

Scope of Work

**Wilmington Rail Realignment Project
Brunswick and New Hanover Counties, North Carolina**

**Prepared for:
City of Wilmington**

**Prepared by:
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GENERAL INFORMATION

The City of Wilmington (CITY), the Wilmington Urban Area Metropolitan Planning Organization (WMPO), and the NC Department of Transportation (NCDOT) completed the Wilmington Rail Realignment and Right of Way Use Alternatives Feasibility Study in June 2017. The study investigated the feasibility of realigning the existing CSXT railroad line that traverses in a “V” shape through the CITY. Moving this line will provide a new location for rail access to the Port of Wilmington, as well as offer the potential of repurposing the existing CSXT railroad corridor for transit use. The CITY is applying for a Consolidated Rail Infrastructure and Safety Improvements (CRISI) grant for Track 2 – PE/NEPA to support development of Preliminary Engineering (PE) and National Environmental Policy Act (NEPA) compliance documentation for the project.

This scope of work includes project initiation and technical studies associated with development of an Environmental Assessment (EA) and preliminary engineering (30% railroad design plans) for the Wilmington Rail Realignment Project (PROJECT).

1. PROJECT SCOPING AND DATA COLLECTION

1.1 PROJECT INITIATION MEETING AND SITE VISIT

The CONSULTANT will collect available information and will meet with the CITY, WMPO, NCDOT, CSXT, and/or others with resources within the project study area and design alternatives. Four (4) CONSULTANT representatives will attend this meeting. The CONSULTANT will prepare and distribute a meeting summary. The CONSULTANT will also visit the project site to review existing conditions and collect photographs and other pertinent information.

1.2 DATA COLLECTION AND MAPPING

The CONSULTANT, in coordination with the CITY, will develop an appropriate project study area for the project. Environmental, physical, and other appropriate parameters will be considered. The CONSULTANT will prepare a vicinity map and USGS Quad map showing the study area for the proposed project.

The CONSULTANT will gather and review available background information. Relevant materials including electronic files (electronic documents, databases, Geographic Information Systems (GIS) databases and mapping, aerial photography, LIDAR data, etc.) and published reports and planning documents, will also be obtained and reviewed.

The CONSULTANT will prepare an Environmental Features Map developed through the use of imaging software, coupled with findings from data collection. The CONSULTANT will utilize aerial photography to create a digital image. Areas of physical, human, and environmental constraints identified during the data review will overlay the base mapping.

1.3 START OF STUDY (SOS) LETTER

The CONSULTANT will prepare and distribute a start of study letter. The letter will include, but will not be limited to, a description of the project, identification of the limits of the project, known environmentally sensitive issues, and a comment response date that allows at least 30 days for agency review. The CONSULTANT will review SOS letter responses and will prepare and submit a comment summary to the CITY.

2. ALTERNATIVES

2.1 PURPOSE AND NEED

The CONSULTANT will evaluate the purpose of and need for the project to provide a basis for developing preliminary alternatives. This evaluation will include but not be limited to the following:

- Consistency of the project with the comprehensively planned development of the project area
- Consideration of deficiencies within the project area transportation system
- Adequacy of the current facilities to handle the present and projected freight demand
- Social and economic impacts

The CONSULTANT will prepare a draft Purpose and Need Report documenting the purpose of and need for the project. The Purpose and Need statement will contain sufficient detail to

support the purpose of and need for the proposed action. The DRAFT Report will be submitted to the CITY for review. The CONSULTANT will incorporate comments received from the CITY.

2.2 ALTERNATIVES ANALYSIS & FUNCTIONAL DESIGN

Three (3) potentially viable corridors were identified in the Feasibility Study. All three corridors begin at the CSXT mainline west of US 17. Connectors between these corridors are possible, but are excluded from the descriptions and figures to focus on the following three potentially feasible corridors:

- Corridor A – The corridor farthest West.
- Corridor B – Central corridor that uses the most of the former railway embankment.
- Corridor C – This corridor closely follows the US17/74 highway corridor.

2.2.1 ALTERNATIVES DEVELOPMENT & SCREENING

The CONSULTANT will identify additional alternatives for the PROJECT using environmental features mapping and aerial photography. All alternatives will be screened for their ability to meet the stated purpose and need for the project, as well as potential environmental impacts and other constraints. The results of this screening will be documented in a memo and provided to the CITY for review and comment. The CONSULTANT will incorporate comments received from the CITY.

2.2.2 FUNCTIONAL DESIGN

Functional designs will be prepared for up to four (4) alternatives. AREMA design standards will be followed. Design for the realignment will apply maximum 25 mph design speed for freight railroads. Eight (8) degree maximum horizontal curvature shall apply. AREMA Grade compensations shall be employed for vertical design. Except for US 74, roadway crossings are anticipated to be at-grade and occur in a track horizontal and vertical tangent to minimize pavement transitions. If applicable, at-grade crossings will be controlled and protected with crossing gates and signals/bells. The CONSULTANT will develop plans and profiles of each of the alternatives using available mapping from Statewide Lidar Mapping as a base. These will be presented to the CITY and other stakeholders for review and comment. Roll maps of the alignments will be submitted in both PDF and hard copy formats.

2.2.3 QUANTITIES AND COST ESTIMATES

Upon concurrence with the functional design alignments, the CONSULTANT will develop construction and right of way costs. Quantities will be prepared for each of the four alternatives in accordance with standard pay items. The CONSULTANT will create a representative proposed right of way polygon for each alternative superimposed upon a GIS parcel query so that a high-level right of way and utility cost estimate and relocation quantity can be developed.

3. TECHNICAL STUDIES

The following technical studies will be completed to evaluate the potential impacts of up to four (4) alternatives. Impacts will be calculated based on functional designs. For each study, the CONSULTANT will prepare a draft for CITY review, incorporate comments from the CITY, and provide a final report. The CONSULTANT may coordinate with other agencies as needed for the preparation of these studies.

3.1 AIR QUALITY

New Hanover and Brunswick Counties are currently listed as "attainment" status for all Criteria pollutants that have a National Ambient Air Quality Standard (NAAQS) published. A qualitative discussion of air quality will be included in the environmental document.

3.2 NATURAL RESOURCES

The CONSULTANT will prepare a Natural Resources Technical Report (NRTR) for the PROJECT. Field work will include:

- Field studies to map jurisdictional waters
- Field studies to identify natural communities
- Endangered species surveys

The CONSULTANT will document findings in an NRTR and provide a draft for CITY review.

A preliminary jurisdictional request will be made on behalf of the CITY to the US Army Corps of Engineers (USACE) and NC Division of Water Resources (NCDWR). The CONSULTANT will coordinate with representatives of both agencies to verify the extent and locations of jurisdictional resources.

3.3 COMMUNITY STUDIES

The CONSULTANT will prepare a Community Impact Assessment to evaluate potential impacts on communities and community resources in the project study area.

3.4 CULTURAL RESOURCES

The CONSULTANT will review records at the NC Historic Preservation Office (HPO) and Office of State Archaeology (OSA) as an early screening of historic architecture and archaeology. The CONSULTANT will coordinate with HPO and OSA to determine if additional surveys are needed. Intensive surveys and additional coordination for Section 106 are not included in this task order.

3.5 HAZARDOUS MATERIALS INVESTIGATIONS

The CONSULTANT will provide a standard Limited Phase 1 Site Assessment and limited geotechnical observations for the study area associated with the PROJECT. This Task does not include any materials sampling or testing.

3.6 NOISE & VIBRATION ANALYSIS

The CONSULTANT will prepare a Noise and Vibration Analysis.

3.7 HYDRAULICS ASPECTS REPORT

The CONSULTANT will prepare a Hydraulics Aspects Report to identify drainage features requiring conveyance greater than a single 72-inch pipe. These features shall then be investigated as project crossing sites:

- Perform field reconnaissance of the project crossing sites. Determine downstream channel condition and verify existing structure. Prepare field notes and obtain photographs.

- Delineate drainage areas using USGS Quadrangle Maps, USGS StreamStats or other available topographic information.
- Prepare computations for determination of the discharge and perform structure sizing for pipes and culverts. Structure sizing shall be performed using HY-8.
- Prepare a plan drawing for each pipe and culvert indicating the general alignment of the structure on the railroad alignment.
- Evaluate crossings in FEMA flood hazard areas with the floodplain, floodway and project fill limits. Determine bridge lengths for FEMA flood hazard areas.

The report will include a project description of overall project limits, alternatives under consideration, and hydraulic sites evaluated. An overall map of the crossing sites shall be provided. Each hydraulic structure (pipe, culvert or bridge) will be described along with a summary table of the crossings.

3.8 UTILITIES

The CONSULTANT will prepare a Utility Analysis and Routing Report (UARR) that will review the existing water and sewer facilities, the power facilities, the telecommunication facilities, the cable television and the gas facilities within the project area.

4. PUBLIC AND AGENCY COORDINATION

4.1.1 IDENTIFY STAKEHOLDERS & DEVELOP MAILING LIST

The CONSULTANT will develop the mailing list using the GIS database and will maintain the list for the purpose of providing the public with information concerning progress on the project and for notifying the public of meetings and workshops. Included on the list will be neighborhood associations, civic and business groups, interested citizens, and local public officials. The list will be continuously updated throughout the study process.

4.1.2 TELEPHONE AND MAIL CONTACT

A bilingual (English and Spanish) toll-free telephone number will be provided and monitored by the CONSULTANT for citizens wishing to contact the study team. Responsible project personnel having expertise in the area of concern will handle telephone and mail contact. Mail and telephone contacts will be responded to within two (2) business days. The toll-free number will be published in the newsletters and any other informational brochures related to the project.

The CONSULTANT will develop and maintain a database to capture and record all comments received pertaining to the PROJECT. E-mail, telephone, form, and letter correspondence containing specific comments on the PROJECT or environmental document from agencies, officials, and private individuals will be numbered and recorded into the database. Each entry will identify the date the comment was received and the individual's name and address. Responses to comments will also be numbered and recorded in the database.

A matrix of comments and responses from the database will be added to the final environmental document to facilitate identification of specific comments. The database will also provide an up-to-date address list for Agency, Local Official, and Public mailings.

4.1.3 NEWSLETTER

One (1) newsletter will be produced by the CONSULTANT for distribution to those persons on the project mailing list and to local, state, and federal officials. The newsletter will be prepared and distributed just prior to the public meeting. The CITY and its designated representatives will review the newsletter prior to its distribution. The CONSULTANT will be responsible for the distribution of the newsletter. The CONSULTANT will prepare 2,000 copies of the newsletter (1,500 for mailing list and 500 extra copies for handout and miscellaneous distribution).

4.1.4 LOCAL OFFICIALS MEETING

At periodic stages throughout the study process, meetings will be held at the convenience of local public officials. These will most likely occur in conjunction with the Public Meeting and will utilize board-mounted graphic exhibits. The CONSULTANT will provide a four (4)-person team for these meetings. Requests for such meetings will be coordinated with the CITY prior to establishing a meeting date and time. The CONSULTANT will provide informational material and finalize a summary of meeting comments. A maximum of one (1) local official's informational meeting has been established under this scope of work.

4.1.5 PUBLIC MEETING

The CONSULTANT will be responsible for conducting one Public Meeting to inform the public of the progress of the study and to obtain public comments and input on the project. The CITY will be responsible for locating and arranging facilities for the meeting. The CITY will release a press notice regarding the Public Meeting and will notify the public in advance of the meeting through the use of newspaper advertisements. The CONSULTANT will distribute a direct mailing, such as a project newsletter to persons on the project mailing list.

The CONSULTANT will provide a six (6)-person team for the Public Meeting. The meeting will be informal to encourage one-on-one project discussions with the public. The CONSULTANT'S representatives will note and compile public concerns and comments identified during the meeting, and the mailing list will be updated. For the meeting, the CONSULTANT will prepare a handout with project information and a comment form (500 copies of each) and eight (8) E-sized board-mounted graphic exhibits to describe and illustrate the proposed project.

4.1.6 FLYER

The CONSULTANT will prepare and distribute a Public Meeting Flyer (8.5 by 11 inches) to assist in announcing the Public Meeting. The CONSULTANT will prepare a draft copy of the flyer and submit it to CITY for review. The CONSULTANT will incorporate comments/revisions received from the CITY. One hundred (100) color copies of the final draft of the flyer will be printed and distributed to businesses within and near the project study area.

5. ENVIRONMENTAL ASSESSMENT & FONSI

5.1 ENVIRONMENTAL ASSESSMENT

The CONSULTANT will assemble and summarize all technical information, methodologies, and results of analyses in the correct format for an Environmental Assessment, in accordance with FRA's Procedures for Considering Environmental Impacts and the requirements of the National Environmental Policy Act (NEPA). The CONSULTANT will prepare one draft electronic version of the EA for CITY internal review and will revise the draft EA based on comments from CITY staff and resubmit the revised version for a second review by other stakeholders. The CONSULTANT will submit a final draft for FRA review and a revised final draft for a second FRA

review, if needed. Once accepted by CITY and FRA, the CONSULTANT will obtain necessary signatures and produce ten (10) hard copies and one (1) digital CD for the CITY's distribution.

The EA will include the following:

- **Special Project Commitments (Green Sheet):** The CONSULTANT will develop an initial list of special project commitments (if applicable) pertinent to this project. This list of commitments will be printed on green paper to differentiate it in the EA.
- **Description of Proposed Action:** The CONSULTANT will provide a general description of the project and project study area. In addition, the schedule and existing conditions will be documented along with the preliminary cost estimates.
- **Purpose and Need:** The CONSULTANT will incorporate the purpose of and need for the proposed project into the EA. Data for the purpose and need will include a discussion on existing deficiencies and other needs.
- **Alternatives Considered and Recommended Improvements:** The CONSULTANT will discuss alternatives considered and the reasoning for the preferred alternative. Also, the CONSULTANT will discuss the No Build Alternative, Design Criteria, Typical Sections, Access Control, and Impacts based on functional design. In addition, the CONSULTANT will include a section that describes the benefits of the preferred alternative.
- **Affected Environment and Environmental Consequences:** The CONSULTANT will summarize existing conditions and potential impacts from the technical studies prepared in Task 3 of this scope of work. This will include a discussion of existing social, economic, and human and natural environmental settings within the study area, from project technical memorandums. Additionally, impacts will be outlined as available from the completed project technical memorandums and other studies. The CONSULTANT will calculate the linear feet of impact to jurisdictional streams and acreage of impact to wetlands due to the limits of construction. The CONSULTANT will also calculate and document the acreage of additional right of way needed, as well as the acreage of temporary or permanent easements needed to construct the project. The following topics will be addressed:
 - Air Quality
 - Water Quality
 - Noise and Vibration
 - Hazardous Materials, Solid Waste Disposal, and Public Health
 - Utilities
 - Natural Resources (ecological systems, jurisdictional resources, protected species, and use of other natural resources)
 - Flood Hazard and Floodplain Management
 - Coastal Management
 - Energy Use
 - Aesthetics and Visual Impacts
 - Transportation
 - Land Use

- Socioeconomics and Community Impacts
- Environmental Justice
- Cultural Resources (Historic, Archaeological resources)
- Section 4(f) resources
- Acquisitions and Displacements
- Construction impacts
- Secondary and cumulative impacts
- Coordination & Agency Comments: The CONSULTANT will document public involvement activities and agency coordination.
- Appendix: Appendices will be included as needed to supplement information provided in the EA.

5.2 FONSI

The CONSULTANT will prepare a FONSI. The CONSULTANT will provide one draft electronic version of the FONSI for CITY internal review and will revise the draft FONSI based on comments from CITY staff and resubmit the revised version for a second review by other stakeholders. The CONSULTANT will submit a final draft for FRA review and a revised final draft for a second FRA review, if needed. Once accepted by the CITY and FRA, the CONSULTANT will obtain necessary signatures and produce ten (10) hard copies and one (1) digital CD for the CITY's distribution.

The FONSI will include:

- Description of the proposed action and alternatives considered
- Summary of environmental effects
- Evidence of compliance with applicable environmental laws
- Discussion of mitigation measures
- Conclusion that the proposed action will have no foreseeable significant impacts on the quality of the human environment

6. PRELIMINARY RAILROAD DESIGN (30%)

The CONSULTANT will produce 30% Railroad Design Plans for the selected alternative. Submittals will include:

- Prepare 15% Railroad and Structure plans (Level 1)
 - Horizontal layout of track
 - Structure offset evaluation and recommendation from existing
- Prepare 30% Railroad Design Plans (Level 2)
 - Design horizontal and vertical alignments for proposed siding tracks
 - Prepare typical sections
 - Prepare alignment data tables

- Prepare cross-sections
- Prepare structure recommendations

All plans will be designed in accordance with established NCDOT and CSX guidelines and procedures as applicable. Design will be in accordance with CSX, AREMA and NCDOT design criteria where applicable. The NCDOT Comment Form will be used to conduct plan reviews at the 30% phase. Comments will be addressed in subsequent design phase.

7. COORDINATION AND PROJECT MANAGEMENT

The CONSULTANT will maintain general oversight and coordination with the CITY and its designated representatives for the duration of this task order. The CITY will be advised of contact with other agencies.

7.1 CREATE AND DEVELOP PROJECT SCHEDULE

The CONSULTANT will prepare a project schedule using Microsoft Project (or similar tool) to provide greater detail of tasks and completion dates. This schedule will be updated on a monthly basis and provided to the client to help track progress.

7.2 COORDINATION WITH THE CITY

The CONSULTANT will maintain coordination with the CITY and its designated representatives throughout the duration of this task order. The CONSULTANT will document project correspondence and records as well as telephone contact for items requiring immediate attention. It is assumed that this task order will occur over an 18-month duration. During this time, a maximum of six (6) Project Team meetings, and a maximum of 18 coordination teleconferences have been established for this Task Order, for a total of 24 meetings. The CONSULTANT will provide a three (3)-person team for each meeting and for the teleconferences. The CONSULTANT will provide a condensed summary for each of these meetings.

Additional task orders may be executed during the duration of this scope of work to provide services that are requested beyond the scope of work for this task order. It is anticipated that scopes of work for subsequent task orders will be developed during this time to insure continuity and timeliness of the study process.

7.3 PROJECT MANAGEMENT & ADMINISTRATION

The CONSULTANT will maintain coordination with the CITY and its designated representatives throughout the project. This coordination will include regular transmittals of project correspondence and records as well as telephone contact for items requiring immediate attention. Periodic meetings will be held with the CITY (as described above) to discuss project activities and schedules, and to resolve potential problems or outstanding issues. Coordination with the CITY will be summarized by the CONSULTANT and provided to the CITY as Records of Conversations or Records of Meetings. The CONSULTANT will also coordinate with appropriate state and local agencies having an interest in the project as necessary. This coordination will only pertain to the collection of project data and any necessary coordination for inclusion in the environmental documents. The CITY will be advised of contact with other agencies. The CONSULTANT will provide a monthly progress report accompanied by an invoice to the CITY summarizing project activities and status.

The CONSULTANT will create a filing system to archive and track project progress, milestones, correspondence and events. The CONSULTANT will maintain all records and information

associated with the Scope of Work associated with this Task Order as an administrative record of the NEPA processes. These files will contain all project records including, but not limited to, technical data, interagency coordination, public comments/interaction, and quality assurance records.

8. ASSUMPTIONS AND EXCLUSIONS

This scope of work does not include the following:

- Surveys or SUE
- Intensive historic architecture or archaeology surveys
- Formal Section 7 Consultation
- Geotechnical investigation or analysis
- Roadway design

If these items are needed, they will be completed under a supplemental scope of work.