

Statewide Flood Resiliency Blueprint Implementation Report

Statutory Authority: Session Law 2021-180 Section 5.9(c)

Department of Environmental Quality

Division of Mitigation Services

July 1, 2022

Receiving Entities: Joint Legislative Commission on Governmental Operations and the Fiscal Research Division

In accordance with SL 2021-180 Section 5.9 (c) the Department of Environmental Quality (DEQ) is submitting the following legislative report.

Background

In 2021, the North Carolina General Assembly directed the DEQ Division of Mitigation Services (DMS) to contract with an organization to develop a Statewide Flood Resiliency Blueprint (Blueprint) and to report a status update annually to the Joint Legislative Commission on Governmental Operations and the Fiscal Research Division, beginning July 1, 2022.

DEQ is uniquely positioned to lead the effort. It has extensive expertise in stakeholder coordination and outreach, leading the development of the 2020 North Carolina Climate Risk Assessment and Resilience Plan, as well as a history of delivering results in flood mitigation, coastal resiliency, dam safety, landslide mapping, energy resilience, stream and wetland mitigation, nature-based solutions, storm mitigation, air quality and wildfire monitoring, etc. DEQ staff are highly skilled in complex decision making; public engagement; regulations; receiving and awarding grants; research; data and economic analysis; program development and enforcement; federal, regional and local partnerships; and innovation. DMS has extensive experience in strategic planning, river basin and watershed planning, mitigation project implementation, watershed modeling and spatial data analysis, water and stormwater quality and controls contracting, and project delivery by private companies. These fields of expertise are critical in the successful development of a Blueprint that will meet the criteria defined by North Carolina legislators.

Vision

The Blueprint's purpose is to be a decision-making tool that will form the backbone of the State flood planning process to determine how and where resources should be allocated and to determine flood resiliency projects that should be implemented to increase community resiliency to flooding. The Blueprint will be applied within river basins affected by past and future flood-related losses. It is not intended to be a static report or set of reports, but rather a dynamic tool that can be iterative and flexible to incorporate new data and information as they become available based on identified gaps and advances in science and technology. The Blueprint's outcomes will meet the requirements of the legislation based on the best available science, stakeholder engagement, and sound decision making. A key objective is to produce products that will be implementable, understandable, sustainable, and close the technical resource gaps among communities. It will result in decision tools for targeted audiences that are interactive, easy to understand and use, and dynamic over time.

End users include decision makers within state, regional, and local government, as well as businesses and members of communities affected by recurring and excessive flooding. The Blueprint will provide multi-scale modeling, scenario exploration systems, guidance documents, and iterative and interactive online planning tools which will increase decision makers abilities to prioritize and implement projects in response to current and future conditions. It will build on existing data, strategies, projects, plans, and efforts underway by academia, businesses and nonprofits, and incorporate local knowledge. It will help close the resource gaps among communities and develop recommendations to establish a sustainable flood resiliency approach, including local project maintenance. The vision for this project was developed through the legislation and

through extensive communication with legislators, interagency staff, other states involved in flood resiliency, municipalities on the front line of flood events, climate and flood resiliency experts, and other stakeholders.

Status update

To ensure the Blueprint project development is successful, DEQ underwent an extensive Scope of Work (SOW) buildout process. DEQ conducted internal research and engaged experts and end users in other states experiencing similar flood-related impact as North Carolina. DEQ met with and held SOW workshops with federal, state, regional, and local government flood and flood resiliency experts and end users to develop and refine draft SOWs. DEQ also met with and held an SOW workshop with experts and end-users from non-government organizations and academia.

The development of the Statewide Flood Resiliency Blueprint will be broken up into phases. Phases will allow for more nimble decision making and constant evaluation of the process. After each phase, there will be a review of findings and recommendations, the direction of the project will be evaluated, and the scope of work for subsequent phases will be refined accordingly.

Below is an outline of progress to date and planned future tasks.

Blueprint Development Progress to Date

Category	Task	Status
Blueprint Scope Feedback	Advertise Request for Information (RFI) to gather input from private, public, nonprofit, and academic flood resiliency experts to inform the Scope of Work (SOW).	Completed January 20, 2022. The RFI resulted in 130 pages of responses. There were 44 entities that responded. The respondents included federal, state and local government agencies, academics, and non-government organizations, as well as a few private businesses and citizens. The feedback covered a range of topics including existing flood resiliency efforts, priorities for the Blueprint, outreach strategies, prioritized existing data sets and decision-making tools, types of flood hazards that need to be addressed, appropriate watershed scales for models and tools, known challenges and lessons learned.
	Receive RFI responses and incorporate them into SOW.	Completed March 14, 2022.
Scope of Work Development	Advertise Invitation for Bid (IFB) to pre-qualify vendor teams for the Blueprint.	Completed. Advertised February 8, 2022 to February 24, 2022.
	Review and score each vendor team IFB submittal to decide which vendor teams prequalify for the next phase of contracting.	Completed May 20, 2022. Five vendor teams were qualified to move forward to the next phase of contracting.

	<p>Develop and implement a comprehensive SOW development strategy.</p>	<p>Completed. The process included multiple meetings, workshops, and reviews of draft SOWs with internal and external flood resiliency experts, executive leadership, and Blueprint end users.</p>
	<p>Engage other states with programs with flood resiliency responsibility to inform the SOW for the Blueprint.</p>	<p>Completed and ongoing. Met with and continue to meet with resiliency program leaders from other states including Louisiana, Texas, Virginia, and South Carolina. These discussions informed the SOW to incorporate lessons already learned and to comprehensively evaluate and develop recommendations for different approaches each state has implemented for key program elements (e.g., governance, funding, and scale).</p>
	<p>Meet with flood resiliency experts and Blueprint end users from other North Carolina state government groups to develop the Blueprint SOW. This group was identified as the Core Technical Advisory Group (TAG). The goal of this Task is to ensure the SOW requires the vendor to deliver a Blueprint that will incorporate and build on existing tools, plans, efforts, knowledge and skills within the state agencies and address needs of state decision makers.</p>	<p>Completed. DEQ held several one-on-one meetings and three workshops with flood resiliency experts and Blueprint end users from several state teams to hear input on draft SOW. Examples of the teams engaged in the process include several NC DEQ Divisions, NC Department of Transportation, NC Emergency Management, NC Department of Agriculture and Consumer Services -Division of Soil and Water Conservation, NC Department of Natural and Cultural Resources, NC Land and Water Fund, NC Natural Heritage Program, NC Office of Recovery and Resiliency, NC Department of Administration. These discussions led to the development of a draft SOW built on experts' knowledge across state agencies. Items developed and refined from this process included guiding principles, multi-scale watershed modelling decision making, gap analysis refinement, flood resiliency program and tool integration analysis approaches, data and model standardization strategies, virtual decision exploration tool development methods, and stakeholder engagement development approaches.</p>
	<p>Meet with flood resiliency experts and Blueprint end-users outside of state government to develop and refine the draft SOW. This group was identified as the Expanded TAG. The goal of this Task is to develop a SOW that includes requirements and methods that ensure the Blueprint vendor will incorporate and build on existing plans, efforts, tools, knowledge and skills outside of state</p>	<p>Completed. DEQ held several one-on-one meetings with NGOs, academics, and federal agencies to develop the draft SOW and held a large workshop with those entities to review and refine the SOW. Groups engaged in this process include: the American Flood Coalition, Environmental Defense Fund, PEW Trust, Conservation Trust of NC, The Nature Conservancy, NC Conservation Network, NC State University, UNC-Chapel Hill, Duke University, East Carolina University, NC</p>

	agencies and address flood resiliency needs of non-state decision makers to the extent practical.	League of Municipalities, NC Farm Bureau, NC Regional Council of Governments (COG), TJ COG, Eastern Carolina COG, Conservation Fund, Carolina Wetlands, Upper Coastal Plain COG, NC Association of County Commissioners, Land of Sky, Western Piedmont COG, High Country COG, Mid-East Commission, Kerr-Tar COG, USGS, Army Corps of Engineers, and the State Climate Office. These discussions refined and clarified elements of the draft SOW including Blueprint development approaches, stakeholder engagement strategies, language and terms, and watershed modeling requirements.
	Completed Scope of Work	June 20, 2022

Blueprint Development Future Tasks

Category	Task	Status
Vendor Selection	Solicit Request for Quotes (RFQ) for the SOW developed by the comprehensive SOW development process from the pre-qualified vendors.	July 2022. This will include comprehensive submittals and interviews with the pre-qualified vendors.
	Recommend award to DOA	August 2022
	Execute Contract.	October 2022
Project Development and Implementation	Realign TAGs and Core Advisory Team to assist in the development of the Blueprint.	August through end of Blueprint Development. Several TAGs were assembled to develop the Blueprint SOW. The groups that participated in SOW development, as well as additional stakeholders, will be included in new TAGs to assist with specific Blueprint sections and decision making. Additionally, a Core Advisory Team comprised of representatives from TAGs and other areas will be assembled to assist in Blueprint development.
	Blueprint Phase I will include four Tasks: Stakeholder Outreach/Facilitation, Gap Analysis, Recommendations/Decision Framework, and Draft Blueprint Development. Phase I will result in a draft Blueprint, draft web-based	Start date October 2022 End date December 2023 as mandated by SL 2021-180 Section 5.9 (c)

	Decision Support Tools (DST), and initiation of the Pilot Watershed (Neuse River Basin) Flood Resiliency Implementation Tool.	
	Blueprint Phase II will include the development (writing, testing, and deploying computer code) of the web-based DST and the conclusion of the Pilot Watershed Flood Resiliency Implementation Instrument.	Start date May 2023 (some elements will be concurrent to phase 1) End date October 2023 (substantial completion date)
	Blueprint Phase III will include refinement of the Blueprint and web-based DST, and application of the Blueprint and DST to the next pilot Basin (Cape Fear).	Start date January 2024 End date August 2024
	Blueprint Phase IV will include the completion of the Blueprint and Online Support Tools and applying them in prioritized river basins statewide, as funds permit.	Start date April 2024 End date August 2024

Due to State contracting rules which ensure fair competition, more specific details on the Scope of Work cannot be shared until the contract selection process has been completed. The next phase of the contract process is the solicitation of Request for Quotes from the vendors. This phase will include submittals by the pre-qualified vendors and vendor interviews. Once the vendor is selected, a contract will be generated. At that time, the Scope of Work will be published on the Blueprint website and can be shared with anyone.