

# NC 12 PROTECT PLANNING GRANT SCOPE OF WORK

## 1 Project Management

- > NCDOT will develop a Project Management Plan (PMP) to guide the Planning and Environmental Linkages (PEL) Study. The PMP will include guidelines for internal and external communications, resource allocation, progress reporting, and schedule and budget management.
- > The project schedule and budget will be managed in accordance with the terms of the Project Grant agreement with USDOT.
- > Meetings: NCDOT will convene an internal kick-off meeting to review and verify the scope of work, schedule, and budget. Thereafter, the NCDOT project manager will ensure monthly progress reporting and documentation is performed in accordance with the Project Grant Agreement and NCDOT practices.
- > NCDOT to determine business unit responsible for project management and oversight prior to execution of grant agreement.

### **Deliverables:**

- > Project Management Plan
- > Biweekly coordination meetings with the Project Management Team (PMT)
- > Monthly progress reports

## 2 Public and Stakeholder Engagement

NCDOT will complete the following steps of Stage 1 (Project Initiation) and Stage 2 (Alignment Defined) of the Project Delivery Network (PDN) during Task 2:

- > Initiate Public Engagement Tasks (1PI1)

### 2.1 Public Involvement Plan

- > SAND is a complex project that will benefit from robust public outreach and stakeholder coordination at key design development stages to reflect the needs and desires of the public (local and seasonal residents, tourists, etc.), participating partners, and other stakeholders involved. To ensure a comprehensive and transparent engagement process, NCDOT's Public Involvement, Community Studies & Visualization Group (PICSViz) will establish a detailed plan for public participation that aligns closely with the Statewide Public Involvement Plan (PIP). This flexible plan will outline specific activities, timelines, materials, and responsible parties essential for executing the targeted engagement strategies outlined in this task. Outreach to traditionally underserved groups, including minorities, low-income populations, and limited English proficiency (LEP) populations, will be identified, and included in the PIP. By adhering to the PIP, the Project will foster and sustain public trust and engagement throughout its duration.
- > The Project's Demographic Study Area (DSA) will include Pea, Hatteras, and Bodie Islands. While the DSA only provides data on permanent year-round residents, it will help inform public involvement on special needs for outreach (LEP, notable elderly populations, limited broadband access, etc.) as well as provide the basis for the Environmental Justice assessment.
- > The Project will seek information from local contacts regarding travelers through the corridor from Dare County and nearby counties. Additionally, it will inquire about business operations that could be

impacted by the Project, even if they are not physically located within the study area. For instance, businesses like a bike rental operation may bring in bikes daily from off the island during the summer season. As a typical tourist/seasonal resident destination, an essential aspect of public involvement will be determining whether to engage major stakeholders like hotel and restaurant owners, sport fishing operations, the visitor's bureau, etc., to represent their customers or to directly reach out to the various visitor categories themselves.

**Deliverable:**

- > Public Involvement Plan

## 2.2 Agency Coordination and Merger Process

NCDOT will complete all required activities and coordination to complete Concurrence Point (CP) 1. During CP1, the participating agencies will collectively establish the Purpose and Need and define the Study Area. Information developed during Tasks 3 and 4 will be compiled in a manner to support the future completion of CP2A. The focus of CP2A is for the agencies to making decisions on bridge locations and review preliminary alignments for each alternative.

**Deliverable:**

- > CP 1 Meeting

## 2.3 Steering Committee Meetings

- > NCDOT will convene a steering committee. The steering committee will consist of project partners and primary stakeholders and agencies with roles and decision-making responsibilities and/or technical expertise in the planning, environmental, and permitting processes. The Steering Committee may include, but is not limited to the following:
  - Representatives from federal agencies:
    - Department of the Interior
      - US Fish and Wildlife Service (USFWS)
      - National Park Service (NPS)
    - US Army Corps of Engineers
  - Representatives from state organizations and agencies:
    - NCDOT
    - NC Department of Public Safety
      - North Carolina Office of Recovery & Resiliency
    - North Carolina Department of Natural and Cultural Resources
    - NC Dept. of Environment Quality
  - Representatives from local jurisdictions:
    - Albemarle RPO
    - Dare County
  - Non-profits and advocacy groups:
    - North Carolina Coastal Federation
    - Southern Environmental Law Center

- Cape Hatteras Electric Cooperative
    - Other stakeholders may be added to the Steering Committee at the discretion of NCDOT.
- > NCDOT will facilitate 10 Steering Committee meetings throughout the life of the study. For efficiency, a combination of virtual and in-person meetings will be utilized. One of the meetings will include a site visit using NCDOT vehicles to tour the Project corridor. NCDOT will make each meeting meaningful through clear communication, careful preparation, and agendas that move the study forward. The Steering Committee will be the main venue for conducting the analysis and work of the study. Additionally, NCDOT will develop a list of key stakeholders along the corridor that require focused engagement.

## 2.4 Public Engagement

### 2.4.1 Public Meetings

NCDOT will hold three public meeting sets to inform the public and stakeholders about the project and solicit feedback.

#### **Deliverables:**

- > Meeting minutes
- > Meeting presentations and supporting materials

#### 2.4.1.1 Meeting Set 1: Project Kick-Off Interactive Workshop

- > NCDOT will kick-off the study process by conducting three (3) in-person interactive workshop meetings. One (1) meeting will be held with the Steering Committee in the Nags Head/Manteo area, while two (2) meetings will be offered in Rodanthe and the Frisco/Buxton area. These meetings will accomplish the following:
  - Review the Project study area.
  - Provide a summary of work performed in the study area to date including preliminary alternatives/solutions identified to-date.
  - Review Human and Natural environment conditions/planning context for the Project (not all inclusive and may depend on data availability). See Task 3 for a comprehensive list of considerations.
  - Solicit and compile public comments related to the following:
    - General concerns
    - Items not captured in previous reports/studies
    - Other potential alternatives for evaluation
    - Input on purpose and need
    - Vision/goals for potential long-term solutions
    - Other alternatives to consider
    - Ideas/specific design solutions to meet vision/goals
    - What is NC 12 being used to do/access (especially recreational and conservation activities)
    - Forward-looking/futuristic opportunities and constraints

Note: For cost estimating purposes, all meetings and workshops will take place at a local public/government facility near the Project study area.

#### 2.4.1.2 Meeting Set 2: Alternatives Interactive Workshop

- > This workshop will take place once alternatives are “developed” but before an evaluation is completed. One (1) meeting will be held with the Steering Committee in the Nags Head/Manteo area, while two (2) meetings will be offered in Rodanthe and the Frisco/Buxton area.
  - The interactive workshop will accomplish the following:
    - Provide information on the following project elements:
      - Purpose and Need statement
      - Preliminary alternatives – alignments and summary of opportunities and constraints
      - Summary of findings from Meeting Set number 1 with topics outlined on individual boards.
    - Solicit and compile public comments related to the following:
      - Identify potential evaluation criteria for the Project alternatives.
      - Identify appropriate weights for the evaluation criteria to help inform how the alternatives will be evaluated.

#### 2.4.1.3 Meeting Set 3: Open House

- > NCDOT will facilitate up to one (1) in-person open house series that contains three (3) individual events. These events will be held as a series within each of the following three locations: Nags Head/Manteo, Rodanthe, and the Frisco/Buxton area. Each meeting event will be held where feasible within the schedule. Details for the open house series are provided below.
  - Open House Series: The open house series will be held after alternatives are developed or a reasonable range of alternatives have been identified.
    - Open house engagement will accomplish the following:
      - Provide an overview of environmental impacts in the study area
      - Present the reasonable range of alternatives
      - Provide next steps for the project
      - Highlight potential mitigation and/or nature-based solutions
      - Solicit and compile public comments related to the following:
        - Whether or not the reasonable alternatives meet the purpose and need statements
        - Whether or not the reasonable alternatives reflect the articulated goals and vision for the corridor

#### 2.4.1.4 Small Group Meetings

- > NCDOT will hold up to three to five (3-5) small group engagement activities (as needed) such as focus group meetings to facilitate information sharing and input with local special interest groups to allow stakeholders with specific interests to informally discuss the project and have their perspectives heard and documented.

#### **Deliverables:**

- > Steering Committee meetings (up to 10, 5 in-person)
- > Small Group meetings (up to 5, 5 in-person)
- > Public Meeting Set 1 (up to 3, 3 in-person)

- > Public Meeting Set 2 (up to 3, 3 in-person)
- > Public Meeting Set 3 (up to 3, 3 in-person)
- > Materials + mapping for public meetings
- > Online + paper surveys
- > Public input documentation + summaries

#### 2.4.2 *On-Going and Virtual Engagement*

Continuous public involvement and outreach efforts will be implemented through a combination of traditional, innovative, and virtual engagement techniques. This comprehensive approach will help NCDOT reach a wider audience and ensure inclusivity in the project's decision-making process.

##### 2.4.2.1 *Virtual Public Engagement*

- > **Project Webpage + Materials:** NCDOT will develop webpage materials to be hosted on NCDOT's webpage for the project. Webpage materials will include information about the PEL study and contact information for the project team. The webpage will also include an "Updates" section which will provide periodic updates on the study process and link to important documents as they are developed. Webpage materials will be updated on an as-needed basis throughout the study process. Additional webpage materials to be hosted on the project website will include, but are not limited to, elements such as the project schedule, podcasts on project updates, educational videos summarizing findings from previous engagement efforts, maps, and sign-up opportunities to receive project updates. NCDOT will refresh the project webpage at either major milestones, as new information comes available, or at least every six months.
- > **Online Engagement Tool: PublicInput.com:**
  - **Platform:** NCDOT's PICSviz group will create and launch a survey on Publicinput.com. Publicinput.com is a multifaceted community engagement tool that actively reduces the barriers for citizens to learn about, follow, and comment on proposed projects. This method of virtual engagement will proactively engage the public by providing easy access to project information and enabling citizens to actively participate and share their comments through the user-friendly interface of Publicinput.com.
  - **Focus:** NCDOT will develop a community survey within the PublicInput webpage to gather input and supplement open houses for homeowners and property managers who are unable to attend in-person as well as the general public. This survey will also be used to collect contact information from respondents who want to sign up for Project updates. The survey will include an interactive map feature to gather geographic-based input from survey respondents.
  - **Distribution:** The survey will be deployed on the project webpage, through partner websites and mailing lists and via paper copies distributed at various locations in the study area. The content of surveys and collected data will be developed and reviewed by the Steering Committee prior to distribution.

##### 2.4.2.2 *Media Outlets*

- > NCDOT will use traditional media outlets such as advertisements and notices in newspapers and newsletters, radio announcements, and television news to communicate project information.

- > NCDOT will partner with Dare County’s Public Information Office to send out local press releases and upload messaging to social media outlets regarding project milestones and other updates. Dare County’s local television channel will also help spread the work on upcoming engagement events.

#### 2.4.2.3 *Webinars*

- > NCDOT will organize and conduct three (3) project webinars approximately two weeks after each public meeting set outlined above.
- > NCDOT will utilize online meeting platforms such as GoTo Meeting, GoTo Webinar, or Microsoft Teams to enhance online participation in the project.
- > These interactive sessions will provide an opportunity for stakeholders to actively engage, ask questions, and share their perspectives from the comfort of their own locations. To ensure accessibility, meeting recordings will be made available on the project webpage, allowing those who could not attend live sessions to view them at their convenience.

#### **Deliverables:**

- > Project webpage + materials
- > PublicInput.com webpage + materials
- > Materials for traditional media outlets
- > Webinar materials

## 3 Planning-Level and Environmental Considerations

### 3.1 Previous Plan Review and Environmental Screening

NCDOT will review the previous studies and analyses developed for the corridor to compile information on planning level considerations and the study area’s human and natural environment. These previously completed studies and analyses include but are not limited to:

- > NC 12 Task Force
- > B-2500 Coastal Monitoring Program Reports
- > B-2500 Phase 1 NEPA documentation
- > Phase IIa alternatives study (2017)
- > B-250 Phase IIb NEPA documentation
- > Albemarle RISE Vulnerability Assessment
- > Outer banks Hazard Mitigation Plan
- > Geotechnical surveys
- > Dare County CTP (2015)
- > Pea\_Island\_NWR\_Comprehensive Conservation Plan (CCP)
- > Cape Hatteras National Seashore Sediment Management Framework Final Environmental Impact Statement (2021)
- > Design work related to SPOT H170917
- > Information on AADT, freight traffic needs, and crash locations/available safety data
- > Vulnerabilities to climate change (sea level rise and coastal storms)

NCDOT will use Project ATLAS to screen for a range of human and natural environment conditions and will document the human and natural affected environment to support the public and stakeholder engagement and decision-making process. This task will include gathering and coordination of information and data from various local, state, and Federal agencies, which may include:

- > Aerial photographs
- > GIS data (with topography, streams, flood plain, and other information)
- > Wetlands
- > Stream corridors
- > Roadway Inundation
- > Coastal Roadway Inundations Simulator
- > Hydrology
- > Topography
- > Bathymetry
- > Natural resources inventories (including consultation with USFWS pursuant to section 7 of the ESA)
- > NPS and USFWS considerations
- > Utilities
- > Cultural, Historic and Archeological Resource inventories
- > Local and regional bicycle and pedestrian connections
- > Socioeconomic data for Hatteras and Bodie Islands

**Deliverables:**

NCDOT will complete the following steps of Stage 1 (Project Initiation) and Stage 2 (Alignment Defined) of the Project Delivery Network (PDN) during Task 2:

- > Provide Best Available Geospatial Data (1PH1); Compile Arial Photography and Mapping (1PH2)
- > Establish Environmental Needs (1EN1)
- > Initiate Environmental Review (1EP1)

### 3.2 Hydraulics

NCDOT’s Hydraulics Unit will perform coastal hydrodynamic 2D modeling that will account for sea level rise and identify water levels and velocities at proposed bridge locations and a wave model to develop bridge height criteria for proposed scenarios through 2100. Preliminary bridge scour considerations will also be developed that will inform future design. Modeling approaches will follow procedures outlined in *HEC 25, Highways in the Coastal Environment – 3<sup>rd</sup> Edition*

### 3.3 Geotechnical Screening

NCDOT’s Geotechnical Engineering Unit will perform a review of past geotechnical investigations conducted for bridges near the study area, including the Marc Basnight Bridge, Pea Island Bridge, and the Rodanthe Jug Handle Bridge. The review will summarize anticipated subsurface conditions in the study area. NCDOT’s Geotechnical Engineering Unit will use the NCDOT [Geotechnical Investigation and Recommendations Manual](#), *AASHTO LRFD Bridge Design Specifications*, and miscellaneous FHWA geotechnically related publications as guides to develop preliminary recommendations regarding design and constructability of the Project.

## 4 Alternatives Development and Conceptual Design

### 4.1 Alternatives Development

NCDOT will perform conceptual design (up to 15%) for up to five (5) action alternatives, including development of design criteria and typical sections. The alternatives evaluated will include those identified in previous phases of B-2500 (listed below) as well as additional alignments identified by NCDOT based on input from Steering

Committee and input from the first set of public and stakeholder engagement activities. NCDOT will perform conceptual design work for the following alignment Alternatives:

- > Alternative 1: Bridge in Place in existing NC 12 easement
- > Alternative 2: Long Bridge through Pamlico Sound connecting Marc Basnight and Rodanthe Jug Handle Bridge (NC 12 Task Force, SPOT H170917)
- > Alternative 3: Bridge through Pamlico sound between Marc Basnight Bridge and New inlet/south of USFWS impoundments/Visitor Center Hot Spot (NC 12 Task Force, SPOT H170917)

NCDOT may develop and evaluate alignment variations for alternatives 2 and 3 based on input from stakeholders and the public and as opportunities and constraints related to the evaluation factors listed in task 4.2 are identified, with the goal of identifying alternatives who will be resilient to the effects of climate change through year 2100. This task will include Preliminary Bridge Design and hydraulic modeling to support the identification of appropriate design approach for bridges in each alternative (multiple cable stayed, single span cable-stayed, suspension, multiple arch bridges, long span) and their associated costs and impacts.

Costs and environmental information related to the No-Action Alternative (status quo; beach nourishment and repairs as needed) will be compiled to aid in the alternatives evaluation process described in Task 4.2

During the conceptual design of alternatives, NCDOT will incorporate the following elements:

- > Nature based solutions: Stormwater quality and quantity improvements (non-bridge sections), oyster reef creation/restoration, living shorelines and other NBS will be incorporated to maximum extent practicable and appropriate to the unique context of each alternative
- > Thru Bike and Pedestrian connections between Bodie Island and southern Hatteras villages
- > Public Bike/ped and vehicular access to Pea Island recreational amenities (fishing, hiking, birdwatching, visitor center, etc.)
- > USFWS and NPS staff access to Pea Island facilities (waterfowl impoundments, visitor center, etc.) for operations and maintenance

**Deliverables:**

NCDOT will complete the following steps of Stage 1 (Project Initiation) and Stage 2 (Alignment Defined) of the Project Delivery Network (PDN) during Task 4.1:

- > Investigate Structures (1ST1)
- > Initiate Roadway Coordination (1RD1)
- > Develop initial Utility relocation and Construction Estimates (1UT1); Investigate Existing Utilities (1UT2); Initiate Utility Coordination and/or Design (2UT1)
- > Initiate Complete Streets Review (1IM1); Review Complete Streets Elements (1IM2)
- > Prepare Conceptual Construction Estimate (1CS1)
- > Scope Traffic System Operations (1TO1)
- > Complete Traffic Forecast (1TP2)
- > Complete Geotechnical and Geoenvironmental Screening (1GT1)
- > Initiate CR-RACE, Clear Activities, and Value Assessment Activities (1VM1)
- > Develop preliminary hydraulic recommendations (2HY1)
- > Initiate investigations and provide preliminary ROW Recommendations (2GT2)
- > Scope Structures Design (2st1)
- > Develop Preliminary General Design Drawings (2st2)



## 4.2 Alternatives Evaluation

NCDOT will evaluate the alternatives developed in Task 4.1 and share the results with steering committee and other stakeholders, with the goal of eliminating unreasonable/not practicable alternatives from further consideration and developing consensus on a preferred alternative. NCDOT will analyze each alternative according to the following evaluation factors:

<b>Evaluation Factor</b>	<b>Description/Notes</b>
<b>Cost</b>	Environmental Impact Mitigation
	Construction
	Operations and Maintenance
<b>Constructability</b>	Geotechnical assessment of bridge feasibility
	Shallow vs deep water construction considerations
	Laydown areas
	Necessary Construction Techniques (e.g., jetting, drill piers etc.)
<b>Operations and Maintenance</b>	Ease of roadway maintenance
	NCDOT ability to operate roadway during coastal storms
<b>Resilience to...</b>	Sea level rise
	Erosion
	Potential breach locations
	Sand and ocean overwash
<b>Natural Environmental Impacts</b>	ATLAS screening results
	SAV impacts and mitigation
	Essential Fish Habitat
	T&E species and habitat assessments
<b>Nature Based Solutions</b>	Integration of oyster reefs
	Integration of stormwater management
	Integration of living shorelines
<b>Utilities</b>	Fiberoptic
	Electrical transmission lines
<b>Section 106 and 4(f), access to recreational amenities (including boating, birdwatching, hiking/biking, swimming, fishing)</b>	Wildlife Refuge access (public access and USFWS access) – potential changes to Visitor Center location, protection of impoundments if road relocated.
	Determination of Refuge Compatibility (required under the 1997 National Wildlife Refuge System Improvement Act)
	National Seashore access (public access and NPS access)
	Bonner Bridge Fishing Pier
	Coast Guard Lifesaving Station
	Visual impacts to 4(f) and Section 106 properties (photosimulations)
<b>Bike and Pedestrian Access</b>	Thru bike/ped connection between Nags Head and Rodanthe
	Improvement at tie-in locations

The NCDOT is set to create either a Community Characteristics Report (CCR) or a Community Impact Assessment (CIA) in order to enhance project decision-making and design elements. This involves customizing data, mapping, and impact categories as necessary to present a comprehensive and detailed account of the project. Firstly, these studies aim to identify the demographics impacted, significant community resources, and socio-economic aspects of the area. They will examine, prior to design, the potential consequences arising from changes in access and accessibility, alterations in travel time and patterns, barrier effects, as well as changes to community cohesion and stability. Secondly, developing these reports is crucial for comparing various alternatives against each other. This comparison enables the consideration of human environment factors to be balanced with natural environment considerations.

**Deliverables:**

NCDOT will complete the following steps of Stage 1 (Project Initiation) and Stage 2 (Alignment Defined) of the Project Delivery Network (PDN) during Task 4.1:

- > Assess Natural Environment Impacts (2EN1)
- > Assess Human Environment Impacts (2EN2)
- > Combined CCR/CIA narrative format

## 5 Implementation Strategies and Tools

The implementation strategy and tools will seek to extend the decisions made in tasks 2 and 4 into the execution phase of the project. Specific implementation recommendations will be made for:

- > NEPA and permitting timetable
- > Next steps
- > Phasing scenarios
- > Organizational framework for implementation
- > Potential funding sources

Based on all data collected and analyzed, along with the input gathered from the public, NCDOT will prepare an Action Plan that outlines the recommended alignment and an implementation plan. It will include recommendations identified during the study process. Strategies that identify potential sources of funding, partnerships, will be included, as well as additional items to be completed during subsequent phases of the design and environmental review process.

## 6 Study Development

Based on the information gathered and recommendations developed in Tasks 1-6, NCDOT will prepare a Planning and Environmental Linkages Report for review and comment that includes the following chapters:

- > Introduction
- > Study Considerations + Alternatives Development
- > Community + Stakeholder Involvement
- > Evaluation + Recommendations
- > Implementation

NCDOT will incorporate one (1) round of review comments from identified review team into the study.