

### Subapplicant information

Name of federal agency **FEMA**  
 Type of submission **Application**

### CITY OF GASTONIA TOWN HALL

181 S SOUTH ST  
 GASTONIA, NC 28052 United States

State	DUNS #	EIN #
NC	074497249	566000227

Subapplicant type **Local Government**  
 Is the subapplicant subject to review by Executive Order 12372 Process? **No - Not selected**  
 Is the subapplicant delinquent on any federal debt? **No**

### Contact information

#### Subrecipient Authorized Representative (SAR)

Clayton Smith	Primary phone	Mailing address
<a href="mailto:claytons@cityofgastonia.com">claytons@cityofgastonia.com</a>	7048697858 Work	

#### Point(s) of contact

Kyle Butler	Primary phone	Additional phones	Mailing address
Water Sewer Engineer <a href="mailto:kyleb@tworiversutilities.com">kyleb@tworiversutilities.com</a>	7048666768 Work	7048666823 Work	1300 N. Broad St Gastonia NC 28053
	<b>Fax</b>		

### Community

Please provide the following information. If the Congressional district number for your community does not display correctly, please contact your State NFIP coordinator.

#### Add Communities

Please find the community(ies) that will benefit from this mitigation activity by clicking on the Find communities button. If needed, modify the Congressional District number for each community by entering the updated number under the U.S. Congressional District column for that community. When finished, click the Continue button. NOTE: You should also notify your State NFIP coordinator so that the updated U.S. Congressional District number can be updated in the Community Information System (CIS) database.

Community name	County code	CID number	CRS community	CRS rating	U.S. Congressional District
BELMONT, CITY OF	071	370320	N		2,10

Community name	County code	CID number	CRS community	CRS rating	U.S. Congressional District
BESSEMER CITY, CITY OF	071	370526	N		
CRAMERTON, TOWN OF	071	370321	N		10
DALLAS, TOWN OF	071	370322	N		10
GASTON COUNTY *	071	370099	Y	8	1,10
GASTONIA, CITY OF	071	370100	Y	9	2, 10
LOWELL, CITY OF	071	370323	N		2,10
MCADENVILLE, TOWN OF	071	370101	N		2,10
RANLO, TOWN OF	071	370324	N		2,10
STANLEY, TOWN OF	071	370527	N		

Please provide any additional comments below (optional).

The water treatment plant generator serves the City of Gastonia and surrounding communities, including Cramerton, Bessemer City, High Shoals, McAdenville, Ranlo, Kings Mountain, Belmont, Lowell, and Clover, S.C (See Attachment 4 - TRU Service Area Map). Most of these municipalities, including Ranlo, Lowell, McAdenville, Cramerton, and Clover, SC are regular municipal customers; Bessemer City, Belmont, and Dallas are emergency customers. The population served during non-emergency periods is 97,305; if all emergency customers receive water from Gastonia, the service area population is 120,237.

## Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 4 - Two Rivers Utilities Service Maps.pdf</a>	01/05/2023	madeleine.lane@icf.com	Community Attachments	Service area for Water Treatment Plant.	
<a href="#">List of Attachments.pdf</a>	01/05/2023	madeleine.lane@icf.com	Community Attachments	List of attachments	

## Mitigation plan

Please provide your plan information below.

Is the entity that will benefit from the proposed activity covered by the current FEMA approved multi-hazard mitigation plan in compliance with 44 CFR Part 201? **Yes**

### Please provide plan detail

Plan name	Plan type	Plan approval date
Cleveland Gaston Lincoln Regional Hazard Mitigation Plan 2020 Update	Local Multi-Hazard Mitigation Plan	03/23/2020

### Proposed activity description

The project proposes to construct two generators at Two River Utilities' water treatment plant. The proposed project will allow the City of Gastonia to install a redundant power source at a critical community lifeline operation when the grid is down. This project directly aligns with the 2020 Cleveland Gaston Lincoln Regional Hazard Mitigation Plan. In section 9, Mitigation Action Plan, Action P-2, Gaston County prioritizes providing generator connections to vital facilities (Attachment 2).

Please provide any additional comments below (optional).

**Attachments**

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 2 - Cleveland Gaston Lincoln Regional Hazard Mitigation Plan 2020.pdf</a>	01/05/2023	madeleine.lane@icf.com	Mitigation Plan Attachments	Sections from Cleveland Gaston Lincoln Regional Hazard Mitigation Plan. Section 9, Mitigation Action Plan, Action P-2, Gaston County prioritizes providing generator connections to vital facilities.	

**Scope of work**

The project Scope of Work (SOW) identifies the eligible activity, describes what will be accomplished and explains how the mitigation activity will be implemented. The mitigation activity must be described in sufficient detail to verify the cost estimate. All activities for which funding is requested must be identified in the SOW prior to the close of the application period. FEMA has different requirements for project, planning and management cost SOWs.

Subapplication title (include type of activity and location)

**City of Gastonia Water Treatment Plant – Resilient Power**

**Activities**

Primary activity type

**Generator**

Primary sub-activity type

**Permanent**

Primary sub-activity type

**Permanent**

Secondary activity type (Optional)

Geographic areas description

**The site of this mitigation activity is Gastonia’s Water Supply and Treatment Plant, 250 W Long Ave., Gastonia, NC 28052 at roughly 35.265709 latitude and -81.184234 longitude. The Water Treatment Plant is located between W Long Avenue and N York Street. The City of Gastonia proposes to construct two generators at Two Rivers’ water treatment plant. This property is owned by the City of Gastonia. Refer to the Project Location Map (Attachment 1) and Preliminary Engineering Report (Attachment 3) for more information.**

**Community lifelines**

Primary community lifeline

**Food, water, shelter**

Primary sub-community lifeline

**Water**

Secondary community lifeline (optional)

**Safety and security**

Secondary sub-community lifeline

**Community safety**

Tertiary community lifeline (optional)

**Hazard sources**

Primary hazard source

**Infrastructure failure**

Secondary hazard source (optional)

**Severe storm**

Tertiary hazard source (optional)

Is this a phased project?

**Yes**

Are you doing construction in this project?

Yes

Percentage of population impacted

100

Provide detailed description of population impacted

This project benefits the entire population of the City of Gastonia as well as municipal customers in Cramerton, Bessemer City, High Shoals, Ranlo, Stanley, Kings Mountain, Belmont, Lowell and Clover, S.C. The population served during non-emergency periods is 97,305; if all emergency customers receive water from Gastonia, the service area population is 120,237 (see Attachment 4, Two Rivers Utilities Service Area Maps).

Provide a clear and detailed description of your proposed activity

Functioning as a regional utility provider, Two Rivers Utilities, the City of Gastonia provides water and wastewater services to approximately 100,000 people, including residents of Gastonia, Cramerton, Bessemer City, High Shoals, Ranlo, Stanley, Kings Mountain, Belmont, Lowell and Clover, S.C. Two Rivers' water treatment plant processes approximately 5 billion gallons of drinking water annually and treats 12 to 20 million gallons of raw water per day. Additionally, the water treatment plant has a storage capacity of 5.5 million gallons. The design capacity of the water treatment plant is 27.3 million gallons/day. With WTP expansions constructed in 2012 and 2019 to meet increasing water demands, the existing generator on site no longer meets the power requirements to provide continuous water treatment in the event of a power outage. Consequently, there has been seven instances of power interruption that has caused loss of water treatment over the past three years. See Attachment 9, Physical Damage Documentation, for more detail. Power loss can have a devastating impact on drinking water infrastructure. If power fails at Two Rivers' water treatment plant, critical facilities, residents, and businesses in the service area lose access to clean, potable water. Installing a backup power source at this critical facility would provide emergency power generation during disasters and would allow this critical facility to function during disruptions to energy infrastructure elsewhere in the region. The City of Gastonia proposes to construct two generators at Two Rivers Utilities' water treatment plant. The proposed project will allow the City to install a redundant power source at a critical community lifeline operation when the grid is down. This project is to provide a generator set with capacity to operate the existing facility and incorporate 100 percent power redundancy. This phased project will allow Two Rivers to evaluate which backup generator option is the most cost-effective; conduct outreach with Two Rivers' critical stakeholders and customers; and install two generators at Two Rivers' water treatment plant. See Attachment 3, Preliminary Engineering Report, for further details on the project.

How will the mitigation activity be implemented?

The City of Gastonia will manage the proposed project and contract with a qualified design engineer and construction contractor through an open procurement process. The City of Gastonia Department of Public Works (DPW) proposes to implement the project in two phases, in accordance with FEMA guidelines on phased projects. Phase 1 will include evaluating which backup generator option is the most cost-effective; conducting outreach with Two Rivers' critical stakeholders and customers, surveying, design, and conducting a new benefit-cost analysis (BCA). Permits will be obtained from all appropriate local, state, and federal agencies for construction activity, land disturbance, and environmental quality reviews as applicable. Phase 2 will consist of project construction (including site preparation), acquisition of equipment and materials and generator installation. See the Technical Scope of Work for further information on project implementation. The City of Gastonia is including Sub-recipient Management Costs (SRMC) in this project application. SRMC may include City in-kind services, use of contract support, or a combination of the two. The City of Gastonia will work to carry out projects in ways that produce high-quality work, avert disruptive and costly delays, and promote efficiency. In implementing the awarded project, the city expects to use strong labor standards, including project labor agreements (PLAs) and community benefits agreements that offer wages at or above the prevailing rate and include local hire provisions. The city will also prioritize in their procurement decisions employers who can demonstrate that their workforce meets high safety and training standards (e.g., 206 professional certification, licensure, and/or robust in-house training), that hire local workers and/or workers from historically-underserved communities, and who directly employ their workforce or have policies and practices in place to ensure contractors and subcontractors meet high labor standards. Further prioritization will be offered to employers (including contractors and subcontractors) without recent violations of federal and state labor and employment laws. These practices will promote effective and efficient delivery of high-quality projects and support economic resilience through strong employment opportunities for workers. Such practices will reduce the

Describe how the project is technically feasible and will be effective in reducing the risk by reducing or eliminating damage to property and/or loss of life in the project area. Please include engineering design parameters and references to the following: preliminary schematic or engineering drawings/design; applicable building codes; engineering practices and/or best practices; level of protection (e.g., life safety, 100-yr flood protection with freeboard, 100-yr wind design, etc.):

likelihood of potential project challenges such as work stoppages or safety accidents, while ensuring a reliable supply of skilled labor and minimizing disruptions. That will, in turn, promote on-time and on-budget delivery within the period of performance outlined in the schedule section. Furthermore, among other requirements contained in 2 CFR 200, Appendix II, all contracts made in excess of \$100,000 with respect to a capital expenditure that involve employment of mechanics or laborers must include a provision for compliance with certain provisions of the Contract Work Hours and Safety Standards Act, 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5).

The purpose of this project is to install two generators at the Two Rivers Utilities (TRU) Water Treatment Plant (WTP). The water plant treats 12-20 MGD of raw water per day with a design capacity of 27.3 MGD. The storage capacity is 5.5 million gallons. In the event of a power failure, the WTP can currently provide water for approximately 2 days of water using available storage. During peak demand summer months, this could be reduced to approximately 30 hours. This project will reduce the identified risks by providing a generator set with capacity to operate the existing facility and incorporate 100 percent redundancy. Flood and hurricane events have been worsening in North Carolina in recent years, threatening the power infrastructure. North Carolina is particularly prone to power outages, having two years in recent memory where it ranked in the top ten most power outages in the country. This is impacted by climate change, as North Carolina has experienced more hurricane damage and more frequent and severe rainstorms. Two Rivers Utilities has conducted initial project scoping work in conjunction with a consulting team. A full Preliminary Engineering Report (Attachment 3) is attached to this application.

Who will manage and complete the mitigation activity?

Two Rivers Utilities will manage the mitigation activity. The department has prior experience with projects of similar scope and scale, including several sewer lift stations and the expansion of the Northeast Wastewater Treatment Facility. Two Rivers' staff have also managed several projects in the past and are familiar with grant management requirements. Additionally, the City of Gastonia and Two Rivers Utilities staff are currently implementing a FEMA Pre-Disaster Mitigation (PDM) lift station award of similar complexity to this project. The City's experience managing and implementing this PDM award will be leveraged to ensure effective implementation of the mitigation activity.

Will the project address the hazards identified and what risks will remain from all hazards after project implementation (residual risk)?

Yes. Functioning as a regional utility provider, Two Rivers Utilities, the City of Gastonia provides water and wastewater services to approximately 100,000 people, including residents of Gastonia, Cramerton, Bessemer City, High Shoals, Ranlo, Stanley, Kings Mountain, Belmont, Lowell and Clover, S.C. Two Rivers' water treatment plant processes approximately 5 billion gallons of drinking water annually and treats 12 to 20 million gallons of raw water per day. Additionally, the water treatment plant has a storage capacity of 5.5 million gallons. The design capacity of the water treatment plant is 27.3 million gallons/day. Power loss can have a devastating impact on drinking water infrastructure. If power fails at Two Rivers' water treatment plant, critical facilities, residents, and businesses in the service area lose access to clean, potable water. Installing a backup power source at this critical facility would provide emergency power generation during disasters and would allow this critical facility to function during disruptions to energy infrastructure elsewhere in the region. "In the context of emergency planning, disaster response, and disaster recovery, utilities are often characterized as lifelines. This characterization reflects the great importance that such systems have on the functioning of modern society. For example, loss of function of water or wastewater systems generally has direct economic impacts on a community that are far larger than the cost of repairs of the physical damages alone. Electric power, potable water and wastewater systems are subject to physical damages from natural disasters such as earthquakes, hurricanes and floods. More importantly, however, such systems are subject to loss of function; that is, loss of utility service. Such loss-of-function disruptions often have major negative impacts on affected communities. Hazard mitigation projects for utility systems may eliminate or reduce physical damages in future disasters. However, in many cases, an important motivation or even the primary motivation in undertaking hazard mitigation projects for utility systems is not to reduce the physical damages alone, but rather to reduce the tremendous impacts that the loss of function of such systems may have on the affected communities (What is a Benefit?, FEMA, 2001). Due to the impacts of climate change, the Piedmont region of North Carolina is predicted to experience increased flooding risks, more frequent and severe precipitation events, and increased wildfire risk. According to the North Carolina Climate Science Report (Attachment 5), Gastonia could see a more than 60% annual increase

in the number of days with precipitation of 3 inches or greater by midcentury from a 1996-2015 baseline average. Since 2003, the number of power outages in the U.S. has doubled, in large part due to severe storms; between 2003 and 2012, North Carolina experienced more than 48 power outage incidents, the 7th most power outages in the nation. During the same period, Duke Energy and Dominion were the energy providers with the 2nd and 5th most customers impacted by power outages in the nation, respectively; over 15.3 million customers were impacted by outages. For further information on increasing power outage risk, see Attachment 6, Climate Central's Electrical Resilience Report. More recently, storms such as Hurricane Michael and Hurricane Florence have impacted over 1.5 million customers in North Carolina. Aggregating data from a recent U.S. Energy Information Administration (EIA) report (Attachment 6), there have been 37 incidents of power outages in North Carolina between 2015 and 2021, 32 of which were caused by severe weather events. Severe storms present a growing threat to essential energy infrastructure, including infrastructure that serves Two Rivers' water treatment plant. It is crucial that this community lifeline remains operational, even when the grid is at risk from increasing hazards.

Does the mitigation activity incorporate nature-based solutions?

No

When will the mitigation activity take place?

Assuming FEMA funding is awarded, the project will kick off in January 2024 and completed in December of 2026. See Attachment 7, Detailed Schedule, for more information.

Explain why this project is the best alternative. What alternatives were considered to address the risk and why was the proposed activity considered the best alternative?

Several alternatives were considered for this project, including the "No Action". The "No Action" alternative was determined to be infeasible because it would allow for power outages at a critical facility. This alternative is the best option because by utilizing two tie breakers, either utility source or the generator can be isolated and serviced if a transformer or incoming cable failed. This same scenario can be used if maintenance has to be performed on the switchgear.

Please identify the entity that will perform any long-term maintenance and provide a maintenance, schedule and cost information. The subapplicant or owner of the area to be mitigated is responsible for maintenance (including costs of long-term care) after the project is completed?

Two Rivers Utilities will be responsible for long-term maintenance of the project. Maintenance costs for the project are expected to be approximately \$5,000 per year and will be built into Two Rivers' annual budget. For more detail, refer to Attachment 8, Maintenance Agreement Letter.

Additional comments (optional)

**COMMUNITY ENGAGEMENT & OUTREACH** - While Two Rivers Utilities is owned and operated by the City of Gastonia, it serves 9 other municipalities: Cramerton, Bessemer City, High Shoals, Ranlo, Stanley, Kings Mountain, Belmont, Lowell, and Clover, S.C. These cities will benefit from a backup power source at the water treatment plant and have a stake in ensuring the project is successful. Two Rivers Utilities will engage with these cities during project development. Two Rivers Utilities serves over 100,000 people across 10 jurisdictions. All of these residents are stakeholders in this project and will be positively impacted by the proposed project. The City of Gastonia will continue to provide updates and information regarding the proposed project and implementation progress in publicly accessible venues, such as the City's website. About 60% of water treated at the water treatment plant is used by industries and businesses. These businesses include CaroMont Health Corporation, Daimler, Pharr Yarns, American & Efid, LLC, which collectively employ around 7,700 workers. Many of these are also critical customers (defined as consumers or service connections that are critical to community resiliency, public safety, or health), are customers that demand a large volume of water to sustain economic resiliency, or service a susceptible population. These businesses need potable water to operate and are an important stakeholder group in this project. Two Rivers Utilities will engage with these businesses and critical customers during project development using methods recommended by the City's Communications and Marketing Department. A summary of technical criteria that the project meets can be found in Attachment 27.

## Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 24 - Criteria 5 Community Engagement and Other Outreach Activities.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Explanation of how the proposed mitigation activity meets Qualitative Criterion Number 5:	

Filename	Date uploaded	Uploaded by	Label	Description	Action
				Community Engagement and Other Outreach Activities	
<a href="#">Attachment 1 - Project Location Map.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Location of Gastonia's Water Treatment Plant.	
<a href="#">Attachment 4 - Two Rivers Utilities Service Maps.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Service area for Water Treatment Plant	
<a href="#">Attachment 3 - Preliminary Engineering Report.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Technical engineering memo including project summary, location, scope of work, conceptual design, budget, and schedule.	
<a href="#">Attachment 5 - North Carolina Climate Science Report.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	According to the North Carolina Climate Science Report, attached to this application, Gastonia could see a more than 60% annual increase in the number of days with precipitation of 3 inches or greater by midcentury from a 1996-2015 baseline average.	
<a href="#">Attachment 19 - Maintenance Agreement Letter.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Confirmation of the City of Gastonia's acceptance of responsibility for routine maintenance following project completion.	
<a href="#">Attachment 22 - Criteria 3 Implementation Measures.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Explanation of how the proposed mitigation activity meets Qualitative Criterion Number 3: Implementation Measures	
<a href="#">Attachment 6 - Climate Central's Electrical Resilience Report.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Climate Central's Electrical Resilience Report indicating that since 2003, the number of power outages in the U.S. has doubled, in large part due to severe storms; between 2003 and 2012, North Carolina experienced more than 48 power outage incidents, the 7th most power outages in the nation.	
<a href="#">Attachment 8 - Criteria 1 Risk Reduction and Resilience.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Explanation of how the proposed mitigation activity meets Qualitative Criterion Number 1: Risk Reduction/Resilience Effectiveness	
<a href="#">Attachment 9 - Physical Damage Documentation.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Documented instances of power interruption that has caused loss of water treatment over the past three years.	
<a href="#">Attachment 10 - Top Water Customers.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Water Billed Amount - Top Customers for City of Gastonia showing the demand of critical Water Treatment Plant services.	
<a href="#">Attachment 23 - Criteria 4 Population Impacted.pdf</a>	01/05/2023	madeleine.lane@icf.com	Scope of Work Attachments	Explanation of how the proposed mitigation activity meets Qualitative Criterion Number 4: Population Impacted	
<a href="#">Attachment 7 - Schedule.pdf</a>	01/17/2023	madeleine.lane@icf.com	Scope of Work Attachments	Estimated schedule for completion of tasks described in Schedule section and in Scope of Work	

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 27 - Technical Evaluation Criteria Summary.pdf</a>	01/17/2023	madeleine.jane@icf.com	Scope of Work Attachments	Summary of BRIC technical evaluation criteria	

## Schedule

Specify the work schedule for the mitigation activities.

### Add tasks to the schedule

Please include all tasks necessary to implement this mitigation activity; include descriptions and estimated time frames.

<b>Task Name</b> Phase 1: Design Team Contracting & State Grant Contracting	<b>Start Month</b> 1	<b>Task Duration (in Months)</b> 2 months
<b>Task Description</b> Procuring and contracting with a design engineer to perform the work. This includes support on other tasks identified in Phase 1 of this section. NCDPS Subrecipient Grant Contracting		
<b>Task Name</b> Phase 1: Assessment and Preliminary Design	<b>Start Month</b> 2	<b>Task Duration (in Months)</b> 3 months
<b>Task Description</b> Design activities for the construction solution.		
<b>Task Name</b> Phase 1: 60% Design Documents (Go/No-Go Milestone)	<b>Start Month</b> 5	<b>Task Duration (in Months)</b> 2 months
<b>Task Description</b> Milestone for 60% of engineering drawings.		
<b>Task Name</b> Phase 1: Permitting	<b>Start Month</b> 7	<b>Task Duration (in Months)</b> 6 months
<b>Task Description</b> Applying for and receiving permits during the design phase.		
<b>Task Name</b> Phase 1: Final Design Documents	<b>Start Month</b> 13	<b>Task Duration (in Months)</b> 3 months
<b>Task Description</b> Design activities to finalize the design and create a bid package.		
<b>Task Name</b> Phase 2: Bidding and Award	<b>Start Month</b> 16	<b>Task Duration (in Months)</b> 3 months
<b>Task Description</b> Advertising bid documents, receiving and evaluating bids, and awarding a construction contract.		
<b>Task Name</b> Phase 2: Construction	<b>Start Month</b> 19	<b>Task Duration (in Months)</b> 15 months
<b>Task Description</b> Construction activities related to generator installation		
<b>Task Name</b> Phase 2: Project Closeout	<b>Start Month</b> 34	<b>Task Duration (in Months)</b> 3 months



**Task Description**  
Project closeout activities

Estimate the total duration of your proposed activities (in months). **36**

**Proposed project start and end dates**

Start Date **2024-01-01**

End Date **2026-01-01**

**Introduction**

**Project location**

Provide a detailed description of the proposed project's location.

The site of this mitigation activity is Gastonia's Water Supply and Treatment Plant, 250 W Long Ave., Gastonia, NC 28052 at roughly 35.265709 latitude and -81.184234 longitude. The Water Treatment Plant is located between W Long Avenue and N York Street. The City of Gastonia proposes to construct two generators at Two Rivers' water treatment plant. This property is owned by the City of Gastonia. Refer to the Project Location Map (Attachment 1) and Preliminary Engineering Report (Attachment 3) for more information.

Latitude **35.265709**

Longitude **-081.184234**

**Attachments**

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 1 - Project Location Map.pdf</a>	01/05/2023	madeleine.lane@jcf.com	Project Location Attachments	Location of Gastonia's Water Treatment Plant.	

**Project benefiting area**

Provide a detailed description of the proposed project's benefiting area.

The water treatment plant generator project will benefit both the City of Gastonia and surrounding communities served by Two Rivers Utilities, including Cramerton, Bessemer City, High Shoals, McAdenville, Ranlo, Kings Mountain, Belmont, Lowell, and Clover, S.C (See Attachment 4, TRU Service Area Maps). Most of these municipalities, including Ranlo, Lowell, McAdenville, Cramerton, and Clover, SC are regular municipal customers; Bessemer City, Belmont, and Dallas are emergency customers. The population served during non-emergency periods is 97,305; if all emergency customers receive water from Gastonia, the service area population is 120,237. Additionally, in accordance with the Justice40 initiative, the City of Gastonia has identified that disadvantaged communities will benefit from this project. The attached SVI map depicts the Centers for Disease Control and Prevention's Social Vulnerability Index (SVI) for the census tracts within the WTP's service area. SVI ranks the tracts on 15 social factors, including unemployment, minority status, and disability and further groups them into four related themes. The CDC SVI ranking variables for the four themes are for the Socioeconomic Status, Household Composition & Disability, Minority Status & Language, and Housing Type & Transportation. These indicators help support analysis on the relative vulnerability of a given census tract and helps identify communities that will need continued support to recover following an emergency or natural disaster. The attached map shows the overall ranking (RPL\_Themes) which is a percentile ranking that represents the proportion of tracts that are equal to or lower than a tract of interest in terms of social vulnerability. For example, a CDC/ATSDR SVI ranking of 0.85 signifies that 85% of tracts in the state or nation are less vulnerable than the tract of interest and that 15% of tracts in the state or nation are more vulnerable. FEMA considers any area with a CDC SVI ranking above 0.6 a disadvantaged community. There are 29 census tracts within the service area

with an SVI percentile over 0.6, with 7 census tracts with an overall SVI percentile above 0.9. Additionally, the Water Treatment Plant service area has an overall 2020 poverty rate of 24.18%, 12.78 percentage points over the 2020 national poverty rate of 11.4%. See Attachment 11 for further details.

**Attachments**

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 4 - Two Rivers Utilities Service Maps.pdf</a>	01/05/2023	madeleine.lane@icf.com	Location project benefiting area Attachments	Service area for Water Treatment Plant	
<a href="#">Attachment 11 - SVI Map.pdf</a>	01/05/2023	madeleine.lane@icf.com	Location project benefiting area Attachments	Map demonstrating the SVI percentile of populations within the Gastonia WTP service area.	
<a href="#">Attachment 23 - Criteria 4 Population Impacted.pdf</a>	01/05/2023	madeleine.lane@icf.com	Location project benefiting area Attachments	Explanation of how the proposed mitigation activity meets Qualitative Criterion Number 4: Population Impacted	

**Project impact area**

Provide a detailed description of the proposed project's impact area.

**The design approach to mitigate power loss at a critical facility includes constructing two generators at Two Rivers' water treatment plant (see Attachment 1, Project Location Map). Two Rivers Utilities and the design team pursued a design that will allow Two Rivers to evaluate which backup generator option is the most cost-effective; conduct outreach with Two Rivers' critical stakeholders and customers; and install two generators at Two Rivers' water treatment plant.**

**Attachments**

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 1 - Project Location Map.pdf</a>	01/05/2023	madeleine.lane@icf.com	Location project impact area Attachments	Location of Gastonia's Water Treatment Plant.	

**Project site inventory**

Does this project subapplication propose to mitigate a property/structure(s)? ( **Yes**  
 Examples: residential home, commercial building, bridge, fire station, levee, pumping station, wastewater treatment plant, telephone pole, electric line, etc.)

Please describe how the propert(ies) will be selected upon subgrant approval. (Example: Saferoom Lottery Project, Fix the Bricks Project)

Please [download the excel template](#), and then fill out the template with building or infrastructure data.

Enter the location of the property/structure.

List of location(s) (1 location)

Status	Location ID	Address	Inventory type	Structure type	Mitigation action
✓	<a href="#">49398</a>	250 W Long Ave. , Gastonia, NC, Gaston, 28053	Infrastructure/Utility/other	Water (potable)	Generator

## Budget

Budget cost estimate should directly link to your scope of work and work schedule. You must add at least one item(s) greater than 0 for your cost estimate. As necessary, please adjust your federal/non-federal cost shares, and add the non-federal funding source(s) you are planning to use this project. Once you have completed this section, please click the Continue button at the bottom of this page to navigate to the next section.

### Add budget cost types and item(s)

First, click the Add cost type button below to add cost type cost estimate and then click the Add item(s) button to add the item(s) for the cost estimate.

**Grand total: \$6,699,840.00**

### Budget type: Construction

▶ <b>Cost type: Cost estimate</b>	<b>\$6,380,800.00</b>
▶ <b>Cost type: Management cost</b>	<b>\$319,040.00</b>

Program income (optional)

### Cost share

Cost share or matching means the portion of project costs not paid by federal funds.

#### Proposed federal vs. non-federal funding shares

Hazard mitigation assistance (HMA) funds may be used to pay up to 75% federal share of the eligible activity costs. Building Resilient Infrastructure and Communities (BRIC) and small impoverished communities may be eligible for up to 90% federal share. Flood Mitigation Assistance (FMA) and severe repetitive loss (SRL) properties may be eligible for up to 100% federal share. Repetitive loss (RL) properties may be eligible for up to 90% federal share.

<a href="#">Is this an Economically Disadvantaged Rural Community?</a> ⓘ This determines your federal/non-federal share ratio. No		% Percentage	\$ Dollar amount
	<b>Proposed federal share</b>	<b>71.43</b>	<b>4785600.00</b>
	<b>Proposed non-federal share</b>	<b>28.57</b>	<b>1914240.00</b>
			Based on total Budget cost: <b>\$6,699,840.00</b>

#### Non-federal funding sources here

That portion of the total costs of the program provided by the non-federal entity in the form of in-kind donations or cash match received from third parties or contributed by the agency. In-kind contributions must be provided and cash expended during the project period along with federal funds to satisfy the matching requirements.

Funding source	Funding amount	% Non-federal share by source
▶ <b>Funding source: City of Gastonia Local Share</b>	<b>100.00%</b>	<b>\$1,914,240.00</b>

Please provide any additional comments below (optional).

**Please see the attached cost share letter indicating the City of Gastonia's assumption of responsibility for the design and construction of the proposed WTP Generator project under the FEMA Building Resilient Infrastructure and Communities (BRIC) grant program. This 30% cost commitment is based on the overall project cost of \$6,380,800, with a cost commitment of \$1,914,240. The City of Gastonia is including Sub-recipient Management Costs (SRMC) in this project application, for a total of 5% of project costs, or \$319,040. PHASE 1 = \$469,200 PHASE 2 = \$5,911,600**

### Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 26 - Budget.pdf</a>	01/05/2023	madeleine.jane@icf.com	Budget Attachments	Itemized cost estimate for project.	
<a href="#">Attachment 12 - Cost Commitment Letter.pdf</a>	01/06/2023	madeleine.jane@icf.com	Budget Attachments	Cost commitment letter from City of Gastonia.	

### Cost-effectiveness

**How was cost-effectiveness determined for this project?**

- BCA completed in FEMA's BCA toolkit  
Subapplicant must attach supporting documentation.
- Pre-calculated benefits
- Substantial damage in special flood hazard area
- Other BCA methodology approved by FEMA in writing
- Not applicable
- Not applicable

What are the total project benefits? (\$) **12329972**

What are the total project cost? (\$) **6598346**

What is the benefit-cost ratio (BCR) for the entire project? **1.86**

Was sea level rise incorporated into the flood elevations in the BCA? **No**

Were environmental benefits added to the project benefits? **No**

Were social benefits added to the project benefits? **No**

Please provide any additional comments below (optional).

**Please see the attached Benefit-Cost Analysis Methodology (Attachment 13) for more detail regarding the approach and calculations of the benefits obtained from the proposed implementation of this mitigation project. Data provided by the Centers for Disease Control and Prevention (CDC) indicates that residents within the project service area are disproportionately represented in the CDC's Social Vulnerability Index (SVI) when compared to nationwide averages. SVI ranks census tracts on 15 social factors, including unemployment, minority status, and disability and further groups them into four related themes. The CDC SVI ranking variables for the four themes are for the Socioeconomic Status, Household Composition & Disability, Minority Status & Language, and Housing Type & Transportation. These indicators help support analysis of the relative vulnerability of a given census tract and help identify communities that will need continued support to recover following an emergency or natural disaster. The attached map shows the overall ranking (RPL\_Themes) which is a percentile ranking that represents the proportion of tracts that are equal to or lower than a tract of interest in terms of social vulnerability. For example, a CDC/ATSDR SVI ranking of 0.85 signifies that 85% of tracts in the state or nation are less vulnerable than the tract of interest and that 15% of tracts in the state or nation are more vulnerable. FEMA considers any area with a CDC SVI ranking above 0.6 a disadvantaged community. There are 29 census tracts within the service area with an SVI percentile over 0.6, with 7 census tracts with an overall SVI percentile above 0.9. Additionally, the Water Treatment Plant service area has an overall 2020 poverty rate of 24.18%, 12.78 percentage points over the 2020 national poverty rate of 11.4%. This SVI percentile allows the subapplicant to take advantage of the BCA waiver and further assistance from FEMA in addressing any issues found with the BCA in the NTR review.**

### Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 13 - BCA Technical Memorandum.pdf</a>	01/06/2023	madeleine.jane@icf.com	Cost Effectiveness Attachments	Methodology for the Benefit-Cost Analysis for the WTP Generator	

Filename	Date uploaded	Uploaded by	Label	Description	Action
				project.	
<a href="#">Gastonia WTP Generator BCA Report 01052023.pdf</a>	01/06/2023	madeleine.lane@icf.com	Cost Effectiveness Attachments	Benefit-Cost Analysis generated report.	
<a href="#">Gastonia WTP BCA Export 01052023.zip</a>	01/06/2023	madeleine.lane@icf.com	Cost Effectiveness Attachments	Benefit-Cost Analysis export.	

## Environmental/Historic Preservation (EHP) Review Information

### Introduction

An environmental/historic preservation review is required for all activities for which FEMA funds are being requested. FEMA will complete this review with the assistance of both the state or tribal government and the local applicant. It is important that you provide accurate information. If you are having problems completing this section, please contact your application point of contact.

### A. National Historic Preservation Act - Historic Buildings and Structures

1. Does your project affect or is it in close proximity to any buildings or structures 50 years or more in age? **No**

**Please confirm that you have provided the information listed below by selecting each check box. (If you have not provided these documents in any other section of the application, please attach the required documents below.)**

- The property address and original date of construction for each property affected (unless this information is already noted in the Properties section).
- A minimum of two color photographs showing at least three sides of each structure (Please label the photos accordingly).
- A diagram or USGS 1:24,000 scale quadrangle map displaying the relationship of the property (s) to the project area.

**To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)**

- Information gathered about potential historic properties in the project area, including any evidence indicating the age of the building or structure and presence of buildings or structures that are listed or eligible for listing on the National Register of Historic Places or within or near a National Register listed or eligible historic district. Sources for this information may include the State Historic Preservation Officer, and/or the Tribal Historic Preservation Officer (SHPO/THPO), your local planning office, historic preservation organization, or historical society.
- Consideration of how the project design will minimize adverse effects on known or potential historic buildings or structures, and any alternatives considered or implemented to avoid or minimize effects on historic buildings or structures. Please address and note associated costs in your project budget.
- For acquisition/demolition projects affecting historic buildings or structures, any data regarding the consideration and feasibility of elevation, relocation, or flood proofing as alternatives to demolition.
- Attached materials or additional comments.

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

Please provide an explanation and any information about this project that could assist FEMA in its review.

### Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action

### B. National Historic Preservation Act - Archeological Resources

Does your project involve disturbance of ground?

**Yes**

**Please confirm that you have provided the information listed below by selecting each check box. (If you have not provided these documents in any other section of the application, please attach the required documents below.)**

- A description of the ground disturbance by giving the dimensions (area, volume, depth, etc.) and location.
- The past use of the area to be disturbed, noting the extent of previously disturbed ground.

- A USGS 1:24,000 scale or other site map showing the location and extent of ground disturbance.

**To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)**

- Any information about potential historic properties, including archeological sites, in the project area. Sources of this information may include SHPO/THPO, and/or the Tribe's cultural resources contact if no THPO is designated. Include, if possible, a map showing the relation of any identified historic properties to the project area.
- Attached materials or additional comments.

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

**Please see Attachment 14, Ground Disturbance Plan and Attachment 15, SHPO Coordination. The land disturbance area is approximately one acre of primarily developed land (access roads) with adjacent grass. While actual ground disturbance impacts are minimal, any vegetation disturbed in the implementation of this project will be replaced. In addition, based on review of the project location overlaid onto the National Register of Historic Places GIS web map, there are no historic buildings that are in the immediate vicinity of the project area or would be impacted by construction. While there are several historic structures nearby in the City of Gastonia, there is no relationship between their location and the area of construction. Attachment 16 demonstrates the National Register of Historic Places showing the project location.**

Please provide an explanation and any information about this project that could assist FEMA in its review.

### Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 15 - SHPO Coordination Letter.pdf</a>	01/06/2023	madeleine.lane@icf.com	involveDisturbanceOfGround.attachmentIds	Letter from City of Gastonia to SHPO providing overview of project and requesting input.	
<a href="#">Attachment 14 - Ground Disturbance Map.pdf</a>	01/05/2023	madeleine.lane@icf.com	involveDisturbanceOfGround.attachmentIds	Map showing area of ground disturbance of the project.	
<a href="#">Attachment 16 - National Register of Historic Places Map.pdf</a>	01/05/2023	madeleine.lane@icf.com	involveDisturbanceOfGround.attachmentIds	Map showing project location overlaid onto the National Register of Historic Places GIS web map showing that there are no historic buildings that are in the immediate vicinity of the project area or would be impacted by construction.	
<a href="#">Attachment 17 - USGS Topographic Map.pdf</a>	01/05/2023	madeleine.lane@icf.com	involveDisturbanceOfGround.attachmentIds	USGS Scale map showing project site location.	
<a href="#">Attachment 20 - DEQ Coordination Letter.pdf</a>	01/05/2023	madeleine.lane@icf.com	involveDisturbanceOfGround.attachmentIds	Letter from City of Gastonia to DEQ providing overview of project and requesting input.	

### C. Endangered Species Act and Fish and Wildlife Coordination Act

1. Are federally listed threatened or endangered species or their critical habitat present in the area affected by the project? **No**

Please confirm that you have provided the information listed below by selecting each check box. (If you have not provided these documents in any other section of the application, please provide the required documents either through attachment and/or comment box below.)

Information you obtained to identify species in or near the project area. Provide the source and date of the information cited.

To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)

Any request for information and associated response from the USFWS, the National Marine Fisheries Service (NMFS) (for affected ocean-going fish), or your State Wildlife Agency, regarding potential listed species present and potential of the project to impact those species.

Attached materials or additional comments.

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

Please provide an explanation and any information about this project that could assist FEMA in its review.

2. Does your project remove or affect vegetation?

**No**

Please confirm that you have provided the information listed below by selecting each check box. (If you have not provided these documents in any other section of the application, please provide the required documents either through attachment and/or comment box below.)

Description of the amount (area) and type of vegetation to be removed or affected.

A site map showing the project area and the extent of vegetation affected.

Photographs or digital images that show both the vegetation affected and the vegetation in context of its surroundings.

To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)

Attached materials or additional comments.

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

Please provide an explanation and any information about this project that could assist FEMA in its review.

3. Is your project in, near (within 200 feet), or likely to affect any type of waterway or body of water? **No**

If Yes, and project is not within an existing building, you must confirm that you have provided the following: (If you have not provided these documents in any other section of the application, please attach the required documents below.)

A USGS 1:24,000 scale quadrangle map showing the project activities in relation to all nearby water bodies (within 200 feet).

Any information about the type of water body nearby including: its dimensions, the proximity of the project activity to the water body, and the expected and possible changes to the water body, if any. Identify all water bodies regardless whether you think there may be an effect.

A photograph or digital image of the site showing both the body of water and the project area.

To help FEMA evaluate the impact of the project, please indicate below any other information you are providing. (optional)

Evidence of any discussions with the US Fish and Wildlife Service (USFWS), and/or your State Wildlife Agency concerning any potential impacts if there is the potential for the project to affect any water body.

Please provide an explanation and any information about this project that could assist FEMA in its review. (optional)

## D. Clean Water Act, Rivers and Harbors Act, and Executive Order 11990 (Protection of Wetlands)

1. Will the project involve dredging or disposal of dredged material, excavation, adding fill material or result in any modification to water bodies or wetlands designated as 'waters of the U.S.' as identified by the US Army Corps of Engineers or on the National Wetland Inventory? **No**

## E. Executive Order 11988 (Floodplain Management)

1. Does a Flood Insurance Rate Map (FIRM), Flood Hazard Boundary Map (FHBM), hydrologic study, or some other source indicate that the project is located in or will affect a 1% annual chance floodplain, a 0.2% annual chance floodplain, a regulatory floodway, or an area prone to flooding? **No**

2. Does the project alter a watercourse, water flow patterns, or a drainage way, regardless of its floodplain designation? **No**

## F. Coastal Zone Management Act

1. Is the project located in the state's designated coastal zone? **No**

## G. Farmland Protection Policy Act

1. Will the project convert more than 5 acres of prime or unique farmland outside city limits to a non-agricultural use? **No**

## H. Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (Hazardous and Toxic Materials)

1. Is there a reason to suspect there are contaminants from a current or past use on the property associated with the proposed project? **No**

2. Are there any studies, investigations, or enforcement actions related to the property associated with the proposed project? **No**

3. Does any project construction or operation activities involve the use of hazardous or toxic materials? **No**

4. Do you know if any of the current or past land-uses of the property affected by the proposed project or of the adjacent properties are associated with hazardous or toxic materials? **No**

## I. Executive Order 12898, Environmental Justice for Low Income and Minority Populations

1. Are there low income or minority populations in the project's area of effect or adjacent to the project area? **No**

## J. Other Environmental/Historic Preservation Laws or Issues

1. Are there other environmental/historic preservation requirements associated with this project that you are aware of? **No**

2. Are there controversial issues associated with this project? **No**

3. Have you conducted any public meeting or solicited public input or comments on your specific proposed mitigation project? **No**

## K. Summary and Cost of Potential Impacts

Having answered the questions in parts A. through J., have you identified any aspects of your proposed project that have the potential to impact environmental resources or historic properties? **No**



## Evaluation

Is the applicant participating in the <a href="#">Community Rating System (CRS)</a> ?	<b>Yes</b>
Select rating.	<b>9</b>
Is the applicant a <a href="#">Cooperating Technical Partner (CTP)</a> ?	<b>No</b>
Was this application generated from a previous FEMA HMA Advance Assistance or Project Scoping award or any other federal grant award, or the subapplicant is a past recipient of Building Resilient Infrastructure and Communities (BRIC) non-financial Direct Technical Assistance?	<b>No</b>
Has the applicant adopted building codes consistent with the <a href="#">international codes</a> ?	<b>Yes</b>
Year of building code	<b>2018</b>
Please provide the building code.	<b>North Carolina Building Code 2018</b>
Have the applicant's building codes been assessed on the <a href="#">Building Code Effectiveness Grading Schedule (BCEGS)</a> ?	<b>Yes</b>
Select rating.	<b>3</b>
Describe involvement of partners to enhance the mitigation activity outcome.	<p><b>There are a number of stakeholders who will benefit from the proposed project: Surrounding jurisdictions: Two Rivers Utilities is owned and operated by the City of Gastonia, but serves 9 other municipalities: Cramerton, Bessemer City, High Shoals, Ranlo, Stanley, Kings Mountain, Belmont, Lowell and Clover, S.C. These cities will benefit from a backup power source at the water treatment plant and have a stake in ensuring the project is successful. Two Rivers Utilities will engage with these cities during project development. Two Rivers' customers: Two Rivers Utilities serves over 100,000 people across 10 jurisdictions. All residents are stakeholders in this project and will be positively impacted by the proposed project. The City of Gastonia will continue to provide updates and information regarding the proposed project and implementation progress in publicly accessible venues, such as the City's website. Businesses and industries served by Two Rivers: About 60% of water treated at the water treatment plant is used by industries and businesses (see Attachment 10). These businesses include CaroMont Health Corporation, Daimler, Pharr Yarns, American &amp; Efid, LLC, which collectively employ around 7,700 workers. Many of these are also critical customers (defined as consumers or service connections that are critical to community resiliency, public safety, or health), are customers that demand a large volume of water to sustain economic resiliency, or service a susceptible population. These businesses need potable water to operate and are an important stakeholder group in this project. The City of Gastonia will engage with these businesses and critical customers during project development using methods recommended by the City's Communications and Marketing Department. NC Department of Environmental Quality (DEQ): Two Rivers Utilities currently participates in the North Carolina Environmental Stewardship Program, a DEQ program that recognizes and supports companies and facilities that go above and beyond to reduce their impact on the environment. DEQ provides no-cost technical assistance, including strategies to reduce water and energy usage, for all ESI members. Two Rivers Utilities' Water Treatment Plant has been designated as an Environmental Steward since 2009. Two Rivers Utilities will continue to coordinate with DEQ as the project develops, as the project will advance the WTP's resilience.</b></p>
Discuss how anticipated future conditions are addressed by this project.	<p><b>Due to the impacts of climate change, the Piedmont region of North Carolina is predicted to experience increased flooding risks, more frequent and severe precipitation events, and increased wildfire risk. Gastonia could see a more than 60% annual increase in the number of days with precipitation of 3 inches or greater by midcentury from a 1996-2015 baseline average. 2018 was the wettest year on record in the Piedmont region of North Carolina, receiving 63 inches of rainfall, 17 inches above average. Additionally, the North Carolina Climate Science Report (Attachment 5) states that it is likely that severe thunderstorms in the Piedmont will increase in frequency, and that heavy precipitation accompanying hurricanes that pass near or over North Carolina is very likely to increase. Precipitation and severe storms are likely to increase in the Piedmont region, threatening power loss at critical facilities. Since 2003, the number of power outages in the U.S. has doubled, in large part due to severe storms; between 2003 and 2012, North Carolina experienced more than 48 power outage incidents, the 7th most power outages in the nation. During the same period, Duke Energy and Dominion were the energy providers with the 2nd and 5th most customers impacted by</b></p>

power outages in the nation, respectively; over 15.3 million customers were impacted by outages (see Attachment 6). More recently, storms such as Hurricane Michael and Hurricane Florence have impacted over 1.5 million customers in North Carolina. There have been 37 incidents of power outages in North Carolina since 2015, 32 of which were caused by severe weather events. Severe storms present a growing threat to essential energy infrastructure, including infrastructure that serves Two Rivers' water treatment plant. It is crucial that this community lifeline remains operational, even when the grid is at risk from increasing hazards.

Additional comments (optional)

The City of Gastonia is an approved inspection agency through the North Carolina Department of Insurance, State Fire Marshalls Office. All code officials are certified through the North Carolina Code Officials Qualification Board. The building standards are presented by the North Carolina Building Code Council and are ultimately approved by the North Carolina General Assembly for adoption by local jurisdictions. The most recent adopted codes for North Carolina are the 2018 NC Building Codes which includes: building (residential and commercial), plumbing, mechanical, energy, gas, rehab and fire codes; and a reference document for Accessibility Code (ANSI A117.1 2003 Version); 2017 National Electric Code. Gastonia recently implemented a new online new permitting system, CityView. The CityView Portal gives residents and contractors 24/7 convenience when applying for permits, making payments, viewing review status of applications and scheduling inspections. It has many functionalities with the customer in mind. The City has a BCEGS score, obtained in 2021, of 3 (Attachment 18). This score demonstrates that the City has effective building codes that are well enforced; staff education and certifications are at very high levels; staffing levels are exceptional based on workloads; and the City has adopted a model code within the last five years. The City is planning to update their BCEGS rating within the next year.

## Attachments

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 25 - Criteria 6 Leveraging Partners.pdf</a>	01/05/2023	madeleine.lane@icf.com	Evaluation Attachments	Explanation of how the proposed mitigation activity meets Qualitative Criterion Number 6: Leveraging Partners.	
<a href="#">Attachment 21 - Criteria 2 Climate Change and Other Future Conditions.pdf</a>	01/05/2023	madeleine.lane@icf.com	Evaluation Attachments	Explanation of how the proposed mitigation activity meets Qualitative Criterion Number 2: Climate Change & Other Future Conditions	
<a href="#">Attachment 5 - North Carolina Climate Science Report.pdf</a>	01/05/2023	madeleine.lane@icf.com	Evaluation Attachments	According to the North Carolina Climate Science Report, attached to this application, Gastonia could see a more than 60% annual increase in the number of days with precipitation of 3 inches or greater by midcentury from a 1996-2015 baseline average.	
<a href="#">Attachment 6 - Climate Central's Electrical Resilience Report.pdf</a>	01/05/2023	madeleine.lane@icf.com	Evaluation Attachments	Climate Central's Electrical Resilience Report indicating that since 2003, the number of power outages in the U.S. has doubled, in large part due to severe storms; between 2003 and 2012, North Carolina experienced more than 48 power outage incidents, the 7th most power outages in the nation.	
<a href="#">Attachment 10 - Top Water Customers.pdf</a>	01/05/2023	madeleine.lane@icf.com	Evaluation Attachments	Water Billed Amount - Top Customers for City of Gastonia showing the demand of critical Water Treatment Plant services.	

Filename	Date uploaded	Uploaded by	Label	Description	Action
<a href="#">Attachment 18 - BCEGS Score.pdf</a>	01/05/2023	madeleine.lane@icf.com	Evaluation Attachments	Communication regarding BCEGS score, which includes the county's Building Code Effectiveness Grading Schedule (BCEGS) score of 3.	
<a href="#">Attachment 27 - Technical Evaluation Criteria Summary.pdf</a>	01/17/2023	madeleine.lane@icf.com	Evaluation Attachments	Summary of BRIC technical evaluation criteria	

## Comments & attachments

▶ <b>Community</b>	<b>1 comment, 2 attachments</b>
▶ <b>Mitigation plan</b>	<b>0 comment, 1 attachments</b>
▶ <b>Scope of work</b>	<b>1 comment, 14 attachments</b>
▶ <b>Budget</b>	<b>1 comment, 2 attachments</b>
▶ <b>Cost-effectiveness</b>	<b>1 comment, 3 attachments</b>
▶ <b>Evaluation</b>	<b>1 comment, 7 attachments</b>
▶ <b>Environmental/Historic Preservation (EHP)</b>	<b>0 comment, 5 attachments</b>
▶ <b>Location</b>	<b>0 comment, 5 attachments</b>

## Assurances and certifications

OMB Number: 4040-0009 Expiration Date: 02/28/2025 [View burden statement](#)

### SF-424D: Assurances - Construction Programs

Content:

OMB Number: 4040-0009  
 Expiration Date: 02/28/2025

Certain of these assurances may not be applicable to your project or program. If you have any questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure nondiscrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a--1 et seq.).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.
20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

## Certifications regarding lobbying

OMB Number: 4040-0013

Expiration Date: 02/28/2025

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance

with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.