to the greatest extent practicable to allow the area to re-vegetate naturally and minimize soil disturbance.20. The placement of culverts and other structures in waters and streams will 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 will not be conducted in a manner that may result in disequilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant will 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, the applicant will contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required.21. When multiple pipes or barrels are required, they will be designed to mimic natural stream cross sections as closely as possible. Pipes or barrels at flood plain elevation, floodplain benches, and/or sills will be designed as required where appropriate. Widening the stream channels will be avoided. 22. If the future project designs for the stations, bridges and parking structures require foundation test borings, these test borings will be performed in compliance with Nationwide Permit No. 6. 23. Sediment and erosion control measures sufficient to protect water resources will 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 will 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 will be used to prevent excavation in flowing water.25. Qualified personnel have performed stream and wetland delineations. A Jurisdictional Determination has been issued for the project (Action Id. SAW 2012-00957).26. Heavy equipment will be operated from stream banks rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment will be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.27. Riprap will not be placed in active thalweg channels or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures will be properly designed, sized and installed.28. Riparian vegetation (native trees and shrubs) will be preserved to the maximum extent possible. Riparian vegetation will be reestablished within the construction limits of the project by the end of the growing

season following completion of construction.Section 1.4 of the combined FEIS/ROD, Table FEIS-2, Errata 92 through 103 include clarifications and refinements to reflect consideration of these comments.

Affiliation	*State*
Sub-Group	*North Carolina Department of Environmental Quality*
First Name	*Justin*
Last Name	*Williamson*

Comment
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.

Comment Responses	*DEIS/Errata References*
We recognize that the NCDENR, North Carolina Division of Parks and Recreation has no comments pertaining to DEIS section 4.6 or DEIS chapter 6, nor any other part of the DEIS.	*DEIS section 4.6* *DEIS chapter 6*

Affiliation	*State*
Sub-Group	*North Carolina Wildlife Resources Commission*
First Name	*Travis*
Last Name	*Wilson*

Comment

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. 16-0065Staff 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. [sic] 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.

Comment Responses	*DEIS/Errata References*
Mitigation measures for natural resources are described in DEIS section 4.7.4.	*DEIS section 4.7.4*
Because of the identified impacts, it is anticipated that a Section 404/401 permit application will be required and that a permit will need to be issued by the USACE and NCDEQ DWR before construction activities may begin. After a permit application has been submitted it will undergo a review at which time the USACE may decide to alter the permit type, make additional data requests, or determine whether mitigation is needed. Ongoing coordination with the USACE will assist with minimizing the time frame for the permit application review. Due to the nature of the project, the USACE may issue either a Nationwide Permit (NWP) or an Individual Permit. Activities that do not qualify for authorization under the NWP Program may qualify for authorization under an Individual Permit. Individual Permits are issued for activities that have more than minimal adverse impacts to waters of the United States. Conditions of these permits would require a compensatory mitigation plan for unavoidable adverse impacts to the aquatic environment. See DEIS section 4.8.4 for more information.	
Triangle Transit will continue to coordinate with NCWRC and the NCDEQ throughout the development of the project.	