

CITY OF SALISBURY

REQUEST for LETTERS of INTEREST (RFLOI)

**SIGNAL SYSTEM NETWORK UPGRADE
HL-0005**

TITLE: HL-0005 SIGNAL SYSTEM UPGRADE

ISSUE DATE: April 1, 2022

SUBMITTAL DEADLINE: April 18, 2022

ISSUING AGENCY: City of Salisbury

SYNOPSIS

SUBCONSULTANTS ARE PERMITTED UNDER THIS CONTRACT.

This contract shall be partially reimbursed with Federal-aid funding through the North Carolina Department of Transportation (hereinafter referred to as the Department). The solicitation, selection, and negotiation of a contract shall be conducted in accordance with all Department requirements and guidelines.

The primary and/or subconsultant firm(s) (*if Subconsultants are allowed under this RFLOI*) shall be pre-qualified by the Department to perform ALL of the work codes listed below for the City of Salisbury. Work Codes required are:

- 125 - Intelligent Transportation System (ITS) Inspection
- 289 -Signal Systems Inspection

WORK CODES for each primary and/or subconsultant firm(s) (*if Subconsultants are allowed under this RFLOI*) SHALL be listed on the respective RS-2 FORMS (see section 'SUBMISSION ORGANIZATION AND INFORMATION REQUIREMENTS').

This RFLOI is to solicit responses (LETTERS of INTEREST, or LOIs) from qualified firms to provide professional consulting services to:

Provide construction engineering inspection for installation of upgrades and inventory needed to expand the existing Traffic Signal System Infrastructure, including CCTV cameras and monitoring, wireless communications, and computer equipment, in the City of Salisbury. Construction bid packet available for reference upon request.

Electronic LOIs should be submitted in .pdf format using software such as Adobe, CutePDF PDF Writer, Docudesk deskPDF, etc.

LOIs SHALL be received ELECTRONICALLY, BY MAIL, OR HAND-DELIVERY no later than 2 PM, April 18, 2022.

The address for electronic deliveries is: *WBRIN@SALISBURYNC.GOV* (one single attachment with your submission may be send to *wbrin@salisburync.gov*)

The address for mailings is:
City of Salisbury
Engineering Department
PO Box 479
Salisbury, NC 28145

The address for hand-deliveries is:
City of Salisbury
Engineering Department
132 N Main Street
Salisbury, NC 28144

LOIs received after this deadline will not be considered.

Except as provided below any firm wishing to be considered must be properly registered with the Office of the Secretary of State and with the North Carolina Board of Examiners for Engineers and Surveyors. Any firm proposing to use corporate subsidiaries or subcontractors must include a statement that these companies are properly registered with the North Carolina Board of Examiners for Engineers and Surveyors and/or the NC Board for Licensing of Geologists. The Engineers performing the work and in responsible charge of the work must be registered Professional Engineers in the State of North Carolina and must have a good ethical and professional standing. It will be the responsibility of the selected private firm to verify the registration of any corporate subsidiary or subcontractor prior to submitting a Letter of Interest. Firms which are not providing engineering services need not be registered with the North Carolina Board of Examiners for Engineers and Surveyors. Some of the services being solicited may not require a license. It is the responsibility of each firm to adhere to all laws of the State of North Carolina.

The firm must have the financial ability to undertake the work and assume the liability. The selected firm(s) will be required to furnish proof of Professional Liability insurance coverage in the minimum amount of \$1,000,000.00. The firm(s) must have an adequate accounting system to identify costs chargeable to the project.

SCOPE OF WORK

The **City of Salisbury** is soliciting proposals for the services of a firm/team for the following contract scope of work:

The project consists of construction engineering inspection for a contract involving the replacement of communication equipment inside traffic signal cabinets and providing spares (additional inventory) to avoid potential future disruptions in service, a traffic communication inventory and equipment replacement, CCTV camera upgrade, traffic monitoring station, traffic system laptop upgrade, and data collection equipment upgrades. Attached w/ this request is the Addendum (attached) to the second posting of this opportunity that reflects the date changes. This RFLOI is the third RFLOI for this work.

The tasks required to meet these goals may include:

- **Replace and reprogram failed communication equipment.**
- **Replenish communications cabinet's inventory.**
- **Repair, remove and expand upon the City's existing CCTV traffic cameras and associated equipment. Must be compatible with existing system.**
- **Install new CCTV cameras with associated equipment, route data lines for eleven (11) new cameras. Requires new power meter. Include warranty and service pkg.**
- **Current traffic monitoring workstation will be removed and replaced. Tower will output to four (4) monitors in a 2x2 presentation. Live feed video.**
- **Replace two (2) traffic signal laptops. Should be able to remote to and manage programs such as Auto CAD 2021 and ESRI ArcMap. Include 3 year warranty and service plan.**
- **Replace failed and outdated data collection tools. Provide portable analytic CCTV camera and solar powered portable radar display. Install and train staff.**

Note: See Appendix A for additional information

PROPOSED CONTRACT TIME: SIX (6) MONTHS

PROPOSED CONTRACT PAYMENT TYPE: LUMP SUM

SUBMITTAL REQUIREMENTS

All LOIs are limited to **FIFTEEN (15)** pages (RS-2 forms are not included in the page count) inclusive of the cover sheet, and shall be typed on 8-1/2" x 11" sheets, single-spaced, one-sided.

Fold out pages are not allowed. In order to reduce costs and to facilitate recycling; binders, dividers, tabs, etc. are prohibited. One staple in the upper left-hand corner is preferred.

LOIs containing more than FIFTEEN (15) pages will not be considered.

Electronic submission accepted or four (4) total copies of the LOI should be submitted.

Firms submitting LOIs are encouraged to carefully check them for conformance to the requirements stated above. If LOIs do not meet ALL of these requirements they will be disqualified. No exception will be granted.

SELECTION PROCESS

Following is a general description of the selection process:

- The LGA's Selection Committee will review all qualifying LOI submittals.
- For Limited Services Contracts (On-Call type contracts), the LGA's Selection Committee MAY, at the LGA's discretion, choose any number of firms to provide the services being solicited.
- For Project-Specific Contracts (non On-Call type contracts), the LGA's Selection Committee MAY, at the LGA's discretion, shortlist a minimum of three (3) firms to be interviewed. IF APPLICABLE, dates of shortlisting and dates for interviews are shown in the section SUBMISSION SCHEDULE AND KEY DATES at the end of this RFLOI.
- In order to be considered for selection, consultants must submit a complete response to this RFLOI prior to the specified deadlines. Failure to submit all information in a timely manner will result in disqualification.

SMALL PROFESSIONAL SERVICE FIRM (SPSF) PARTICIPATION

The Department encourages the use of Small Professional Services Firms (SPSF). Small businesses determined to be eligible for participation in the SPSF program are those meeting size standards defined by Small Business Administration (SBA) regulations, 13 CFR Part 121 in

Sector 54 under the North American Industrial Classification System (NAICS). The SPSF program is a race, ethnicity, and gender neutral program designed to increase the availability of contracting opportunities for small businesses on federal, state or locally funded contracts. SPSF participation is not contingent upon the funding source.

The Firm, at the time the Letter of Interest is submitted, shall submit a listing of all known SPSF firms that will participate in the performance of the identified work. The participation shall be submitted on the Department's Subconsultant Form RS-2. RS-2 forms may be accessed on the Department's website at [NCDOT Connect Guidelines & Forms](#).

The SPSF must be qualified with the Department to perform the work for which they are listed.

Real-time information about firms doing business with the Department and firms that are SPSF certified through the Contractual Services Unit is available in the Directory of Transportation Firms. The Directory can be accessed on the Department's website at [Directory of Firms](#) -- Complete listing of certified and prequalified firms.

The listing of an individual firm in the Department's directory shall not be construed as an endorsement of the firm.

PREQUALIFICATION

The Department maintains on file the qualifications and key personnel for each approved discipline, as well as any required samples of work. Each year on the anniversary date of the company, the firm shall renew their prequalified disciplines. If your firm has not renewed its application as required by your anniversary date or if your firm is not currently prequalified, please submit an application to the Department **prior to submittal of your LOI**. An application may be accessed on the Department's website at [Prequalifying Private Consulting Firms](#) -- Learn how to become Prequalified as a Private Consulting Firm with NCDOT. Having this data on file with the Department eliminates the need to resubmit this data with each letter of interest.

Even though specific DBE/MBE/WBE goals are not required for this project, the Department of Transportation is committed to providing opportunity for small and disadvantaged businesses to perform on its contracts through established Department goals. The Firm, subconsultant and subfirm shall not discriminate on the basis of race, religion, color, national origin, age, disability or sex in the performance of this contract.

SELECTION CRITERIA

All prequalified firms who submit responsive letters of interest will be considered.

In selecting a firm/team, the selection committee will take into consideration qualification information including such factors as:

1. **30%** = Technical Approach/Understanding of Project.
2. **20%** = Experience of Proposed Personnel.
3. **20%** = Ability of the Firm to Perform the Proposed Work.

4. **20%** = Experience with Similar Projects both in Scope and Funding.
5. **10%** = References.

After reviewing qualifications, if firms are equal on the evaluation review, then those qualified firms with proposed SPSF participation will be given priority consideration.

SUBMISSION ORGANIZATION AND INFORMATION REQUIREMENTS

The LOI should be addressed to **Wendy Brindle, City Engineer, City of Salisbury** and must include the name, address, telephone number, and e-mail address of the prime consultant's contact person for this RFLOI.

The LOI must also include the information outlined below:

Chapter 1 - Introduction

The Introduction should demonstrate the consultant's overall qualifications to fulfill the requirements of the scope of work and should contain the following elements of information:

- Expression of firm's interest in the work;
- Statement of whether firm is on register;
- Date of most recent private engineering firm qualification;
- Statement regarding firm's(') possible conflict of interest for the work; and
- Summation of information contained in the letter of interest.

Chapter 2 - Team Qualifications

This chapter should elaborate on the general information presented in the introduction, to establish the credentials and experience of the consultant to undertake this type of effort. The following must be included:

1. Identify recent, similar projects the firm, acting as the prime contractor, has conducted which demonstrates its ability to conduct and manage the project. Provide a synopsis of each project and include the date completed, and contact person.
2. If subconsultants are involved, provide corresponding information describing their qualifications as requested in bullet number 1 above.

Chapter 3 - Team Experience

This chapter must provide the names, classifications, and location of the firm's North Carolina employees and resources to be assigned to the advertised work; and the professional credentials and experience of the persons assigned to the project, along with any unique qualifications of key personnel. Although standard personnel resumes may be included, identify pertinent team experience to be applied to this project. Specifically, the Department is interested in the experience, expertise, and total quality of the consultant's proposed team. If principals of the firm will not be actively involved in the study/contract/project, do not list them. The submittal shall clearly indicate the Consultant's Project Manager, other key Team Members and his/her qualifications for the proposed work. Also, include the team's organization chart for the Project / Plan. A Capacity Chart / Graph (available work

force) should also be included. Any other pertinent information should also be listed in this section.

Note: If a project team or subconsultant encounters personnel changes, or any other changes of significance dealing with the company, NCDOT should be notified immediately.

Chapter 4 - Technical Approach

The consultant shall provide information on its understanding of, and approach to accomplish, this project, including their envisioned scope for the work and any innovative ideas/approaches, and a schedule to achieve the dates outlined in this RFLOI (if any project-specific dates are outlined below).

Chapter 5 - References

Provide upto 5 references for similar projects. Include completion month and year, contact information including email and phone.

APPENDICES-

CONSULTANT CERTIFICATION Form RS-2

Completed Form RS-2 forms SHALL be submitted with the firm's letter of interest. This section is limited to the number of pages required to provide the requested information.

Submit Form RS-2 forms for the following:

- **Prime Consultant firm**
 - Prime Consultant Form RS-2 Rev 1/14/08; and
- **ANY/ALL Subconsultant firms** (*If Subconsultants are allowed under this RFLOI*) to be, or anticipated to be, utilized by your firm.
 - Subconsultant Form RS-2 Rev 1/15/08.
 - In the event the firm has no subconsultant, it is required that this be indicated on the Subconsultant Form RS-2 by entering the word "None" or the number "ZERO" and signing the form.

Complete and sign each Form RS-2 (instructions are listed on the form).

The required forms are available on the Department's website at:

<https://connect.ncdot.gov/business/consultants/Pages/Guidelines-Forms.aspx>

[Prime Consultant Form RS-2](#)

[Subconsultant Form RS-2](#)

All submissions, correspondence, and questions concerning this RFLOI should be directed to **Wendy Brindle** at wbrin@salisburync.gov.

SUBMISSION SCHEDULE AND KEY DATES

RFLOI Release – **April 1, 2022**

Deadline for Questions – **April 8, 2022**

Issue Final Addendum – **April 8, 2022**

Deadline for LOI Submission – **April 18, 2022**

Shortlist Announced * - **N/A**

Interviews - the week of **N/A**

Firm Selection and Notification ** - **May 4, 2022**

Anticipated Notice to Proceed – **May 25, 2022**

* Notification will **ONLY** be sent to shortlisted firms.

** Notification will **ONLY** be sent to selected firms.

Note: See Appendix A on next page

APPENDIX A



Date: April 1, 2022

To: Interested Bidders

From: Deborah Young

RE: Appendix A

- TIP NUMBER: HL-0005
- WBS NUMBER: 49344.3.1
- COUNTY: Rowan
- DESCRIPTION: Upgrades and additional inventory needed to expand the existing Traffic Signal System infrastructure in the City of Salisbury

Item One

Included in this submittal is the section "PROJECT SPECIAL PROVISIONS" for your reference.

9. *Subarticle 102-13(B)2 Electronic Bids, page 1-19*, delete this section in its entirety.
10. *Subarticle 103-2(B) Electronic Bids, page 1-22*, delete this section in its entirety.
11. *Subarticle 103-3(A) Criteria for Withdrawal of Bid, page 1-22*, modify the reference “G.S.136-28.1” to “G.S.143-129.1”. On page 1-23, in that same subarticle under (5), line 11, modify “State Contract Officer” to “City of Salisbury”.
12. *Article 103-7 Contract Bonds, page 1-30*, line 5, modify “14” calendar days to “10” calendar days per G.S.143-129.
13. *Article 103-9, Failure to Furnish Contract Bonds, page 1-30*, line 15, modify “14” calendar days to “10” calendar days per G.S.143-129.
14. *Article 105-9 Construction Stakes, Lines and Grades, page 1-48*, delete this section in its entirety and substitute the following: “The Municipality will not set the stakes, lines or grades for this project.”
15. *Article 108-2, Progress Schedule, page 1-68*, add the following requirement as subarticle (D) on page 1-69: “The municipality may add additional requirements as noted in the bid proposal”.
16. *Article 108-3, Preconstruction Conference, page 1-69, line 20*, change “Division Engineer” to “City of Salisbury”.
17. *Article 108-4, Construction Conferences, page 1-69*, line 28, change “Resident Engineer” to “NCDOT and the City of Salisbury”.
18. *Article 109-8, Fuel Price Adjustments, page 1-87*, delete this article in its entirety and substitute the following: “Fuel Price Adjustments will not apply to this project.”
19. *Article-620-4, Measurement and Payment, page 6-33*, delete lines 38 through line 20 on page 6-34 and substitute the following: “Asphalt Price Adjustments will not apply to this project.”

PROJECT SPECIAL PROVISIONS

I. Special Provisions/Job Specific Requirements

1. **PURPOSE:** This scope of work defines upgrades and additional inventory needed to expand the existing Traffic Signal System infrastructure in the City of Salisbury which is outdated, failing, or reaching its useful end of life or service.

2. **SCOPE:** The scope of work will include:

- 1) Replacement of communication equipment inside traffic signal cabinets and providing spares (Additional Inventory) to avoid potential future disruptions in service.

Traffic Communication Equipment Replacement

Contractor will be expected to replace failed communication equipment within the traffic cabinets and re-program equipment as needed. Failed equipment should be removed, tagged with location or NCDOT cabinet number, and returned to the City of Salisbury's Engineering Department.

There are two traffic cabinets needing a high speed IP/Ethernet datalink transceiver replacement transceiver capable of providing remote serial and IP data connectivity to IP based networks and access for fixed traffic signal communication operations where a fiber optic system doesn't exist. The equipment cabinet locations include Jake Alexander Blvd @ Mooresville Rd (09-0351) and Mooresville Rd @ Lincolnton Rd/Sunset Dr (09-0198).

Traffic Communication Inventory

Contractor will replenish the inventory of communications items needed for the traffic cabinets. Note that this is a product purchase ONLY. Items needed include the following:

- a. LC to ST Fiber Patch Cable: LC to ST connector, 9/125 single mode, duplex fiber patch cable. Length needed is one (1) meter per patch cable (See appendix for additional Detail).
- b. Closet Connector & Splice Housing: The closet connector and splice housing (CCS) is a rack-mounted product. The CCS-01U accepts up to two (2) connector panels and splice trays (connector panels, modules, and splice trays are sold separately). The housing is built to be mounted in a 19-in rack or cabinet (See appendix for additional Detail).
- c. Optical Jumper Shelf/Label Panel: Optical jumper shelf/label panel must be compatible with the CCS (Closet Connector & Splice) housing enclosure purchased for this project (See appendix for additional Detail).
- d. Managed Ethernet Switch: Environmentally hardened managed Ethernet switch incorporates LED indicators for monitoring the operating status of the managed switch and network. These units are DIN-rail style for attachment to cabinet. Lifetime Warranty (See appendix for additional Detail).
- e. High Speed IP/Ethernet Datalink Transceiver: It provides remote serial and IP data connectivity to IP based networks and access for fixed traffic signal communication operations where a fiber optic system doesn't exist (See appendix for additional Detail).
- f. 800/900 MHz Frequency Antenna: This antenna is used in conjunction with the High Speed IP/Ethernet Datalink Transceiver to provide communication to traffic signals or traffic video cameras where a fiber optic system doesn't exist (See appendix for additional Detail).

2) CCTV Camera Upgrade

Repairing and expanding the City's existing CCTV traffic camera system which currently consists of five (5) camera locations (Refer to map titled "CCTV Camera Locations" located within this document). This will require:

- a. The removal of existing CCTV cameras and associated equipment, with the exception of the existing cabinets and conduit, and the installation of new equipment at the current four (4) locations which include:
 - JAB (Jake Alexander Blvd) & Statesville Blvd – McDonald's corner
 - JAB & S Main St – On Sunset Dr side of JAB, near the bridge
 - JAB & I-85 Bridge – southbound On-Ramp at bridge, next to NC IMS camera
 - W Innes St & N Main St – on The Plaza at roof
 - b. The complete removal of CCTV camera equipment, cabinet, conduit and fiber from one (1) of the original locations, JAB & YMCA.
 - c. Installation of seven (7) new CCTV cameras with associated equipment that includes the fiber optic communication from the camera location to the head-end. The following are the locations that shall receive the new CCTV camera equipment :
 - JAB & Brenner Ave
 - JAB & Mooresville Rd
 - S Main St & Mooresville Rd
 - Julian Rd & Klumac Rd/I-85 SB Ramp
 - JAB & Faith Rd
 - E Innes St & Faith Rd
 - Mahaley Ave & Park Rd
- All new camera locations will require a new power meter to be installed and added to the City of Salisbury's Duke Energy account as individual services. The addresses needing a new meter will be provided by the City of Salisbury.
 - Spare fibers exist at each traffic cabinet location, but will need splicing in at multiple splice points to get the communication back to the head-end. The fiber should run aerial from the camera location to the traffic signal cabinet. This work will provide a viable output to 130 East Liberty Street's video switch which will feed live video to Traffic Engineering's traffic monitoring workstation.
 - All products chosen must be compatible with the existing camera management system at location 130 East Liberty Street. All equipment removed from the field should be tagged, noting location, and returned to the City of Salisbury.

- One existing location, Jake Alexander Blvd @ Mooresville Rd (09-0351), is utilizing a CAT5 cable from the traffic cabinet to the camera's PoE Switch. This will not change as a result of this project.
- All CCTV camera installations shall include labor and materials for an attachment assembly of the CCTV camera unit. Furnish a CCTV camera attachment assembly that is able to withstand wind loading at the maximum wind speed and gust factor. Base the design on the correct wind speed in accordance with the latest edition of AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals. The existing location labeled as Innes St @ Main St is mounted to the side of the building from the roof access and will need a different mounting system than all other locations. This location must allow the PTZ camera to see in all four directions at the intersection. Please note: The Plaza is a secure building and access to the roof can be obtained through the Engineering Department.
- Bid should include warranty and service package with training provided to Engineering Department staff.
- Equipment details include:
 - (SP) A minimum of 8 megapixels (MP) resolution for cameras with the newest analytical capabilities which detect more objects with expanded object classifications and greater accuracy for faster responses. HDSM SmartCodeC™ technology will be needed to optimize compression levels to help maximize bandwidth savings. Also desired is Lightcatcher™ technology as it offers exceptional detail in areas with low lighting and captures details in scenes with both very bright and dark areas. The cameras should also provide 360° views with 36x zooming capabilities and high-resolution to monitor large areas with ease.
 - (SP) A Fiberglass, Weatherproof, Vented NEMA Enclosure, 14" x 12" x 8" fiberglass, weatherproof, vented, with four pre-wired 120 VAC power outlets. This will hold the power system and media converter, as well as any other components or connections needed for the PTZ camera. The optional flange and pole mounting kits must be used for all locations. This is a mounting device which attaches to the back side of the cabinet and allows the cabinet to be fastened to a wall or to use clamps to be attached to a wooden utility pole. The detail for this is included in the specification details for this cabinet.
 - (SP) A power the system which provides surge protection, and a media converter to stream the analytical video back to the server. The power injector & surge protection system will power the analytical camera and the media converter. The camera's power source should be providing: 24 V DC +/- 10%, 24 Vrms AC +/- 10%, 50 or 60 HZ, through a 95 w PoE,

unless otherwise specified by the camera and the media converter manufacturers. The media converter will be converting RJ45 to SFP. The media converter will stream the video back through the fiber network to the existing video server.

- d. Routing data lines for the new total of eleven (11) cameras to a new video server located at 130 East Liberty Street. A live feed from 130 East Liberty Street will then be sent to the Engineering Department's traffic monitoring workstation.

3) Traffic Monitoring Station

The current traffic monitoring workstation will be removed and replaced with upgraded equipment. This new workstation shall include, at a minimum, a tower which feeds outputs to four (4) monitors in a 2x2, side by side presentation.

- Video feed at this Traffic Monitoring Station will be received from 130 East Liberty Street's video server, and shall be live feed only. The tower included in this monitoring station must be compatible with 130 East Liberty Street's newest traffic video management system. The computer tower will output to four monitors, at a minimum, to display a different video feed per monitor.
- The monitors will need to be wall mounted in a 2x2 configuration. They will be connected to the tower and the tower to the City's network. These items should be installed in the appropriate office on the third floor of the City Office Building (132 N Main St, Salisbury). The tower and monitors shall be set up and showing video from the upgraded CCTV cameras and other allowed CCTV cameras processed through 130 East Liberty Street's video server.
- Equipment details include:
 - (SP) Four (4)-43" 4K USB-C Monitors, LED-backlit, LCD monitors, with a viewable size of 42.5" and a TFT active matrix. These monitors shall use a remote control to turn the units on and off. Equipment should include the wall mounts, cables, adapters, and other items needed to install an operational Traffic monitoring workstation. The bid shall also include installation, setup, mapping, and a minimum of a three (3) year warranty.
 - (SP) Minimum specifications for Tower computer/workstation include a Windows 10 Professional (64-bit) operating system, with an 8th Generation processor, Intel i5 or higher CPU with a minimum of 4

cores running at 2.5 Ghz or higher, a minimum of 16 GB memory, NVIDIA® Quadro P620 or higher graphics card (See specifications included in support materials) Video, 500 GB SSD storage, a Gigabit wired network, a small form factor chassis (preferred), all applicable licenses and a three (3) year warranty.

4) Traffic Signal Laptop Upgrades

Replacement of two (2) laptops which are beyond their end of service life and beginning to experience issues. The specifications for each laptop is described in the Equipment General Description of this document. The following is applicable to this replacement:

- This equipment will need to be able to effectively remote to and manage programs such as Auto CAD 2021 and ESRI ArcMap. Other programs used on this laptop will be Synchro 11, Warrants 10, Microsoft products, PetraPro, and CentraCS, all which have previously been purchased and are under current licenses through the City of Salisbury. The minimum specifications for these laptops is included in the support material and should be sufficient for the aforementioned needs.
- Each laptop should be provided with a docking station, 22" monitor, wireless keyboard and wireless optical mouse.
- The laptops and accessories should be supplied with a 3 year warranty and service plan.
- The laptops should be installed in the appropriate offices on the third floor of the City Office Building (132 N Main St, Salisbury).
- The laptops should be connected to the City of Salisbury's network to prove connectivity.
- Equipment details include:
 - (SP) Laptop: No Microsoft Office License required, the 30 day trial offer is sufficient. Should have Windows 10 Pro English installed. Should be purchased without a mobile broadband card.
 - (SP) Docking Station: These units will have a black exterior cover, with multiple USB ports, and HDMI port. These stations must be compatible with the laptop and other accessories included in this section of the bid.
 - (SP) Wireless Keyboard: These keyboards will have a black exterior and be a standard shape (non-ergonomic shape). They will have 12 hot keys and include a numeric keypad. The keyboards will utilize a USB wireless receiver. A power saving/automatic sleep function is preferred. These keyboards must be compatible with the laptop and other accessories included in this section of the bid.

- (SP) Wireless Mouse: Each mouse will have a black exterior and a scrolling wheel. The movement resolution will be 1600 dpi. They shall utilize a USB wireless receiver. A power saving/automatic sleep function is preferred. Each mouse must be compatible with the laptop and other accessories included in this section of the bid.
- (SP) A minimum of a 22" Monitor with a black exterior with anti-glare screen coating is required. Monitors should have an aspect ratio of 16:9. Brightness should be 250 cd/m² (typical). Pixel pitch should be 0.248 mm x 0.248 mm. Contrast Ratio should be 1,000:1 (typical). Monitors should VGA, display port, and HDMI have input connectors.

5) Data Collection Equipment Upgrades

Replacement of failed and outdated data collection tools with modern technological solutions. There is no equipment to remove. The contractor would be responsible for installing and training staff on each style collector at a predetermined location. The styles of collectors include a portable analytic CCTV camera unit, a covert traffic statistics unit, and a portable radar display.

- Twenty (20) of the twenty-four (24) unmanned, data collection tools utilized at the City of Salisbury have exceeded their service life. An upgrade is necessary to replace these collectors with a more modern data collection system, to include the installation and to provide training on the equipment. All equipment should come with three (3) year warranties.
- (SP) Portable analytic CCTV cameras are to be purchased. The purchase should include a third party AI study for location specific studies, unless the package provides the AI application software. For training purposes, there should be hands on instruction provided at two locations. One should be installed at the intersection of Faith Rd & Gold Hill Drive for the purpose of near miss accidents and delay issues. The second location is at the intersection of S Fulton St and W Thomas St, for the purpose of near miss accidents and stop sign compliance studies. Equipment details include: Portable Analytic CCTV Cameras: This is a fully connected unit where remote monitoring of studies can be conducted and notifications sent to the user if something needs attention. The camera will have advanced analytics built in. The camera is to have high resolution to provide desired analytical functions. Camera will have to be able to function in nighttime environments. This unit will be used to collect a wide range of studies such as but not limited to: volume counts, pedestrian counts (when 2 cameras used simultaneously), user classifications (including bicyclist), speed, turning movement counts, near miss studies, and delay studies. It is preferred to be able to be set up by a single person outside of the roadway without the use of a bucket truck or the disruption of traffic. It is preferred that the camera is mounted to a portable pole to eliminate the need of a bucket truck. The pole

will house the wiring and other attachments for system components, including portable (battery or solar) power. The unit can be easily secured to a utility pole. When not in use the unit is collapsible for easy storage and transport. Video can be used either for in house or exported to a third party for the advanced AI studies (Note: third party AI has additional fees).

- (SP) Covert traffic statistic units collect vehicle speeds, vehicle counts, vehicle classification, among other data. Includes configuration and analysis software, which should be installed on one of the new laptops included in this bid package. The optional solar power source should be included for each of these units. For training purposes, there should be hands on instruction provided at two locations. The locations for deployment are on W Monroe St, West Horah St, W Bank St, and Institute St, all within the area of Livingstone College. Equipment Details include: Covert Traffic Statistics Units: These units are lightweight and simple to install on a sign channel or utility pole. They collect data such as vehicle speed, volume, and classification, all without the driver being aware of an active study being performed. This covert style allows for the collection of non-altered driver behavior; as is often found with digital speed read out units. Includes configuration and analysis software allows for auto report generation and compiling tables, and graphs of studies. They can collect 2+ lanes of approaching, receding or both types of vehicle movements.
- (SP) 20W solar power option should be chosen for these devices. The solar power option should be a 20W, indefinite use device, or otherwise specified by the covert traffic statistic unit's manufacturer. This should include the appropriate size and type battery as specified by the unit's manufacturer. This power supply system should come with an external enclosure with appropriate mounting hardware.
- (SP) Portable radar displays will be valuable in a future traffic calming program as well as data collection for speed, volume, and vehicle classification. These units should come with the optional solar power source and set of (MUTCD complainant) LIMIT speed limit signs for the speeds of 25 MPH, 30 MPH, and 35 MPH. For training purposes, there should be hands on instruction provided at two locations. They should be installed at their first areas of study with one installed in each direction of travel per location. The locations for deployment are W Henderson St and Chantilly Ln. Equipment details include: Portable Radar Displays: The LED read-out sign will be 12 inches. Must be easily installed by a single person and securely locked to a sign post or a utility pole. These units are used to collect vehicle speed, volume, and classification. During active data collection operation, the display can be programmed to be blank, display speed (within limits or without), or the speed limit.

- (SP) 50W Solar power panel option should be chosen for these devices. The solar power option should be a 50W, indefinite use device, or otherwise specified by the covert traffic statistic unit's manufacturer. This should include a 26 Ah sealed lead acid battery, or as specified by the unit's manufacturer. This power supply system should come with an external enclosure with appropriate mounting hardware.
- (SP) Set of 3 MUTCD compliant "speed limit" signs per unit. Signs shall include the words "SPEED LIMIT" with an accompanying speed limit ("25" MPH", "30 MPH" and "35 MPH." per sign) and is compatible with the 12" Portable Radar Display. This sign should meet MUTCD requirements for a regulatory sign. The sign size shall be 24" x 30.

3. GENERAL REQUIREMENTS: See below General requirements.

- Any changes to the switches inside the traffic cabinet or at the SCSC (Salisbury Customer Service Center) head-end will have to be coordinated with the City's IT Department. The head-end is housed inside the SCSC, located at 1415 S Martin Luther King Jr Ave, Salisbury. Access to the head-in or equipment rooms must be coordinated with the City's IT Department. Contact for this department is Dale Waters (office phone: 704-216-7584, email: dwate@salisburync.gov).
- All aerial splice trays and enclosures should be sound. Some vault installed splice trays may be brittle and need replacing. For this reason a line item is included on the bid sheet for the replacement, to include labor, for a splice tray.
- Any fiber optic work will have to be coordinated with Hot Wire, per their agreement with the City of Salisbury. They have the right to have a representative present when work such as splicing or lashing occurs. The contact information for Hot Wire is Kjeff Hansen (phone: 704-794-5421, email: khansen@hotwirecommunication.com). Additionally, anytime a vault or traffic cabinet is planned to be opened, the City of Salisbury reserves the right to have Engineering staff present.
- Contractor will be responsible for maintaining traffic through work zones in accordance with section 1101 of the most current version of the 2018 North Carolina Department of Transportation Standard Specifications for Roads and Structures, the MUTCD, and the North Carolina Department of Transportation Roadway Standard Drawings.
- All products quoted must meet or exceed specifications. The NCDOT (North Carolina Department of Transportation) State contract is a reference for all products or acceptable equivalents. Refer to Section II – Materials, for additional guidelines. Equipment specifications are included. Equivalents may be submitted for consideration and must satisfy NCDOT requirements. Included in this document are maps and detailed specifications and information for reference. Total quantities are shown on the Bid Sheet.