



CITY OF HAVELOCK

Post Office Box 368
Havelock, NC 28532

INVITATION TO BID

Pursuant to North Carolina General Statutes §143-131, the City of Havelock invites informal bids on the following:

Bids must be submitted in accordance with the attached specifications. Bids must include an itemized schedule (including quantity, unit price and total) for each work element. Bids can be submitted by mail, email, fax or hand delivered. Cover sheets, envelopes, etc. should be clearly marked with the words:

*“City of Havelock,
Lee Drive Culvert Project”*

Address Bids to: Lee Tillman, Director of Finance
City of Havelock
P.O. Box 368
1 Governmental Ave.
Havelock, NC 28532
Fax: 252-447-0126
Email: Bids@havelocknc.us

Bids will be accepted until **2:00 PM (EST) on Thursday, May 11, 2023** at which time they will be reviewed in the office of the City Finance Director. Quotes are not subject to public inspection until the contract is awarded. The bids are good for 75 days after opening. The winning bidder will be issued a Notice To Proceed (NTP) along with a Purchase Order. The performance period is 90 calendar days from the NTP.

Bidders are cautioned not to submit bids until the proposed requirements and specifications have been carefully examined. It will be considered that bidders will have satisfied themselves as to the accuracy of the specifications. No proposal will be considered unless prices are submitted for all items requested in any section. The City reserves the right to change the amount of quantities.

All bids submitted should be to the desired specifications. Any exceptions to the specifications will be evaluated based on the best interest of the City. Any deviation from specifications indicated herein must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with these specifications, and bidder will be held responsible therefore. Deviations shall be explained in detail. The bidder shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.

The names of certain brands or makes denote quality standard in the article desired, but do not restrict bidders to the specific brand, make or manufacturer named. They are meant to convey to prospective bidders the general style, type, character and quality of the article desired.

The successful bidder on all construction contracts will be required to conduct the operation in accordance with all Federal, State, and Municipal health and safety rules, regulations and laws applicable to the operation. The successful bidder may be asked to provide the City with a copy of the company's safety plan prior to commencing work. For all projects over \$30,000, a general contractor's license must be furnished to the City if applicable.

Certificate to Transact Business in North Carolina: As a condition of contract award, each out-of-State Vendor that is a corporation, limited-liability company or limited-liability partnership shall have received, and shall maintain throughout the term of The Contract, a Certificate of Authority to Transact Business in North Carolina from the North Carolina Secretary of State, as required by North Carolina law. A contract requiring only an isolated transaction completed within a period of six months, and not in the course of a number of repeated transactions of like nature, shall not be considered as transacting business in North Carolina and shall not require a Certificate of Authority to Transact Business.

The City will not sell bid packages. Plans, specifications, and addenda may be viewed and obtained online at www.havelocknc.us. Click on: "Bid on a Contract"; "Current Bids". The Bidder's List is maintained by Vendor Registry. Registration for the Bidder's List is made online at www.havelocknc.us. Click on: "Bid on a Contract"; "Vendor login/Registration".

N.C.G.S. (North Carolina General Statutes), specifically §160A-20.1(b), prohibit the City from entering into contracts with contractors and subcontractors who have not complied with the requirement of Article 2 or Chapter 64. The Contractor shall submit the E-Verify Affidavit, located in the Bid Proposal section, with their bid. Bids that do not include this Affidavit will be considered non-responsive.

N.C.G.S 147-86.42-84 requires that contractors with a North Carolina Local Government must not utilize any subcontractor found on the State Treasurer's Iran Divestment list or Companies Boycotting Israel list. The referenced lists can be found on the State Treasurer's website at the address www.nctreasurers.com and will be updated every 180 days.

The City of Havelock reserves the right to reject any or all proposals and to purchase items from the state contract in the efforts to award the contract to the bidder it deems to be for the best interest of the City.

MODIFICATION AND WITHDRAWAL OF BIDS. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids. A request to withdraw a bid may be made to the Owner within 72 hours after Bids are opened in accordance with NCGS § 143-129.1 Requests to withdraw a Bid will be subject to the requirements of NCGS §143-129.1 and in the sole discretion of the City of Havelock Finance Officer.

This institution is an equal opportunity provider, and employer.

Contact person(s) for information on this bid:

For questions in regards to the bid specifications, the City requires and only responds to questions submitted in writing and sent via email to: Bids@havelocknc.us

Questions must be received by **2:00 PM (EST) on Wednesday, April 26, 2023**. If questions are received, the City will respond no later than **12:00 PM (EST) on Tuesday, May 2, 2023**.

This is the 10th day of April 2023

Published: Vendor Registry April 10, 2023

CITY OF HAVELOCK

Lee W. Tillman
Director of Finance



STATE OF NORTH CAROLINA
AFFIDAVIT
CITY OF HAVELOCK

I, _____ (the individual attesting below), being duly authorized by and on behalf of _____ (the entity hereinafter "Employer") after first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).
2. Employer understands that Employers Must Use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of employee through E-Verify in accordance with NCGS §64-26(a).
3. Employer is a person, business entity, or other organization that transacts business in the State and that employs 25 or more employees in this State. (mark Yes or No)
 - a. YES _____, or
 - b. NO _____
4. Employer's subcontractors comply with E-Verify, and if Employer is the winning bidder on this project, Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.

This _____ day of _____, 20_____.

Signature of Affiant: _____

Print or Type Name: _____

State of North Carolina County of _____

Signed and sworn to (or affirmed) before me, this the

_____ day of _____, 20_____.

Signature of Notary

Printed Name of Notary

Bid Sheet

Base Bid: _____

NC Sales Tax: _____

Delivery Cost (if applicable): _____

Total Cost to City: _____

Bids must include an itemized schedule by quantity, unit price and total for each work element.
Funding for this project is a grant from Emergency Management Transportation Infrastructure
Resiliency Grant.

Company Name: _____

Company Address: _____

Contact Person: _____

Telephone Number: _____

Email Address: _____

NC Contractor's License Type and Number: _____

Number of Addendums Acknowledged (circle one): N/A 1 2 3 4

*As of the date listed below, the vendor or bidder listed above is compliant with N.C.G.S. 147-86.42-84, the
Iran Divestment Act and the Companies Boycotting Israel Act.*

Authorized Signature: _____

Print Name of Authorized Signature: _____

Title: _____

Address Bid to: Lee Tillman, Director of Finance
 City of Havelock
 P.O. Drawer 368
 1 Governmental Avenue
 Havelock, NC 28532
 Bids@Havelocknc.us

Please indicate the Bid name on the outside of the envelope.

Lee Drive Culvert Project

Objective:

Replacement of two twenty-four-inch reinforced drainage pipes with a six-foot-wide by two-foot-tall concrete box culvert that crosses Lee Dr. between 602 and 603 Lee Dr.

Scope:

The existing draining pipes are twenty-four inch in diameter and approximately forty-eight feet in length and include no end cap treatments, these drainage pipes are currently set at thirty-two inches of depth on the West end and forty inches of depth on the East end. These two pipes are to be excavated, removed, disposed of, and are to be replaced by a concrete box culvert which is to be six feet in width and two feet in height with a total length of forty-eight feet with end cap flares on both ends. The asphalt road is to be excavated to allow the RCP to be removed and replaced with a RCBC will encompass 190 square yards which will be an approximate twenty-four feet wide by seventy feet long area with concrete curbing on each side and a drain placed over each side of the ditches.

Upon completion of this project the asphalt roadway, curbing, and drains shall be repaired per attached specifications. Contractor is to verify all measurements and sizes of all existing piping and conditions and is highly encouraged to make a site visit before submitting a bid. The City of Havelock shall not be held responsible for omissions or errors in description. Contractor shall also be responsible for all locates that are to be completed before any excavation is to begin. Care shall be taken so as not to damage existing features to remain such as roadways, curbs, driveways, sidewalks, etc. All features removed or damaged shall be replaced or repaired to existing condition or better. All demolished material shall become the property of the Contractor and shall be removed from the work site and disposed of in accordance with all local, state, and federal requirements. As-built documentation shall include a description of materials used and repair procedures completed.

1. Precast Reinforced Concrete Box Culvert Materials:

- a. Specifications to be followed will be under Project Special Provisions/Structure part 2 – 4.

2. Dewatering:

- a. The contractor shall dewater as required for completion of work. Excavation shall be kept free of water at all times during pipe removal, placement of the RCBC, and backfill operation.
- b. All dewatering will follow the specifications for Impervious Diking, Silt Fencing, and water diversion on sheet 3 of Roadway plans.
- c. Area of new bedding must be sufficiently dry for the installation of any new material and the setting the new RCBC.

3. Excavation and Shoring:

- a. Contractor is responsible for the design and protection of all excavation and shoring. Standard shoring practices including trench boxes, can be used if certified/stamped by manufacturer. If

required, shoring shall be designed and sealed by a professional engineer registered in the State of North Carolina, as required by OSHA, CFR1926.

- b. Contractor shall notify NC 811 for utility locations prior to any excavating or digging.
- c. Excavate and grade creek bed to prepare for new bedding material. Ensure soils are adequately compacted to 95% Proctor. Provide new base consisting of a minimum of 12" #57 stone.
- d. In no case shall excavations exceed that which cannot be backfilled by the end of the work day.

4. Backfill and Compaction:

- a. All excavations shall be backfilled with select fill material if excavated material is unsuitable. Contractor shall be responsible for removal and disposal of all excavation material and construction debris.
- b. Compaction in embankment shall be to 95% standard proctor.
- c. Compaction in roadways, driveways, and sidewalks shall be to 98% standard proctor.
- d. Backfill shall be completed and layered in maximum lifts of eight inches

5. Concrete Box Culvert Bedding:

- a. RCBC bedding shall consist of an eighteen-inch depth of # 57 stone under the box culvert and #57 or ABC stone to top of box culvert (*Figure 2*).
- b. RCBC shall consist of forty-eight feet of drainage culvert.

6. Erosion and Sediment Control and Restoration:

- a. The contractor shall be responsible for the installation and maintenance of all erosion and sediment control, which will include any and all dewatering requirements as in accordance with the NC DEQ Erosion and Sediment Control Manual.
- b. Construction activities shall be completed in such a manner that erosion of disturbed areas and off-site sedimentation is absolutely minimized.
- c. All disturbed areas shall be restored as soon as construction is complete. Seed or sod type shall match existing grass in maintained areas. Follow the NC DEQ Erosion and Sediment Control Manual for type or as directed by City of Havelock representative.

7. Bypass Pumping/ Traffic Control

- a. Drainage water bypass pumping shall be required for completion of repairs. Contractor shall utilize the specification on sheet 3 of Roadway Plans, furnish all material, labor, equipment, power, fuel, fuel storage, maintenance, etc. to implement a temporary bypass arrangement for the purpose of diverting flow around the work area on a daily basis for the duration of the repair. The bypass system shall meet the requirements of all codes and regulatory agencies having jurisdiction. Contractor shall be held liable for any and all fines imposed by local, state, federal agencies.
- b. Contractor shall utilize the specification called Transportation Management Plan.

- c. Access to residences for local traffic shall be maintained throughout contract. Contractor shall provide a minimum of 24-hour notice to City of Havelock for any road closure.

8. Pavement Restoration

- a. Replacement of asphalt roadway and/or concrete driveways/sidewalks are the responsibility of the contractor and shall be returned to original NCDOT Standard before end of project. Provide minimum one-foot overlap of new topcoat over existing base layer beyond saw cut (mill existing as required).
- b. All asphalt repairs are to adhere to the pavement schedule on sheet two of the Roadway plans. Work shall be performed in accordance with NCDOT Standards.
- c. The six-inch asphalt base will be expected to reach 98% maximum dry density as per Standard Proctor.

9. Access:

- a. Access to project site is within an existing City of Havelock right-of-way and easement.

10. General Provisions:

Funding for this project is a grant from Emergency Management Transportation Infrastructure Resiliency Grant.

Contractor shall comply with all requirements of OSHA 1926.

Work hours shall be 8am to 5pm, Monday through Friday. No work shall be performed on City holidays. Work outside established work hours must be scheduled with the City 48 hours in advance and is subject to approval.

Contractor will obtain all necessary permits.

Roadway repair is the responsibility of the contractor.

Contractor shall control erosion and sediment release while this project is under construction.

The contractor is to clean and remove all debris at the end of each work day.

All underground utilities are to be 811 located, prior to work being started.

Contractor is responsible for all damage to existing roads, driveways, drainage, or utilities that occur as a result of the construction project.

Contractor is responsible for all damage to City property that occurs as a result of the construction of the project.

Contractor shall provide safety measures during the entire length of the project.

Contractor is responsible for the storage and safety of materials and equipment on jobsite.

Submittals must be approved by the City of Havelock prior to any work starting.

The performance period is 90 days from the Notice to Proceed.

Liquidated Damages:

The Contractor agrees to pay the owner \$300 per day in liquidated damages for each day beyond the period of performance.

Figure 1: Work area map.

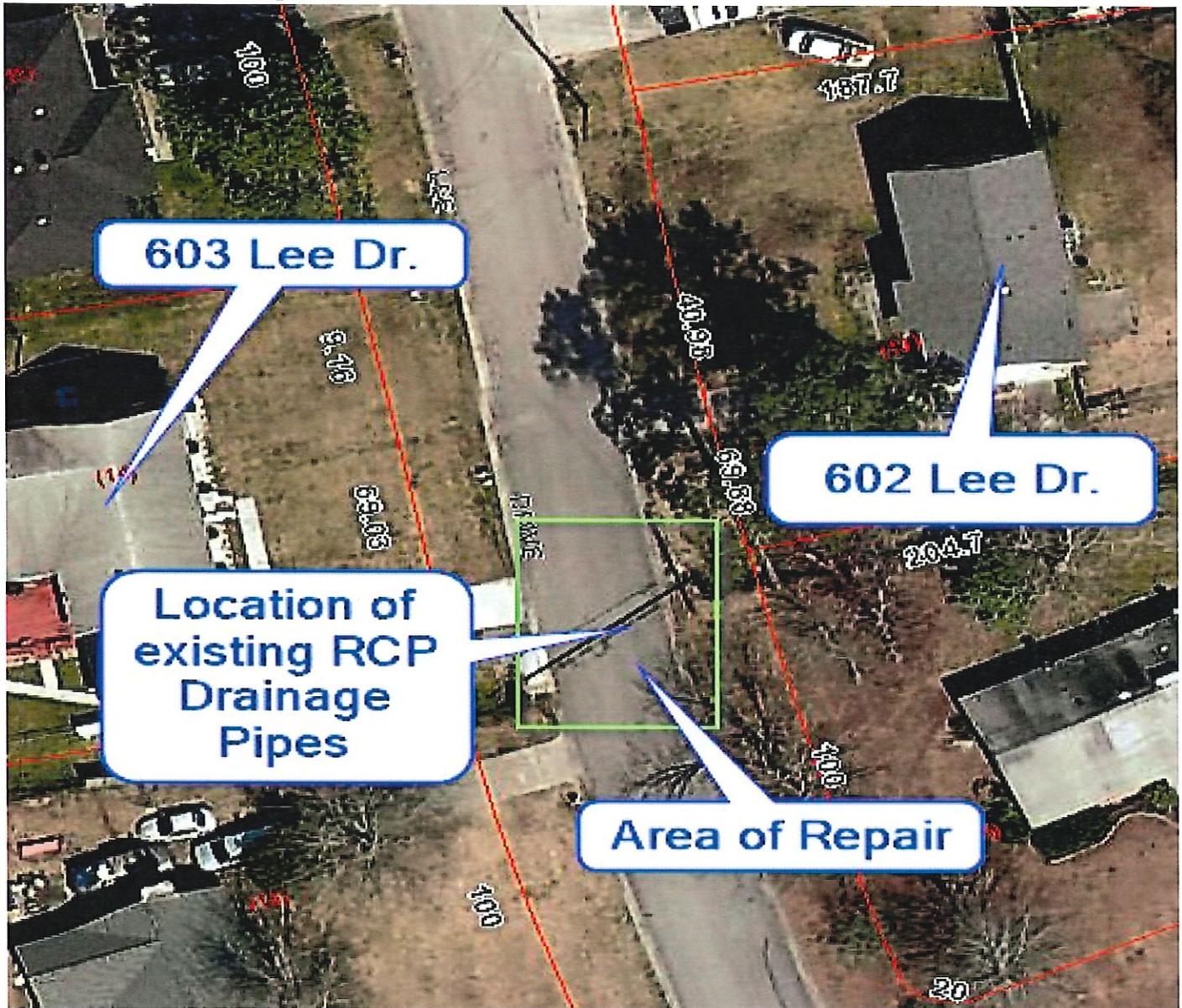


Figure 2: RCBC and Pavement Cross Section, Typical.

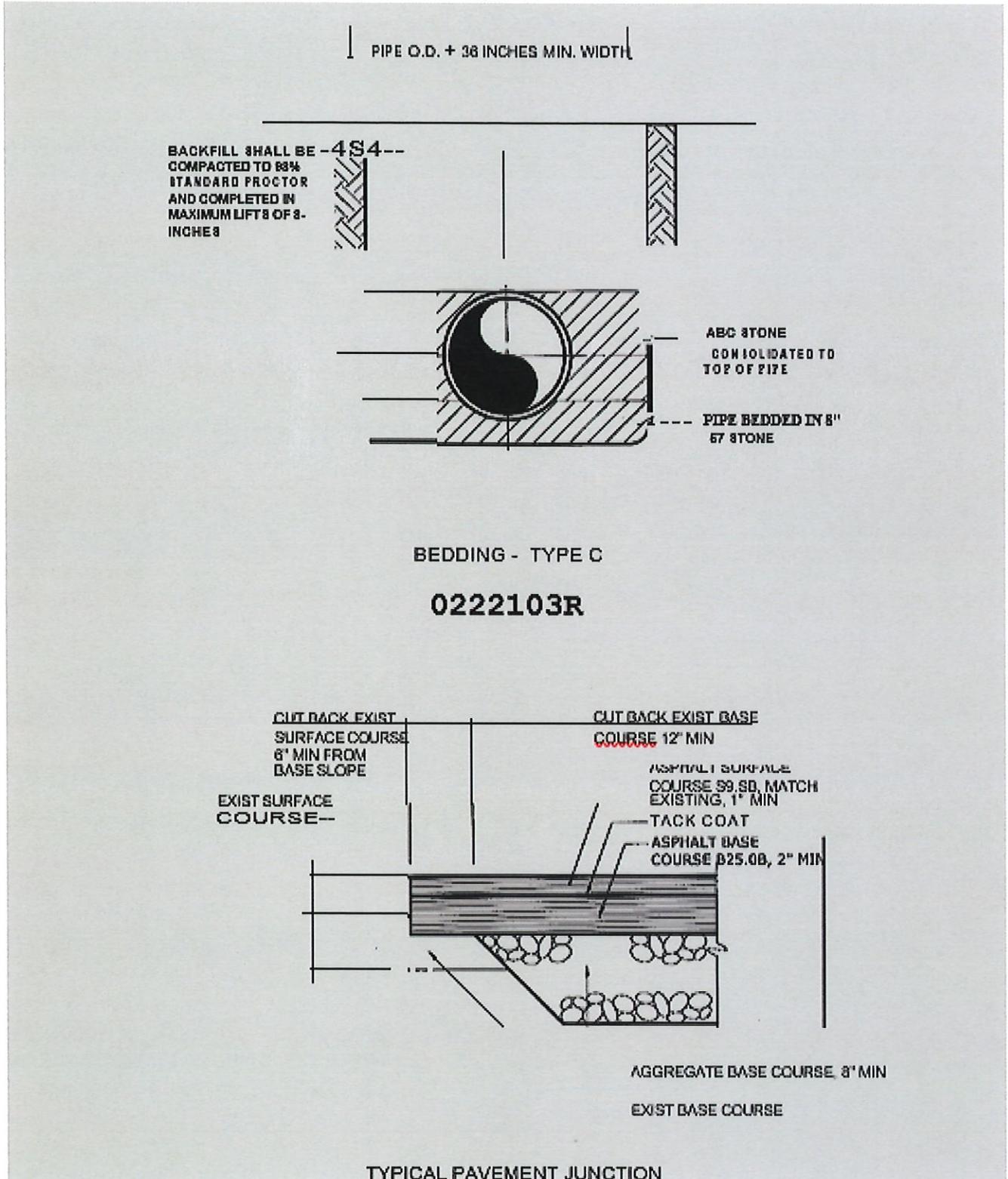


Figure 3: Existing Conditions Photos

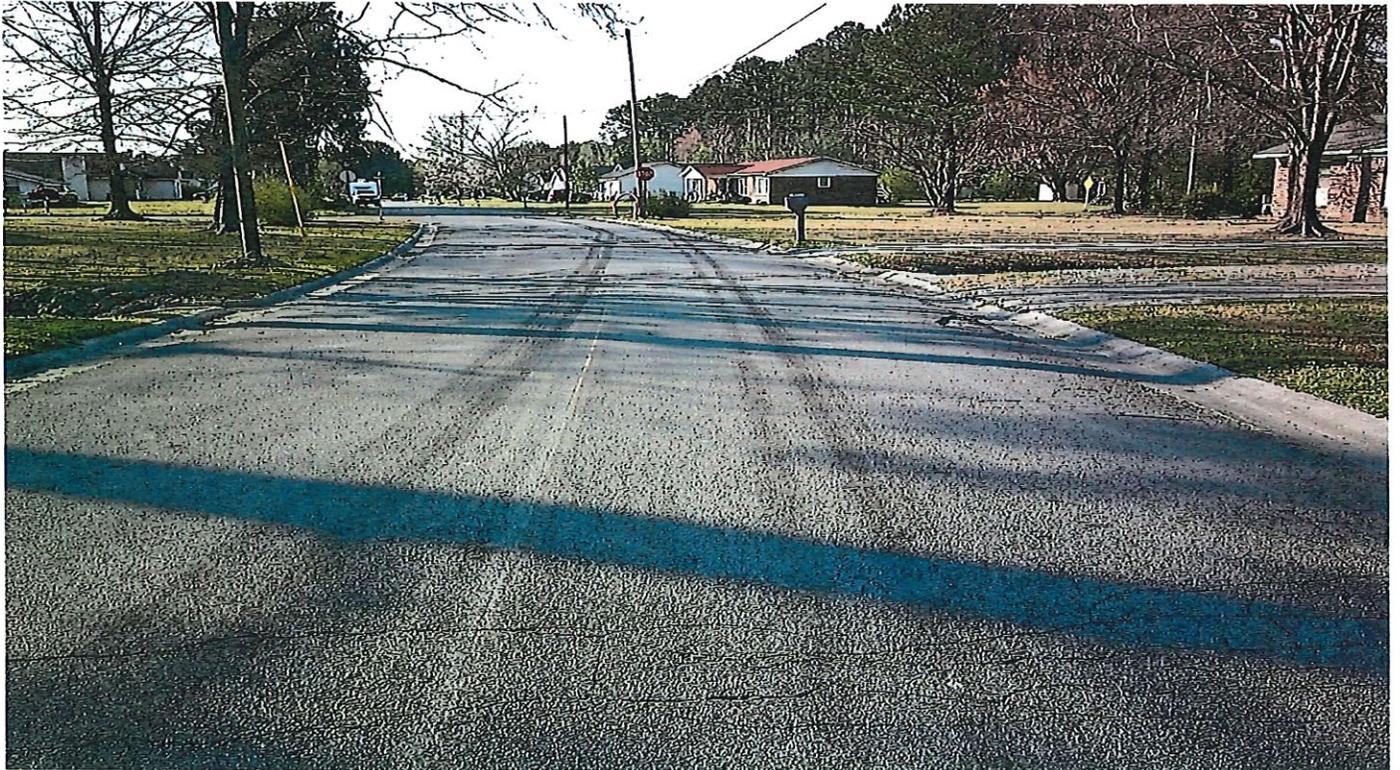


Figure 4: East side of area of Repair on Lee Dr.



Figure 5: West Side of area of Repair on Lee Dr.



City of Havelock

Lee Drive

Culvert Replacement

Craven County

**Project Special Provisions
Structure**

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SIGNED, SEALED AND DATED THIS 3RD DAY OF April, 2023.

BY: Kyle H. Compton, PE

TITLE: Project Engineer



DocuSigned by:
Kyle H. Compton
ED23BE1786C34BF
4/3/2023

PROJECT SPECIAL PROVISIONS
STRUCTURE

CRANE SAFETY

(6-20-19)

Comply with the manufacturer specifications and limitations applicable to the operation of any and all cranes and derricks. Prime contractors, sub-contractors, and fully operated rental companies shall comply with the current Occupational Safety and Health Administration (OSHA) regulations.

Submit all items listed below to the Engineer prior to beginning crane operations. Changes in personnel or equipment must be reported to the Engineer and all applicable items listed below must be updated and submitted prior to continuing with crane operations.

CRANE SAFETY SUBMITTAL LIST

- A. **Competent Person:** Provide the name and qualifications of the “Competent Person” responsible for crane safety and lifting operations. The named competent person will have the responsibility and authority to stop any work activity due to safety concerns.
- B. **Riggers:** Provide the qualifications and experience of the persons responsible for rigging operations. Qualifications and experience should include, but not be limited to, weight calculations, center of gravity determinations, selection and inspection of sling and rigging equipment, and safe rigging practices.
- C. **Crane Inspections:** Inspection records for all cranes shall be current and readily accessible for review upon request.
- D. **Certifications:** Crane operators shall be certified by the National Commission for the Certification of Crane Operators (NCCCO) or the National Center for Construction Education and Research (NCCER). Other approved nationally accredited programs will be considered upon request. In addition, crane operators shall have a current CDL medical card. Submit a list of crane operator(s) and include current certification for each type of crane operated (small hydraulic, large hydraulic, small lattice, large lattice) and medical evaluations for each operator.

**PRECAST REINFORCED CONCRETE
BOX CULVERT**

(12-12-13)

2.0 GENERAL

This Special Provision covers the design, fabrication and construction of precast reinforced concrete box culverts intended for the conveyance of storm water.

When a precast reinforced concrete box culvert is required on the plans, design the precast culvert sections in accordance with ASTM C1577 or the current edition of the AASHTO LRFD Bridge Design Specifications. Rate all sizes of precast reinforced concrete box culverts in accordance with the current edition of the AASHTO Manual for Bridge Evaluation. Ensure the culvert rates for the AASHTO design loads and North Carolina's legal loads (see Section 2.0 for North Carolina's legal loads). Provide the size and number of barrels as indicated on the plans. Detail the culvert with cast-in-place wings walls and footings. Precast wing walls and footings will not be allowed. Provide a precast box culvert that meets the requirements of Section 1077 and any other applicable parts of the Standard Specifications.

The design and rating of the precast and cast-in-place members is the responsibility of the Contractor and is subject to review, comments and approval. Submit two sets of detailed plans and rating sheets for review. Include all details in the plans, including the size and spacing of the required reinforcement necessary to build the precast box and cast-in-place members. Have a North Carolina Registered Professional Engineer check and seal the plans, rating sheets and design calculations. After the plans, rating sheets and design calculations are reviewed and, if necessary, the corrections made, submit one set of plans and rating sheets on 22" x 34" sheets to become part of the contract plans.

If the span, rise and design earth cover for the precast reinforced concrete box culvert are identical to a previously approved submittal, the Contractor may request the previously approved design calculations and plans be considered as the submittal for review and approval. However, a set of plans and rating sheets will need to be submitted to become part of the contract plans.

3.0 NORTH CAROLINA'S LEGAL LOADS

Apply the following legal loads to all structures carrying non-interstate traffic:

SINGLE VEHICLE (SV)			TRUCK TRACTOR SEMI-TRAILER (TTST)		
REF. #	SCHEMATIC		REF. #	SCHEMATIC	
SNSH		27K 13.5 TON	TNAGRIT3		66K 33 Ton
SNGARBS2		40K 20 TON	TNT4A		66.15K 33.075 TON
SNAGRIS2		44K 22 Ton	TNAGRIT4		86K 43 TON
SNCOTTS3		54.5K 27.25 TON	TNAGT5A		90K 45 TON
SNAGGRS4		69.85K 34.925 TON	TNAGT5B		90K 45 TON
SNS5A		71.1K 35.55 TON	TNT6A		83.2K 41.6 TON
SNS6A		79.9K 39.95 TON	TNT7A		84K 42 TON
SNS7B		84K 42 TON	TNT7B		84K 42 TON

4.0 PRECAST REINFORCED CONCRETE BOX SECTIONS

The precast reinforced concrete box culvert sections shall match the size and hydraulic opening indicated in the contract plans.

A. Design

1. Design Fill – The design earth cover is reported on the plans as the elevation difference between the point of maximum fill and the bottom of the top slab.
2. Placement of Reinforcement – Provide a 1 inch concrete cover over the reinforcement subject to the provisions of Section F. Extend the inside reinforcement into the tongue portion of the joint and the outside reinforcement into the groove portion of the joint. Detail the clear distance of the end wires so it is not less than 1/2 inch or more than 2 inches from the ends of the box section. Assemble reinforcement per the requirements of ASTM C1577 or the approved design. The exposure of the ends of the wires used to position the reinforcement is not a cause for rejection.
3. Laps and Spacing – Use lap splices for the transverse reinforcement. Detail the transverse wires so that the center to center spacing is not less than 2 inches or more than 4 inches. Do not detail the longitudinal wires with a center to center spacing of more than 8 inches.

B. Joints

1. Produce the precast reinforced concrete box section with tongue and groove ends. Design and form these ends of the box section so, when the sections are laid together, they make a continuous line of box sections with a smooth interior free of appreciable irregularities in the flowline, all compatible with the permissible variations given in Section F. The internal joint formed at the tongue and groove ends of the precast units shall be sealed with either bitumen/butyl sealant or closed-cell neoprene material. The internal joint material shall be installed in accordance with the manufacturer's recommendations. The material shall be shown on the shop drawings when they are submitted for review.
2. Seal the external joint with an outside sealer wrap conforming to ASTM C877 that is at least 12 inches wide and covers the joint on both the sides and the top of the box section. Use ConWrap CS-212 from Concrete Sealants, Inc., EZ-Wrap from Press-Seal Gasket Corporation, Seal Wrap from Mar-Mac Manufacturing Co., Inc., Cadilloc External Pipe Joint from Cadilloc, or an approved equal for the outside sealer wrap. If the outside sealer wrap is not applied in a continuous strip along the entire joint, a 12 inch minimum lap of the outside sealer wrap is permitted. Before placing the outside sealer wrap, clean and prime the area receiving the outside sealer wrap in accordance with the sealer wrap manufacturer recommendations. The joint wrap manufacturer installation recommendations shall be included with shop drawings submitted for review. The external joint wrap shall be installed in pieces, as indicated on Figure 1 below:

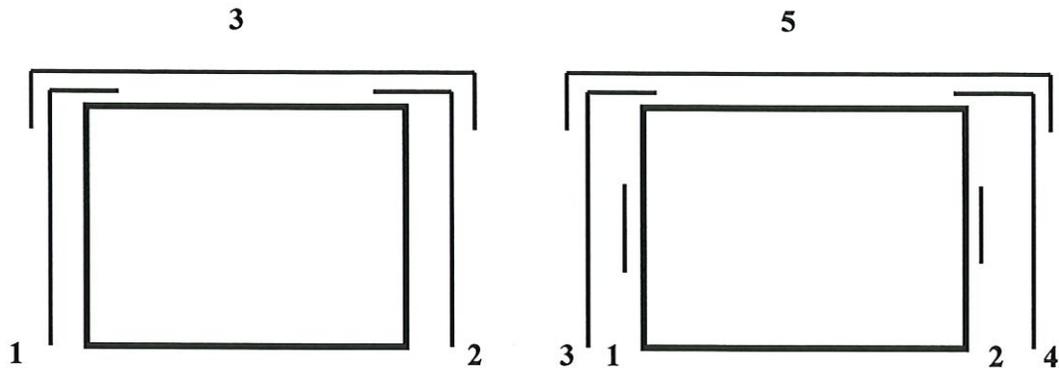


Figure 1

Cover the external joint sealer with a 3 foot strip of filter fabric conforming to Type 4 requirements in Section 1056 of the Standard Specifications.

Place multiple lines of a precast reinforced concrete box culvert such that the longitudinal joint between the sections has a minimum width of 3 inches. Fill the joint between multiple lines of precast box sections with Class A concrete. Use Class A concrete that meets the requirements listed in the Standard Specifications except that Field Compressive Strength Specimens are not required.

C. Manufacture

Manufacture precast reinforced concrete box culvert sections by either the wet cast method or dry cast method.

1. Mixture – In addition to the requirements of Section 1077 of the Standard Specifications, do not proportion the mix with less than 564 lb/yd³ of portland cement.
2. Strength – Concrete shall develop a minimum 28-day compressive strength of 5000 psi. Movement of the precast sections should be minimized during the initial curing period. Any damage caused by moving or handling during the initial curing phase will be grounds for rejection of that precast section.
3. Air Entrainment – Air entrain the concrete in accordance with Section 1077 - 5(A) of the Standard Specifications. For dry cast manufacturing, air entrainment is not required.

4. Testing – Test the concrete in accordance with the requirements of Section 1077 - 5(B).
5. Handling – Handling devices or holes are permitted in each box section for the purpose of handling and placing. Submit details of handling devices or holes for approval and do not cast any concrete until approval is granted. Remove all handling devices flush with concrete surfaces as directed. Fill holes in a neat and workmanlike manner with an approved non-metallic non-shrink grout, concrete, or hole plug.

D. Physical Requirements

Acceptability of precast culvert sections is based on concrete cylinders made and tested in accordance with ASTM C31 and ASTM C39.

E. Permissible Variations

1. Flatness – All external surfaces shall be flat, true, and plumb. Irregularities, depressions, or high spots on all external surfaces shall not exceed 1/2 inch in 8 feet.
2. Internal Dimensions – Produce sections so that the internal and haunch dimensions do not vary more than 1/4 inch from the plan dimensions.
3. Adjacent Sections - Internal, external, and haunch dimensions for connecting sections shall not vary more than 1/2 inch.
4. Length of Tongue and Groove – The minimum length of the tongue shall be 4 inches. The minimum length of the groove shall be 4 inches. The dimensions of the tongue and groove shall not vary more than 1/4 inch from the plan dimensions.
5. Slab and Wall Thickness – Produce sections so that the slab and wall thickness are not less than that shown on the plans by more than 5% or 3/16 inch, whichever is greater. A thickness more than that required on the plans is not a cause for rejection.
6. Length of Opposite Surfaces – Produce sections so that variations in laying lengths of two opposite surfaces of the box section meet the requirements of ASTM C1577, Section 11.3.
7. Length of Section – Produce sections so that the underrun in length of a section is not more than 1/2 inch in any box section.
8. Position of Reinforcement – Produce sections so that the maximum variation in the position of the reinforcement is $\pm 3/8$ inch for slab and wall thicknesses of 5 inches or less and $\pm 1/2$ inch for slab and wall thicknesses greater than 5 inches. Produce sections so that the concrete cover is never less than 5/8 inch as measured to the internal surface or the external surface. The preceding minimum cover limitations do not apply at the mating surfaces of the joint.

9. Area of Reinforcement – Use the design steel shown on the plans for the steel reinforcement. Steel areas greater than those required are not cause for rejection. The permissible variation in diameter of any wire in finished fabric is prescribed for the wire before fabrication by either AASHTO M32 or M225.

F. Marking

1. Each section shall be match-marked in order of intended installation as indicated on the approved shop drawings. Ensure that pieces fit together neatly and in a workmanlike manner. In order to ensure a good, neat field fit, the Department will verify assembly of the first five adjacent sections or 20% of the total culvert length, whichever is greater, at the producer's facility and match-mark the pieces. This will require that a minimum of three adjacent sections of the culvert be fitted at the production yard at a time and then match-marked. Once three sections have been match-marked, the first section may be removed for shipment and a fourth section set for marking. Continue in a progressive manner until all sections have been properly match-marked. The producer shall document the GO-NO-GO dimensional measurements of each box culvert section produced through the post-pour inspection process.
2. Clearly mark each section of the box culvert in accordance with ASTM C1577, Section 15. The information requirements of Section 15.1 shall be clearly marked on the inner surface of each section.

G. Construction

1. Pre-installation Meeting – A pre-installation meeting is required prior to installation. Representatives from the Contractor, the precast box manufacturer, and the Department should attend this meeting. The precast box manufacturer representative shall be on site during installation.
2. Foundation – Foundation for precast box culvert shall meet the requirements of Section 414 of the Standard Specifications. In addition, Type VI foundation material shall be encapsulated in filter fabric conforming to Type 4 requirements in Section 1056 of the Standard Specifications. The filter fabric shall be placed perpendicular to the culvert barrel. Provide sufficient overhang beyond the excavation to allow a minimum lap of 3 feet when the foundation material is placed and fabric wrapped on top. Perpendicular sections of fabric shall be continuous. A minimum lap of 2 feet shall be provided between sections of fabric.
3. Installation – Sections shall be placed at the beginning of the outlet end of the culvert with the groove end being laid upgrade. Tongue sections shall be laid into the groove sections. Positive means shall be provided to pull each section firmly into the previously placed section so that the joints are tightly homed. Use a "come-along", box pullers or other approved methods to create a positive means of joining box sections. Construction equipment shall not have direct contact with the box

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES

TRANSPORTATION OPERATIONS

CONSTRUCTION
REMOVE AND REPLACE EXISTING STRUCTURE AND APPROACHES ALONG THE EXISTING ROADWAY ALIGNMENT AS SHOWN IN THE CONSTRUCTION PLANS.

TMP DESIGN PARAMETERS
TRAFFIC WILL BE DETOURED OFF SITE DURING THE CONSTRUCTION PERIOD.
THE OFF SITE DETOUR WILL INCLUDE SR 1773 (US FRONTAGE RD HWY 70), MANILA ST, ROSE ST, AND LEE DRIVE.

LEGEND

GENERAL
 NORTH ARROW

TRAFFIC CONTROL DEVICES
 BARRICADE (TYPE III)

TEMPORARY SIGNING
 STATIONARY SIGN

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.
- B) MAINTAIN DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION.

SIGNING

- C) PROVIDE TEMPORARY SIGNING.
- D) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- E) PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.
- F) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- G) COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- H) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

LOCAL NOTES

- 1. NOTIFY CRAVEN COUNTY EMERGENCY SERVICES AND PUBLIC SCHOOLS AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.

TRAFFIC CONTROL DEVICES

- I) PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGN R-11-2 ATTACHED OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- J) PLACE TYPE III BARRICADES WITH "ROAD CLOSED TO THRU TRAFFIC" SIGN RT1-4 ATTACHED OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY AND OFF-SITE DETOUR THRU TRAFFIC.

V&M
Vaughan & McElroy
Consulting Engineers
Asheville, North Carolina
813-253-6786
Company: 813-253-6786
Fax: 813-253-6786

Charlotte, North Carolina
Tri-County, Tennessee
Knoxville, Tennessee
Knoxville, Tennessee
Middleboro, Massachusetts
Lawrenceville, Georgia
Spartanburg, South Carolina
Atlanta, Georgia

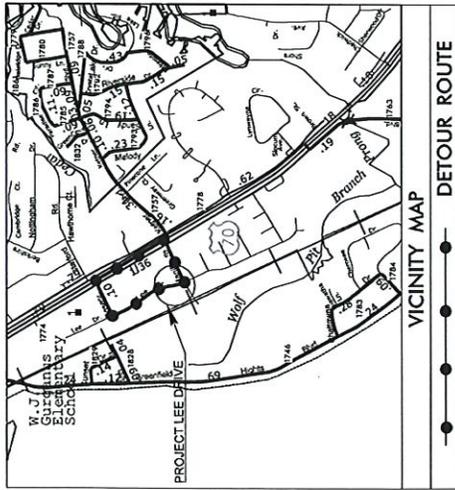


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

ROADWAY STANDARD DRAWINGS,
GENERAL NOTES &
TRANSPORTATION OPERATIONS

1/14/2023

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols



CITY OF HAVELOCK CRAVEN COUNTY

**LOCATION: BOX CULVERT UNDER LEE DRIVE
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE**

STATE	N.C.
COUNTY	LEE DRIVE
PROJECT NAME	I

VSM
Vaughan & Melton
Consulting Engineers

Asheville, NC
North Carolina
629-253-2796

Raleigh, NC
919-971-9555

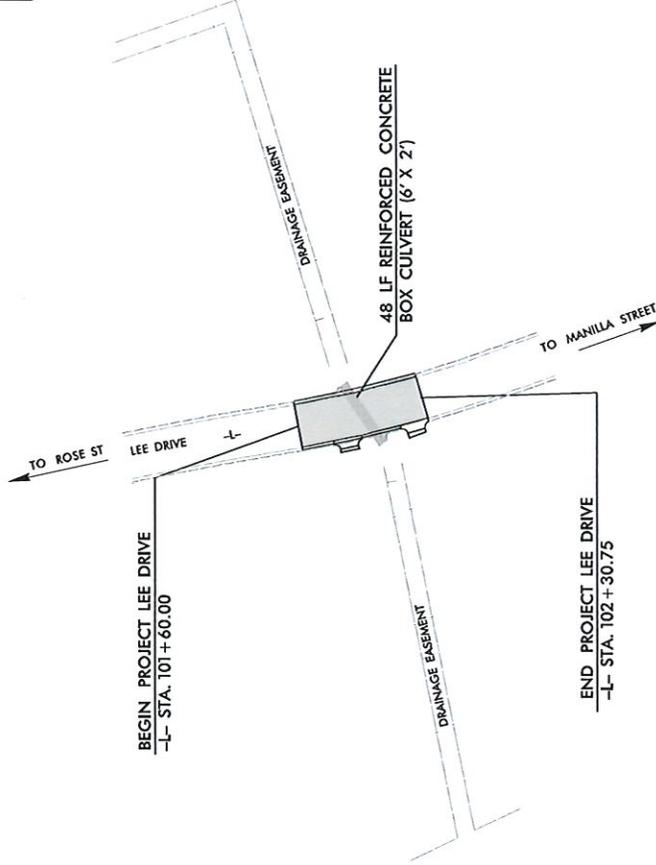
Cherokee, NC
704-357-0488

Charlotte, NC
770-427-3029

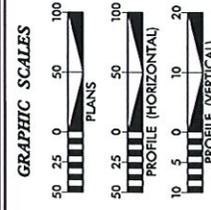
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Asheville, NC 828-255-9933
 Fritchfield, TN 423-467-8401
 Knoxville, TN 865-546-1800
 Raleigh, NC 919-971-9555
 Charleston, SC 843-574-4770
 Cromston, SC 843-974-5559
 Highlands, NC 828-248-1600
 Raleigh, NC 919-971-9555

NAD 83
NSRS 2007



PROJECT: LEE DRIVE



DESIGN DATA

ADT ? = UNKNOWN
V = 25 MPH
* (TTST % + DUAL %)
FUNC. CLASS = RURAL LOCAL

PROJECT LENGTH

LENGTH ROADWAY LEE DRIVE = 0.013 MILES
LENGTH STRUCTURE LEE DRIVE = 0.000 MILES
TOTAL LENGTH OF LEE DRIVE = 0.013 MILES

POINT OF CONTACT: _____
PATRICK LEE
PROJECT ENGINEER

Prepared in the Office of
VAUGHN & MELTON
ASHEVILLE, NC 28804
FOR THE NORTH CAROLINA DIVISION OF HIGHWAYS
AND STANDARD SPECIFICATIONS

PROJECT ENGINEER
KYLE H. COMPTON, PE

PROJECT DESIGNER
CHARLES R. BARBOUR, PE
PROJECT DESIGNER

HYDRAULICS ENGINEER

Sealed by
James M. ...
REGISTERED PROFESSIONAL ENGINEER

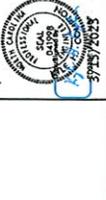
ROADWAY DESIGN ENGINEER

Sealed by
...
REGISTERED PROFESSIONAL ENGINEER

Prepared in the Office of:
VAUGHN & MELTON
 3114-F PATTON AVE. ASHBYVILLE, NC 28686

PROJECT REFERENCE NO.
LEE DRIVE

SHEET NO.
1A



ROADWAY DESIGN
 ENGINEER

DOCUMENT NOT CONSIDERED FINAL
 UNLESS FULLY APPROVED AND SIGNED

GENERAL NOTES:
 2012 SPECIFICATIONS
 EFFECTIVE: 01-11-2012
 REVISED: 01-24-2017

GRADE LINE:
 GRADING AND SURFACING:
 THE GRADE LINES SHOWN INDICATE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:
 CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 11.

SUPERELEVATION:
 ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:
 ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 566.01

SIDE ROADS:
 THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SATISFACTORY CONNECTIONS WITH ALL ROADS, STREETS, AND DRAINAGE ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

GUARDRAIL:
 THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION TO ACCOMMODATE CHANGES. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:
 SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

END BENTS:
 THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:
 UTILITY OWNERS ON THIS PROJECT ARE Duke Energy (Power), Distribution, AT&T (Telephone), and Time Warner Cable (CATV). ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:
 ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2	PLAN, PROFILE, AND TYPICAL SECTION
3	EROSION CONTROL
X-1	CROSS-SECTIONS

UTILITY OWNER	POINT OF CONTACT	PHONE	EMAIL
BRIGHTSPEED	WILLIAM STANLEY	252-320-3415	william.stanley@brightspeed.com
CHAVEN COUNTY WATER	ELLIOT THOMAS	252-436-6515	ethomas@chavencountync.gov

Note: Not to Scale

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Existing Concrete Monument (ECM)
- Parcel / Sequence Number
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Existing Historic Property Boundary
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign
- Well
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream
- Buffer Zone 1
- Buffer Zone 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

RAILROADS:

- Standard Gauge
- RR Signal Milepost
- Switch
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line
- Existing Control of Access Line
- Proposed Control of Access Line
- Proposed ROW and CA Line
- Existing Easement Line
- Proposed Temporary Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement
- Proposed Aerial Utility Easement

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Curb Ramp
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge

- Woods Line
- Orchard
- Vineyard

EXISTING STRUCTURES:

- MAJOR:
 - Bridge, Tunnel or Box Culvert
 - Bridge Wing Wall, Head Wall and End Wall
- MINOR:
 - Head and End Wall
 - Pipe Culvert
 - Footbridge
 - Drainage Box: Catch Basin, DI or JB
 - Paved Ditch Gutter
 - Storm Sewer Manhole
 - Storm Sewer

UTILITIES:

- * SUE - Subsurface Utility Engineering
- LOS - Level of Service - A, B, C or D (Accuracy)
- POWER:
 - Existing Power Pole
 - Proposed Power Pole
 - Existing Joint Use Pole
 - Proposed Joint Use Pole
 - Power Manhole
 - Power Line Tower
 - Power Transformer
 - U/G Power Cable Hand Hole
 - H-Frame Pole
 - U/G Power Line Test Hole (SUE - LOS A)*
 - U/G Power Line (SUE - LOS B)*
 - U/G Power Line (SUE - LOS C)*
 - U/G Power Line (SUE - LOS D)*

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Test Hole (SUE - LOS A)*
- U/G Telephone Cable (SUE - LOS B)*
- U/G Telephone Cable (SUE - LOS C)*
- U/G Telephone Cable (SUE - LOS D)*
- U/G Telephone Conduit (SUE - LOS B)*
- U/G Telephone Conduit (SUE - LOS C)*
- U/G Telephone Conduit (SUE - LOS D)*
- U/G Fiber Optics Cable (SUE - LOS B)*
- U/G Fiber Optics Cable (SUE - LOS C)*
- U/G Fiber Optics Cable (SUE - LOS D)*

- WATER:
 - Water Manhole
 - Water Meter
 - Water Valve
 - Water Hydrant
 - U/G Water Line Test Hole (SUE - LOS A)*
 - U/G Water Line (SUE - LOS B)*
 - U/G Water Line (SUE - LOS C)*
 - U/G Water Line (SUE - LOS D)*
 - Above Ground Water Line

TV:

- TV Pedestal
- TV Tower
- U/G TV Cable Hand Hole
- U/G TV Test Hole (SUE - LOS A)*
- U/G TV Cable (SUE - LOS B)*
- U/G TV Cable (SUE - LOS C)*
- U/G TV Cable (SUE - LOS D)*
- U/G Fiber Optic Cable (SUE - LOS B)*
- U/G Fiber Optic Cable (SUE - LOS C)*
- U/G Fiber Optic Cable (SUE - LOS D)*

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE - LOS A)*
- U/G Gas Line (SUE - LOS B)*
- U/G Gas Line (SUE - LOS C)*
- U/G Gas Line (SUE - LOS D)*
- Above Ground Gas Line

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line
- Above Ground Sanitary Sewer
- SS Force Main Line Test Hole (SUE - LOS A)*
- SS Force Main Line (SUE - LOS B)*
- SS Force Main Line (SUE - LOS C)*
- SS Force Main Line (SUE - LOS D)*

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box
- Utility Unknown U/G Line (SUE - LOS B)*
- U/G Tank: Water, Gas, Oil
- Underground Storage Tank, Approx. Loc.
- A/G Tank: Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records
- End of Information

