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National Telecommunications and Information Administration (NTIA)
Middle Mile Grant Program
Bi-Annual Performance Report

Note: Form instructions and definitions will be created to support the report. Instructional guidance and training will be developed. Numbering to be updated based on final approved form.

RECIPIENT NAME:
MCNC

OMB Control No.	**0660-0052**
Expiration Date:	**4/30/2026**

Middle Mile Grant Program Bi-Annual Performance Report

A. GENERAL INFORMATION

GENERAL	**1a. Recipient Organization:**	**MCNC**	**1h. Award Identification Number:**	**37-40-MM177**
	1b. Recipient Street Address:	**3021 E. Cornwallis Road**	**1i. Report Date (MM/DD/YYYY):**	10/30/2023
	1c. City, State, and Zip Code:	**Research Triangle Park, NC 27709-2889**	**1j. Final Report:**	**Yes** ☐ **No** ☑
	1d. Unique Entity Identification (UEI) Number:	**W85LR2HMVMF5**	**1k. Report Period Start Date (MM/DD/YYYY):**	**07/01/2023**
	1e. Award Start Date (MM/DD/YYYY):	**07/01/2023**	**1l. Report Period End Date (MM/DD/YYYY):**	**09/30/2023**
	1f. Award End Date (MM/DD/YYYY):	**06/30/2025**		
	1g. Name of Person Completing Report:	**Tommy Jacobson**		

B. PROJECT NARRATIVE

PROJECT NARRATIVE

Please use the section below to provide a project narrative of the project(s).
This section aims to help reviewers better understand what project is being proposed and steps taken to achieve this goal.

2a. A brief description of the recipient's organization and scope of work/project priorities:	state. MCNC operates NCREN explicitly for the good of the citizens of our state and the institutions we serve. NCREN serves as a critical communications backbone through which North Carolina residents pursue education and access modern healthcare and government services. The HERO project will extend MCNC's reach via the construction of 209 miles of new middle mile fiber through substantially unserved and underserved areas, including some of the highest poverty areas in the state. Upon completion, HERO will support affordable, high-performance broadband for at least 4998 fully unserved locations (and nearly 4300 additional underserved locations) within just 5 miles of the planned routes. The 11-county area has over 16,000 unserved and 12,000 underserved housing units, including many substantially unserved local communities. In total, the affordability, latency, and resilience benefits of HERO would impact over 350,000 housing units and 696 CAIs, bringing new economic opportunities to these economically challenged rural areas of North Carolina.
2b. An overview of the significant outputs and outcomes to be accomplished in the project:	This NTIA grant will fund the engineering and construction of approximately 209 miles of middle mile infrastructure between Winston-Salem to Albemarle, Sanford to Fayetteville, and Fayetteville to Jacksonville, NC. Upon completion of the middle mile routes, MCNC will work with our education and healh care partners to identify additional funding to connect community anchor institutions such as school districts, Charter schools, community colleges and health care locations on the direct fiber network. We have identified 25 locations that are current MCNC subscribers within 1 mile of the proposed network that will benefit from the increased bandwidth and resiliency that the new build will bring them when they can connect directly. In total 696 CAI's have been identified in the 11 county area that can benefit from the enhanced infrastructure enabled. In addition Roanoke Connect, which has recently rebranded itself as Fybe, has committed to the IRU of fibers in the middle mile network to begin providing residential services in the southeastern portions of the network.
2c. How would the project meet the recipient's business and/or administrative need(s)?	This project will close several identified gaps in our current NCREN network throughout the State of North Carolina and will provide broadband access to underserved areas that currently have limited or no access to homes in the community. Given the way that the proposed routes interconnect with existing North Carolina Research and Education Network infrastructure, and the technologies utilized such as MPLS, ancillary benefits to both the new infrastructure and existing infrastructure will be added redundancy and resiliency afforded all users in these corridors through additional connectivity rings. The infrastructure will further enable MCNC to directly connect more school districts and community colleges to NCREN, further strengthening our relationship with the North Carolina Department of Public Instruction and North Carolina Community College System, and provide these entites in these new paths more equitable access.
2d. Provide an overview of key accomplishments achieved for this reporting period on the MM infrastructure project.	On July 17, 2023, MCNC released the MMBG HERO Project Engineering and Environmental Request for Proposals (RFP). Responses to the RFP were due on or before August 18, 2023. The RFP was based on a Qualifications Based Scoring system consistent with MCNC's procurement policies. After selecting the top 2 proposals based on technical merit, interviews with the finalists and Best and Final Offer pricing was requested. Colliers Engineering was selected as the contractor to perform this critical work associated with the project.
2e. Provide any roadblock experienced during this reporting period impacting the expansion of the MM infrastructure project (i.e., supply chain, availability of labor).	MCNC has not encountered or identified any roadblocks for this reporting period.
2f. Provide any barriers to improving job quality experienced during this reporting period.	Not Applicable

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C. INFRASTRUCTURE MILESTONE CATEGORIES AND PROJECT TIMELINE

INFRASTRUCTURE MILESTONE CATEGORIES AND PROJECT TIMELINE

Please use the chart below to provide the start date and end date of your project.

OVERALL PROJECT	PROJECT DURATION	3a. PROJECT START DATE	3b. PROJECT END DATE
	730	July 1, 2023	June 30, 2025

Please provide the start and end dates for each milestone category of your project. The duration is be based on the start and end dates of each category.

Please use the table provided to indicate your EXPECTED percentage of completion on a bi-annual basis for each year of your project. Year 1 begins with your award start date.

The percentage of completion should be based primarily on the expenditure of your project budget and should be reported cumulatively from award inception through the end of each semi-annual reporting period. For example, if you expect to complete a particular milestone within the first three periods of your project, the third period and all subsequent periods should state 100%.

Please write "0" in the duration field if your project does not include an activity. If necessary, please insert additional milestones at the end.

ANTICIPATED PROJECT MILESTONES				Year 1 Baseline		Year 2 Baseline		Year 3 Baseline		Year 4 Baseline		Year 5 Baseline	
3c. MILESTONE CATEGORIES	3d. DURATION (Days)	3e. START DATE	3f. END DATE	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
Overall Project	730	July 1, 2023	June 30, 2025	0.3%	3%	41%	86%	100%					
Environmental Assessment	80	October 2, 2023	December 21, 2023	0%	100%	100%	100%	100%					
Network Design	92	October 9, 2023	January 9, 2024	1%	95%	95%	95%	100%					
Rights Of Way	366	October 23, 2023	October 23, 2024	0%	100%	100%	100%	100%					
Construction Permits And Other Approvals	366	November 21, 2023	November 21, 2024	0%	25%	75%	100%	100%					
Site Preparation	195	November 1, 2024	May 15, 2025	0%	0%	0%	95%	100%					
Equipment Procurement	364	December 1, 2023	November 29, 2024	0%	0%	0%	100%	100%					
Network Build (all components - owned, leased, Indefeasible Rights of Use, etc.)	427	April 1, 2024	June 2, 2025	0%	0%	43%	86%	100%					
Equipment Deployment	197	December 1, 2024	June 16, 2025	0%	0%	0%	33%	100%					
Network Testing	90	April 1, 2025	June 30, 2025	0%	0%	0%	33%	100%					
Status of Procurement				0%	0%	0%	0%	0%					
Other (please specify): Admin Expenses	1068	July 28, 2022	June 30, 2025	30%	66%	78%	95%	100%					

% OF PROJECT COMPLETION

Please use the table provided to indicate your ACTUAL percentage of completion on a bi-annual basis for each year of your project. Year 1 begins with your award start date.

The percentage of completion should be based primarily on the expenditure of your project budget and should be reported cumulatively from award inception through the end of each semi-annual reporting period. For example, if you expect to complete a particular milestone within the first three periods of your project, the third period and all subsequent periods should state 100%.

Please provide a brief description of the primary activities involved in meeting each milestone (a single description should be provided for each milestone, covering all periods in years one through N). Please write the number "0" if your project does not include an activity. If necessary, please insert additional milestones at the bottom of the chart. Please add additional milestones as applicable.

ACTUAL PROJECT MILESTONES		Year 1		Year 2		Year 3		Year 4		Year 5	
		Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
4a. MILESTONE	4b. DESCRIPTION	Actual Milestone Completion (Cumulative)									
Overall Project	$50,000 pre-award expenses paid to Quadra for their grant	0.3%									
Environmental Assessment		0%									
Network Design	$5,098 internal labor for RFP review to select engineering	1%									
Rights Of Way		0%									
Construction Permits And Other Approvals		0%									
Site Preparation		0%									
Equipment Procurement		0%									
Network Build (all components - owned, leased, Indefeasible Rights of Use, etc.)		0%									
Equipment Deployment		0%									
Network Testing		0%									
Status of Procurement		0%									
Other (please specify): Admin Expenses	$50,000 pre-award expenses paid to Quadra for their grant	30.0%									

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Subrecipient and Subawards

List of Subrecipient(s) that received a subaward or subcontract from the eligible entity and a description of the specific project for which grant funds were provided.

Associate projects names to any subrecipient or subaward associated with grant, approved grant funds, and expenditures to date.

5a. Project Name	5b. Project Description	5c. Subrecipient	5d. Minority Business Enterprise (MBE)	5e. Women's Business Enterprise (WBE)	5f. Labor Surplus Area Firm	5g. Awarded Funds	5h. Expenditures to Date	5i. Remaining Grant Balance	5j. % of work complete
			Yes ☐	Yes ☐	Yes ☐				
			Yes ☐	Yes ☐	Yes ☐				
			Yes ☐	Yes ☐	Yes ☐				
			Yes ☐	Yes ☐	Yes ☐				

D. INFRASTRUCTURE BUDGET EXECUTION DETAILS

INFRASTRUCTURE BUDGET EXECUTION DETAILS

Please provide details below on your total budget and total fund expended to date for each budget element, including detailed disbursements of both matching funds approved and federal funds obligated from project inception through end of this reporting period. Figures should be reported cumulatively from award inception to the end of the applicable reporting period.

6a. Projected Budget Element	6b. Federal Funds	6c. Non-Federal Funds	6d. Total Project Budget	6e. Total Federal Funds Expended to Date	6f. Total Non-Federal Funds Expended to Date	6g. Total Funds Expended	6h. Percent of Federal Funding Expended to Date (Cumulative)
Administrative and legal expenses	$ 50,000.00	$ 117,844.00	$ 167,844.00	$ 50,000.00	$ 509.81	$ 50,509.81	100%
Land, structures, rights-of way, appraisals, etc.	$ 306,100.00	$ -	$ 306,100.00	$ -	$ -	$ -	0%
Relocation expenses and payments	$ -	$ -	$ -	$ -	$ -	$ -	0%
Architectural and engineering fees	$ 477,131.00	$ -	$ 477,131.00	$ -	$ -	$ -	0%
Other architectural and engineering fees	$ 20,000.00	$ 43,888.00	$ 63,888.00	$ -	$ 5,098.09	$ 5,098.09	0%
Project inspection fees	$ -	$ 275,808.00	$ 275,808.00	$ -	$ -	$ -	0%
Site work	$ 59,850.00	$ -	$ 59,850.00	$ -	$ -	$ -	0%
Demolition and removal	$ -	$ -	$ -	$ -	$ -	$ -	0%
Construction	$ 8,919,345.00	$ 7,174,279.00	$ 16,093,624.00	$ -	$ -	$ -	0%
Equipment	$ 975,000.00	$ -	$ 975,000.00	$ -	$ -	$ -	0%
Miscellaneous	$ 25,800.00	$ 161,616.00	$ 187,416.00	$ -	$ -	$ -	0%
Subtotal	**$ 10,833,226.00**	**$ 7,773,435.00**	**$ 18,606,661.00**	**$ 50,000.00**	**$ 5,607.90**	**$ 55,607.90**	**0%**
Contingencies	$ 352,937.00	$ -	$ 352,937.00	$ -	$ -	$ -	0%
Totals	**$ 11,186,163.00**	**$ 7,773,435.00**	**$ 18,959,598.00**	**$ 50,000.00**	**$ 5,607.90**	**$ 55,607.90**	**0%**

E. COMMUNITY BENEFIT AGREEMENT

COMMUNITY BENEFIT AGREEMENT

As stated in the MM Grant Program NOFO a Community Benefit Agreement (CBA) is an agreement signed by community benefit groups and a developer, identifying the community benefits a developer agrees to deliver, in return for community support of the project.

Please use the fields below to state the Community Benefit Group and Developer Name and describe the activities in how this partnership has supported with the Middle Mile Infrastructure project (i.e. wage agreements, targeting hiring of apprentices and disadvantaged groups in labor marker, education and training opportunities, sub-contracting to local small business for construction, services, and supply chain needs).

Description of Community Agreement

7a. Community Benefit Group Name: Please provide the name of the Community Benefit Group

Not applicable

7b. Developer Name: Please provide the name of the Developer

Not applicable

7c. Community Benefit Group and Developer Partnership: Please describe in the space below the nature of the partnership and how the MM grant funds being used are assisting to provide community support for the infrastructure project.

Not applicable

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F. CLIMATE RESILIENCE

CLIMATE RESILIENCE

Recipients must demonstrate that they have sufficiently accounted for current and future weather and climate related risks to new MM infrastructure projects. At present, weather and climate related risks to broadband networks include wildfires, extreme heat and cold, inland and coastal flooding, and the extreme winds produced by weather events such as tornadoes, hurricanes, and other weather events. Because retrofitted and new infrastructure for broadband might be expected to have a lifetime of 20 years or more, recipients must account not only for current risks but also for how the frequency, severity, and nature of these extreme events may plausibly evolve as our climate continues to change over the coming decades.

Climate Resiliency Risk Mitigation

This purpose of this section is for the recipient to demonstrate that they have sufficiently accounted for current and future weather and climate-related risks to new MM infrastructure projects. In particular, each recipient should demonstrate how they've addressed the known and identifiable risks of current and future projected weather and climate conditions through measures such as (but not limited to) choice of a technology platform suitable to the climate risk of the region, reliance on alternatives siting of facilities (i.e., underground construction where appropriate), retrofitting, or hardening of existing assets, and use of network redundancy to safeguard against threats to infrastructure.

8a. Were any geographic areas identified for **this reporting period** subject to an initial and/or updated hazard screening for future weather and climate related risk? If so, please provide **the date of the screening and provide related documentation as an attachment to this report.**

No geographic areas were identified during this reporting period because the engineering firm was just selected on September 25, 2023. Their work had not begun as of 9/30/2023 to have discussions around this.

8b Climate Resilience Category	8c. Date of Most Recent Hazard Screening	8d. Name and Title of Representative Completing Most Recent Hazard Screening	8e. Date of Report Completion
Not Applicable, for this reporting period.	Not Applicable, for this reporting period.	Not Applicable, for this reporting period.	

8f. Identified Risk: For your MM project, what are the potential weather and climate hazards that may be most important to be addressed that could impact the resiliency of the middle mile infrastructure deployed (i.e. wildfires, extreme heat and cold, inland and coastal flooding, extreme winds: tornadoes, hurricanes and other weather events)?

This project spans several North Carolina counties in western NC, including Forsyth, Davidson, Rowan, and Stanly, as well as Lee, Harnett, Cumberland, Sampson, Duplin, and Onslow, that are in eastern NC. This region, considered the southeast in chapter 19 of the 2018 National Climate Assessment (USGCRP, 2017), has been identified as prone to increasing flood risks, heat and drought events, heavy precipitation events, and Freeze-fre

8g. Weather and Climate Hazards: Were any significant climate or weather hazards experienced during this reporting period (i.e., floods, tornados) impacting infrastructure buildout or service? Briefly describe how you monitored for weather and climate caused issues for the reliability of the system. If so, please provide the date of the disaster, location and backup documentation related (i.e., news articles).

No potential weather and climate hazards were identified during this reporting period because the engineering firm was just selected on September 25, 2023.

8h. Risks to Deployment of New Infrastructure: Has the team identified any risks impacting the deployment of new or repaired infrastructure due to current and future weather and climate-related threats during this reporting period?

No risks have been identified as of this reporting period.

8i. Risk Mitigation: How will the project avoid and/or mitigate the risk identified? If not applicable, please explain why.

No risks have been identified as of this reporting period.

8j. Additional Information: Is there any additional information you would like to share during this reporting period that the grant team should be aware of regarding the management of sustainable climate resiliency for your MM project?

A requirement of the Engineering RFP that MCNC released for Engineering and Environmental services, that was awarded in September 2023, required consultation and analysis on climate resiliency.

8k. Additional Resources
Has the team utilized the available resources to assist with mitigation and long-term planning efforts for this reporting period? If so, which resources?
2018 National Climate Assessment
NOAA's 2022 State Climate Summaries
NOAA Disaster and Risk Mapping Tool
NOAA's Storms Event Database
NOAA Climate Explorer and Digital Coast
FEMA National Risk Index
Consulted FEMA-approved Hazard Mitigation Plans prepared by states in which they propose to build middle mile infrastructure to help identify key risk and hazards

MCNC nor its engineering sub-contractor utilized any of these additional resources during this reporting period as formal engineering had just begun at the end of September.

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G. Workforce

DAVIS-BACON ACT CERTIFICATION

For projects receiving over $5,000,000 (based on expected total cost), as determined by the U.S. Secretary of Labor by subchapter IV of chapter 31 of title 40, United States Code (commonly known as the "Davis-Bacon Act"), all laborers and mechanics employed by contractors and subcontractors in the performance of such project are paid wages at rates not less than those prevailing.

Davis-Bacon Act Certification

9a. Does the recipient have access to the information requested (all laborers and mechanics employed by contractors and subcontractors in the performance of such project are paid wages at rates not less than those prevailing?). **MCNC's response to this question is "No" because there has been no construction on the project.**	Yes ☐	No ☑

LOCAL HIRE PRIORITIZATION AND IMPACT

Local Hire Prioritization and Impact

Local hiring is a goal or requirement to hire people who live close to the place of work. This aim is often more specifically structured as a requirement for contractors awarded certain types of publicly funded projects to recruit a certain proportion of the people working on the project from a particular area. Please **provide all direct hires and contractors supporting** the MM Infrastructure project.

Please use the table below to describe how the project prioritizes local hiring.

Hires by Race, Ethnicity and Gender	Number of Hires																					
	Race/Ethnicity																					
	9b. Hispanic or Latino			9c. Non-Hispanic/Non-Latino																		Totals
				9c-1. Men						9c-2. Women						9c-3. X						
	9b-1. Men	9b-2. Women	9b-3. X	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	
Number of Local Direct Hires	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Non-Local Direct Hires	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percentage of Local Direct Hires on Award	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
Number of Local Subcontractors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Non-Local Subcontractors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percentage of Local Subcontractors on Award	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0

DAVIS-BACON WAGES

Davis-Bacon Act Wages

Please confirm if wages are at least prevailing*

*As stated in the MM NOFO as determined by the U.S. Secretary Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code (commonly known as the "Davis-Bacon Act"), for the corresponding classes of laborers and mechanics employed on projects of a character similar to the contract work in the civil subdivision of the State (or the District of Columbia) in which the work is to be performed.

10a. Are wage rates at least the Davis-Bacon prevailing wage for all laborers?	Yes ☐	No ☐	10c. Are wage rates at least the prevailing wage for all mechanics? Not applicable	Yes ☐ No ☐
10b. Please cite your source of how this information was gathered (for 10a).	Not applicable. MCNC reviewed Department of Labor guidance at: https://www.dol.gov/agencies/whd/government-contracts/construction#:~:text=Davis%2DBacon%20Act%20and%20Related,similar%20projects%20in%20the%20area. Based upon the listing of titles provided by the engineering firm, for individuals working on this project, and based upon the Davis Bacon Act requirements, MCNC does not believe that these positions are subject to Davis Bacon and will not be applicable until construction starts.		10d. Please cite your source of how this information was gathered (for 10c).	Not applicable. MCNC reviewed Department of Labor guidance at: https://www.dol.gov/agencies/whd/government-contracts/construction#:~:text=Davis%2DBacon%20Act%20and%20Related,similar%20projects%20in%20the%20area. Based upon the listing of titles provided by the engineering firm, for individuals working on this project, and based upon the Davis Bacon Act requirements, MCNC does not believe that these positions are subject to Davis Bacon and will not be applicable until construction starts.

10e. If you answered "No" to either 10a. or 10c., please provide an attachment reporting the wages and benefits of workers on the project by job classification, and whether those wages are less than the prevailing wage.

WORKFORCE DEMOGRAPHICS

Workforce Demographic Data

Jobs by Race, Ethnicity and Gender	Number of Jobs																					
	Race/Ethnicity																					
	11-a. Hispanic or Latino			11b. Non-Hispanic/Non-Latino																		Totals
				11b-1. Men						11b-2. Women						11b-3. X						
	11a-1. Men	11a-2. Women	11a-3. X	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	White	Black or African American	Native Hawaiian or Pacific Islander	Asian	Native American or Alaska Native	Two or More Races	
Jobs Created	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Jobs Retained	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0

UNIONIZED WORKFORCE

12-a. Does this project include some workforce elements that are unionized? **MCNC nor its sub-contractor utilize auionized workforce.**	Yes ☐	No ☑	12-c. Does your MM project utilize a project labor agreement?	Yes ☐ No ☑
12-b. Are workers provided access to union educators/organizers on employer property or during the work day? **Not applicable**	Yes ☐	No ☐	12-d. Did workers receive additional information or training about their workplace rights in addition to already required notice postings?	Yes ☐ No ☑

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H. Workforce Continuity Plan
National Labor Relations Act (29 U.S.C. 158 (f)

WORKFORCE CONTUNITY PLAN NATIONAL LABOR RELATIONS ACT

As stated in the MM NOFO, if a recipient has not provided a certification that a project either will use a unionized project workforce or included a project labor agreement, meaning a pre-hire collective bargaining agreement consistent with section 8(f) of the National Labor Relations Act (29 U.S.C. 158 (f)), then the recipient must provide a project workforce continuity plan.

Workforce Continuity Plan

13a. Please describe the steps taken to ensure the project has ready access to a sufficient supply of appropriately skilled and unskilled labor to ensure construction is completed skillfully throughout the project's life (as required in Section III.B of the MM NOFO). As stated in the MM NOFO, the middle mile grant recipient is capable of carrying out the proposed project in a competent manner, including a plan to attract or retain an appropriate skilled and credentialed workforce.

For your MM project, please provide a brief description of efforts made to attract, train or retain a skilled and credentialed workforce.

Has the team offered any of the following resources to assist with maintaining a sufficient supply of appropriately skilled labor force for this reporting period? If so, which resources (please provide a brief description of any of the following that apply):
Professional Certifications
In-House Training
Registered Apprenticeships
Labor-Management Partnerships
Partnerships with entities like unions, community colleges, or community-based groups

Over the last forty years MCNC has earned and maintains a great record of success in the use of a highly skilled workforce that is safe and effective. MCNC requires that all those working on this project continue to work in such a manner. Furthermore, throughout our history we have maintained relationships with various administrations, education and training providers, unions and any other labor-management organizations, the public workforce system, unions, and worker organizations, and community-based organizations that provide relevant training to attract, train, retain, or transition to meet local workforce needs and increase high-quality job opportunities. We will continue to seek such opportunities via this project including the development and expansion of fiber certification programs and other such programs provided by community colleges and the afore-mentioned entities.

Additionally, MCNC will continue and expand our Students@Work and Teachers@Work programs providing educational and training sessions with students and faculty across North Carolina on a host of topics including cybersecurity, workforce readiness, and career planning. MCNC will continue to create equitable on-ramps into broadband related jobs via the afore-mentioned and new programs. We would continue to engage with various stakeholders such as State, Territorial, local workforce boards, and others throughout the planning and implementation process of this project. Finally, seeking to ensure that our proposed efforts are consistent with our North Carolina's established broadband plan and priorities, we have coordinated and consulted with both the Office of Governor Cooper as well as North Carolina's newly created Office of Digital Equity and Literacy. We are pleased that they find our efforts to be aligned and supportive of their vision. Their letters of support for our project are part of our application submission.

Lastly, MCNC continues to provide relevant training to attract, train, retain, or transition to meet local workforce needs and increase high-quality job opportunities such as in broadband network construction. MCNC offers relevant paid training to its staff members. Staff are encouraged to pursue training and are free to choose training that will enhance their roles and responsibilities at MCNC and enrich their current skillsets. Vendors and contractors working on the MMBG HERO project will be required to adhere to the same and/or similar standards.

13b. Please describe below, the steps taken to minimize risks of labor disputes and disruptions that would jeopardize the timeliness and cost-effectiveness of completing the MM project.

MCNC's Construction Agreement will include the following language in the certification section. "Contractor certifies that they have taken all steps to minimize risks of labor disputes and disruptions that would in any way jeopardize the timeliness and cost-effectiveness of completing the MM project". Weekly meetings will be held with selected construction contractors for the MMBG HERO project and Complaints and Disputes will be an agenda item for discussion during those meetings.

13c. Please describe below the steps to ensure a safe and healthy workplace that avoids delays and costs associated with workplace illnesses, injuries, and fatalities.

As of now, MCNC does not have any of its own staff working in the field. However, when this activity starts we have an existing safety plan our staff utilizes. For the engineering firm selected we reviewed their safety plan and belive it to be comprehensive and create a work environment that will avoid delays and costs associated with workplace injuries and fatalities. As part of the selection process for construction contractors, MCNC will require submission of all OSHA related safety violations and concerns over the last 3 years. Contractors will also be required to submit safety plans that they and any subcontractors they utilize will need to adhere to on their projects. This information will be utilized and measured as part of the selection process for contractors. MCNC will also perform onsite inspections once construction starts to ensure that contractors are adhering to these standards and providing a safe and healthy work environment. A combination of all of these efforts we believe will ensure a safe and healty workplace.

13d. For your MM project, please provide a brief description below of efforts made to ensure a safe and healthy workplace.

Has the team offered any of the following resources to assist with maintaining a safe and healthy workplace for this reporting period? If so, which resources (please provide a brief description of any of the following that apply):
Safety Training
Certifications and/or Licensure Requirements for all relevant works (e.g., OSHA 10, OSHA 30, confined space, traffic control, or other training required of workers employed by contractors)
Issues raised by workplace safety committees and their resolutions

Not applicable

13e. Please provide the name(s) below of any subcontracted entities performing work on the project, and the total number of workers employed by each entity.

13e-1. Name of Subcontracted Entity Performing Work	13e-2. Total Number of Workers within this Subcontract	13e-3. Job Categories of Workers Supporting Project within this Subcontract
Colliers Engineering and Design	**30**	**Task 1.0 Environmental (13 total)** Geographic Discipline Leader/PM Geographic Discipline Leader/Registered Professional Archaeologist (RPA) Field Manager Natural Resources Scientist (3) Natural Resources Technician (3) Project Natural Resources Scientist (2) Assistant Project Manager Project Manager Intern **Task 2 – OSP Design/Permitting (10 total)**

13f. Please describe below the steps taken to ensure that workers on the project receive wages and benefits sufficient to secure an appropriately skilled workforce in the context of the local and regional labor market.

MCNC's accounting team will require all contractors to submit Certified Payroll Reports for any contractor or subcontractor that falls subject to Davis-Bacon requirements when submitting invoices for payment. Even though Colliers is not subject to Davis-Bacon requirements, MCNC has requested that they submit Certified Payroll reports. Due to the nature of their specialized work, Colliers recruitment efforts require them to evaluate local market wages and benefits to ensure recruitment and retention efforts attract and retain a highly skilled and capable workforce to perform needed engineering services.

I. ANCHOR INSTITUTIONS

ANCHOR INSTITUTIONS

Please provide Anchor Institution (AI) data for the current period only (not cumulative). Please add rows as needed.

14a. Anchor Institution Name	14b. Street Address	14c. City	14d. State	14e. Type of Anchor Institution	14f. Interconnection within 1,000 Feet of AI Enabling Gig Symmetrical Service	14g. Narrative Description of how the Anchor Institution may benefit from the Grant Funded Infrastructure

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J. BROADBAND ACCESS KEY INDICATOR: SUBSCRIBERS AND SPEED

PROJECTED NUMBER OF SUBSCRIBERS AND SPEED

Please use the following table to provide anticipated key indicators with the projected totals for each beneficiary category, access type and speed category for your infrastructure service or project. Except as indicated, information should be reported cumulatively from award inception through the end of the bi-annual period for Bi-Annual Indicators. Please write the number "0" if your project does not include this indicator.

PROJECTED NUMBER OF SUBSCRIBERS AND SPEED		Year 1		Year 2		Year 3		Year 4		Year 5	
SUBSCRIBER TYPE	ACCESS TYPE	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
15a. Anchor Institutions (AIs)	15a-1. Total number of AIs passed	0	0	136	272	316					
	15a-2. Number of AIs within 1,000 feet of the middle mile infrastructure	0	0	50	100	116					
	15a-3. Total number of AIs served	0	0	0	0	0					
	15a-4. AIs with new access	0	0	0	0	0					
	15a-5. AIs with improved access	0	0	0	0	0					
	15a-6. Total number of AIs served with speeds of at least 1/1Gbps	0	0	0	0	0					
15b. Broadband Wholesalers or Last Mile Providers	15b-1.Total number of broadband wholesalers or last mile providers served	0	0	0	0	0					
	15b-2. Broadband wholesalers or last mile providers with new access	0	0	0	0	0					
	15b-3. Broadband wholesalers or last mile providers with improved access	0	0	0	0	0					
	15b-4. Total number of broadband wholesalers or last mile providers offering speeds of at least 25/3 Mbps	0	0	0	0	0					
	15b-5. Total number of broadband wholesalers or last mile providers offering speeds of at least 100/20 Mbps	0	0	0	0	0					
	15b-6. Total number of broadband wholesalers or last mile providers offering speeds of at least 1/1 Gbps	0	0	0	0	0					

K. BROADBAND ACCESS KEY INDICATOR: NETWORK BUILD PROGRESS

NETWORK BUILD PROGRESS

Please use the following table to provide anticipated key indicators and progress of your Infrastructure project. Except as indicated, information should be reported cumulatively from award inception through the end of the bi-annual period . Please write the number "0" if your project does not include this indicator.

NETWORK BUILD PROGRESS	Year 1		Year 2		Year 3		Year 4		Year 5	
KEY INDICATOR	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
16a. Total of new fiber miles (aerial or buried)	0	0	90	180	209					
16b. Total of fiber miles leased	0	0	0	0	0					
16c. Total of existing fiber miles upgraded	0	0	0	0	0					
16d. Total of new microwave links	0	0	0	0	0					
16e. Total of new towers	0	0	0	0	0					
16f. Total of new interconnection points	0	0	225	450	530					
16g. Total of signed agreements with broadband wholesalers or last mile providers	1	1	1	2	3					
16h. Total of potential agreements (i.e., agreements currently being negotiated) with broadband wholesalers or last mile providers (This Total should NOT be reported cumulatively)	0	0	0	3	3					

L. QUANTIFIABLE METRICS

FIBER OPTIC BASED

Quantifiable Metrics - Section designed to assist with **reporting** and **audit** purpose to quantify how much progress was made and track the location of where the progress was made.

17a. Fiber Optic Based	Year 1		Year 2		Year 3		Year 4		Year 5	
	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
17a-1. Is the fiber a buried/aerial or undersea application?	Buried									
17a-2. Number of strands deployed	0									
17a-3. Number of miles of buried fiber deployed	0									
17a-4. Number of miles of aerial fiber deployed	0									
17a-5. Estimated capacity of fiber (i.e. throughput)										
17a-6. Deployment cost per mile of buried fiber optics	0									
17a-7. Deployment cost per mile of aerial fiber optics	0									
17a-8. Total Spent on Buried Fiber Deployment this reporting period	0									
17a-9. Total Spent on Aerial Fiber Deployment this reporting period	0									
17a-10. Total spent on Fiber Deployment this reporting period	0									
17a-11. Please provide any additional information about the Fiber Optic deployment (200 words or less)										
17a-12. Please provide the digital mappings (e.g., CAD, Revit, KMZ, KML) for the new aerial fiber and buried fiber equipment installed during this reporting period.										

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MICROWAVE BASED

17b. Microwave Based	Year 1		Year 2		Year 3		Year 4		Year 5	
	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
17b-1. How many microwave nodes have been deployed?	0									
17b-2. How many microwave nodes are operating for reporting period?	0									
17b-3. Installation cost per microwavable node	0									
17b-4. Number of new towers built to support microwave structure	0									
17b-5. If applicable, what type(s) of tower were constructed (a) Monopole (b) Self-Support, (c) Guyed or (d) Other during this reporting period?										
17b-6. Average cost per tower installed	0									
17b-7. Total spend on Tower deployment this reporting period	0									
17b-8. Total spend on microwave deployment this reporting period	0									
17b-9. If you answered "Other" to question 17b-5 or if it is a combination of multiple types, please provide a detailed narrative description detailing what type of tower or what combination of towers is used for the project and the their associated costs. (200 words or less).										
17b-10. Please provide the digital mappings (e.g., CAD, Revit, KMZ, KML) for the microwave nodes created during this reporting period.										

SATELLITE

17c. Satellite	Year 1		Year 2		Year 3		Year 4		Year 5	
	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
17c-1. What satellite provider is being used?	N/A									
17c-2. What is the estimated capacity of the satellite link (i.e. throughput)?	0									
17c-3. What is the associated cost to use this satellite service?	0									
17c-4. Please provide any additional information about the Satellite deployment (200 words or less)	N/A									
17c-5. Please provide the digital mappings (e.g., CAD, Revit, KMZ, KML) for the satellite network accessed during this reporting period.										

CERTIFICATIONS

Certifications

18. Please provide certification evidencing compliance with Federal labor and employment laws along with the requirements of Infrastructure Investment and Jobs Act and Middle Mile Grant Program, for the bi-annual period for which this report is being filed.

I certify that MCNC is in compliance with the terms and conditions of the award including all federal labor and employment laws along with the requirements of Infrastructure Investment and Jobs Act and Middle Mile Grant Program for the reporting period ending 9/30/2023.

19. Please provide certification evidencing compliance with the Build America, Buy America Act. The Build America, Buy America Act requires that all of the iron, steel, manufactured products (including but not limited to fiber-optic communications facilities), and construction materials used in the project or other eligible activities are produced in the United States unless a waiver is granted.

I certify that MCNC has consistently maintained compliance with and will continue to comply with the Build America, Buy America Act, including requirement that none of the funds provided under this award may be used for a Middle Mile (MM) infrastructure project unless all of the optic glass, fiber optic cable, and optical fiber used in the project is produced in the United States, unless a DOC-approved BABA waiver applies. The Buy America domestic content procurement preference only applies to fiber optic glass and to fiber optic cable that are consumed in, incorporated into, or affixed to a MM infrastructure project.

MM GRANT PROGRAM B -ANNUAL REPORT CERTIFICATION

20. I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purposes set forth in the award documents.

20a. Typed or Printed Name and Title of Authorized Certifying Official:	**20c. Telephone (area code, number and extension):**	**919-248-1178**
Edward "Tommy" Jacobson, Vice President and Chief Operating Officer	**20d. Email Address:**	tjacobson@mcnc.org
20b. Signature of Certifying Official:		
Edward "Tommy" Jacobson	**20e. Date:**	11/14/2023