

**CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA**

**SPECIFICATIONS AND BID DOCUMENTS
FOR THE INSTALLATION OF
ROCKY MOUNT 230kV SOUTH POD
FOUNDATIONS AND OIL CONTAINMENT**

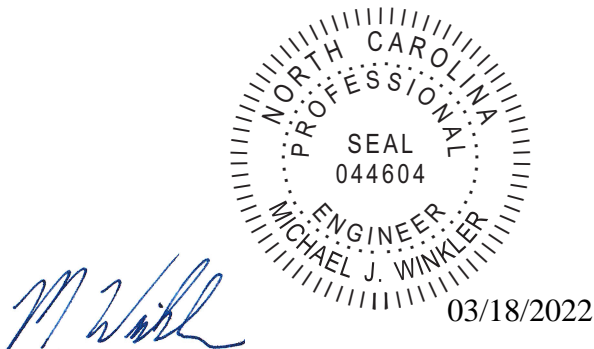
RFP # 320-080322CC

ISSUED FOR BIDS

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FOR THE INSTALLATION OF
ROCKY MOUNT 230kV SOUTH POD
FOUNDATIONS AND OIL CONTAINMENT**

ISSUED FOR BIDS



**Booth & Associates, LLC
Consulting Engineers
5811 Glenwood Avenue, Suite 109
Raleigh, North Carolina 27612
Firm License No. F-0221**

Rev 0: 3/15/22: Initial Release for Bids
Rev 1: 3/18/22: Advertisement date updated
Rev 2: 3/18/22: Notice to Bidders updated

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**CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA**

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FOR THE INSTALLATION OF
ROCKY MOUNT 230kV SOUTH POD FOUNDATIONS AND OIL CONTAINMENT**

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NOTICE TO PROSPECTIVE BIDDERS

Sealed Proposals for the installation of the ROCKY MOUNT 230kV SOUTH POD Foundations and Oil Containment, complete and conforming to the bid documents, as set forth in the Bid Schedule, will be received by the City of Rocky Mount, North Carolina (hereinafter referred to as the Owner) at the offices of the Purchasing Manager, City of Rocky Mount, 331 South Franklin St., Rocky Mount, NC 27804 on or before **2:00 PM, local time, Tuesday, April 5, 2022**, at which time the Proposals will be opened and read. Any Proposal received subsequent to that time will be promptly returned to the Bidder unopened.

There will be a pre-bid meeting scheduled for **10:00 AM, local time, Thursday, March 24, 2022** at the construction location 540 Old Mill Rd. Rocky Mount, NC 27804.

All questions concerning this bid must be received by **4:00 PM, local time, Tuesday, March 29, 2022** via email at Chynice.Chapman@rockymountnc.gov.

This RFP was advertised on **Friday 3/18/2022**. The Specifications, together with all necessary forms and other documents for the Bidder, may be obtained from the office of the Purchasing Manager, City of Rocky Mount, 331 South Franklin St., Rocky Mount, NC 27804 during regular office hours, which are 8:30 AM - 5:00 PM Monday through Friday. City of Rocky Mount reserves the right to reject any or all bids.

Proposals and all supporting instruments must be submitted on and in the format of the forms furnished in the Form of Proposal of these bid documents and must be delivered in a sealed envelope addressed to the Chynice Chapman, Purchasing Manager at 331 South Franklin St. Rocky Mount, NC 27804 or mailed to Chynice Chapman, Purchasing Manager at PO Box 1180 Rocky Mount, NC 27802. Proposals must be filled in with indelible ink. No alteration or interlineations will be permitted unless made before submission and initialed and dated.

Prior to the submission of the Proposal, the Bidder shall make and shall be deemed to have made a careful examination of the bid documents on file with the Owner and with the Engineer and of all other matters that may affect the cost and the time of the work.

The name and address of the Bidder, its license number (if a license is required by the State), and the following description must appear on the envelope in with the Proposal is submitted:

**"BID FOR THE INSTALLATION OF
ROCKY MOUNT 230kV SOUTH POD FOUNDATIONS AND OIL CONTAINMENT
2:00 PM, LOCAL TIME, TUESDAY, APRIL 5, 2022"**

The Owner reserves the rights to (1) waive minor irregularities or minor errors in any Proposal if it appears to the Owner that such irregularities or errors were made through inadvertence. Any such irregularities or errors so waived must be corrected on the Proposal prior to its acceptance by the Owner; (2) reject any or all Proposals and to hold any or all Proposals for a period of sixty (60) days from the date of opening thereof; (3) accept the bid, in its opinion, that represents the lowest responsible, responsive bid from the standpoint of quality, performance, and price; and (4) award purchase order(s) to Bidder(s) for any schedule(s) individually or collectively from the Bid Schedules.

CITY OF ROCKY MOUNT, NORTH CAROLINA

By: Chynice Chapman
Purchasing Manager

Date: 3/18/2022

DEFINITIONS

Whenever the following terms or pronoun in place of them are used in these "Instructions to Bidders", "Form of Proposal", "Technical Specifications", "Contract", bond, etc., the intent and meaning shall be interpreted as follows:

Owner	City of Rocky Mount Rocky Mount, North Carolina
Operation Manager	Darryl Strother; or his authorized assistant
Consulting Engineer	Booth & Associates, LLC
Observer	An authorized representative of the Owner assigned to make any or all necessary observations of work performed and equipment and/or apparatus furnished by the Bidder
Bidder	Any individual, firm, or corporation submitting a Proposal for the work contemplated, acting directly or through a duly authorized representative; or party of the second part of the Contract, acting directly or through a duly authorized representative
Subcontractor	An individual, firm, or corporation who contracts with the Bidder to perform part of the latter's Contract
Surety	The body, corporate or individual, approved by the Owner, which is bound with and for the Bidder who is primarily liable and which engages to be responsible for his acceptable performance of the work for which he has contracted
Form of Proposal, Proposal	The approved, prepared form on which the Bidder is to submit or has submitted his Proposal for the work contemplated
Bid Security	To all bids there shall be attached cash, cashier's check, or certified check from the Bidder upon a bank or trust company insured by the Federal Deposit Insurance Corporation or the Savings Associates Insurance Fund, or in lieu thereof, a Bid Bond
Plans, Drawings	All Drawings or reproductions of Drawings pertaining to the construction under the Contract
Technical Specifications	The directions, provisions, and requirements contained herein pertaining to the method and manner of performing the work or to the quantities and qualities of materials to be furnished under the Contract
Contract	The agreement covering the furnishing of equipment and/or apparatus and the performance of the work. The Contract shall include the "Instructions to Bidders", "General Conditions", "Form of Proposal", "Plans", "Technical Specifications", and Acknowledgments
Performance Bond (Not Required)	The approved form of security to be approved by the Owner furnished by the Bidder and his Surety as a guarantee of good faith on the part of the Bidder to accept the work in accordance with the terms of the Specifications and Contract

Payment Bond (Not Required)

The approved form of security to be approved by the Owner furnished by the Bidder and his Surety as a guarantee for payment of all Subcontractors on the part of the Bidder in acceptance of the work in accordance with the terms of the Specifications and Contract

Work

The performance of the project covered by the Specifications or the furnishing of labor, machinery, equipment, tools, or any other article or item being purchased by the Owner

Emergency

A temporary unforeseen occurrence or combination of circumstances which endangers life and property and calls for immediate action or remedy

Work at Site of Project

Work to be performed, including work normally done on the location of the project

Bid Documents

Include all sections of the Request for Bids, Form of Proposal, Technical Specifications and Appendices, Addendum/Clarifications/Bulletins, and Drawings

The subheadings in these Specifications are intended for convenience or reference only and shall not be considered as having any bearing on the interpretations thereof.

INSTRUCTIONS TO BIDDERS

1.0 Proposals

- 1.1 Only those Proposals made in accordance with these instructions will be considered.
- 1.2 Bids not received on Booth & Associates, LLC *Form of Proposal* contained herein will be considered unresponsive. The forms shall be filled out complete; any omissions may cause the entire Proposal to be rejected.
- 1.3 Proposals must be made on the *Form of Proposal* provided herein and must not be altered, erased, or interlined in any manner. The Bidder shall fill in the *Form of Proposal* as detailed in the Terms and Conditions. The Bidder may retain one (1) copy, but the original, fully executed, must be inserted in or attached to the Bid Documents. Also, one (1) additional copy of all executed forms and supporting information shall be supplied.
- 1.4 Proposals must be enclosed in a sealed envelope, addressed to the Owner. The outside of the envelope must be marked as required in the "Notice to Prospective Bidders" and the Bidder's name, bid opening date and time and the Bidder's license number shall be shown thereon.
- 1.5 Additional copies of these Specifications may be obtained upon request from the Engineer by approved Bidders upon payment of a fifty dollar (\$50.00) non-refundable fee per copy.
- 1.6 Proposals shall include a *Form of Exceptions* utilizing forms provided which shall itemize each and every exception from the Specifications. The *Form of Exceptions* shall state the section, subsection, and paragraph designations from the part of the Specifications to which exception is taken and explain in detail the nature of the exception. A copy of this *Form of Exceptions* is included in the Form of Proposals. Exceptions will not necessarily eliminate a Bidder from consideration, even if bids without exceptions are received from others. The treatment of exceptions will be based entirely on the overall best interests of the Owner.
- 1.7 Modifications to bids must be by removal of the Bidder's original bid and the submittal of a completely revised bid package in full compliance with the Drawings, Specifications, and Bid Documents. This is required prior to the time of opening bids. No oral or telephonic Proposals will be accepted.
- 1.8 Should the Bidder find discrepancies in or omissions from the Drawings or Documents or should he be in doubt as to their meaning, he shall at once notify the Engineer who will send written instructions to all Bidders. Neither the Owner nor the Engineer will be responsible for any oral instructions. If Plans and Specifications are found to disagree after Contract is awarded, the Engineer shall be the judge as to what was intended. The Successful Bidder is hereby made responsible for the furnishing of the necessary labor, tools and equipment reasonably inferred or evidently necessary for the proper execution and completion of the work; for any additional work involved in the correction of apparent errors or inconsistencies, and in executing the true intent and meaning of the Drawings and Specifications as interpreted by the Engineer and all such labor and equipment shall be provided at the Contractor's expense, and under no condition will any such labor and equipment be allowed as an extra.

If, within 24 hours after bids are opened, any Bidder files a duly signed written notice with the Owner and promptly thereafter demonstrates to the reasonable satisfaction of the Owner that there was a substantial mistake in the preparation of its bid, that Bidder will not be permitted to modify its bid, but may withdraw its bid in its entirety, and the Bid Security will be returned. Thereafter, the bidder will be disqualified from further bidding on the installation of the project herein specified.
- 1.9 Along with the Bidders submission, they shall fill out and include the City's MWBE forms located in appendix 4.

2.0 Payment

Payment by the Owner to the Successful Bidder shall be made periodically based on the actual percentage of completion, and it is demonstrated that any equipment or materials furnished meets the Specifications.

Invoices for labor shall be submitted in triplicate to the Owner's Engineer for review and approval. There shall be a ten-percent (10%) retainage until the equipment and installation, as per Specifications, have been approved and accepted by the Owner and the Owner's Engineer.

The address for submittal of all invoices is Booth & Associates, LLC at 5811 Glenwood Avenue, Suite 109, Raleigh, North Carolina 27612, Attention: Michael Winkler, PE.

3.0 Bid Security (Not Required)

3.1 Each Proposal shall be accompanied by a cashier's check, or certified check drawn on a bank or trust company insured by the Federal Deposit Insurance Corporation, or the Savings Association Insurance Fund, or a Bid Bond in an amount equal to not less than five percent (5%) of the total amount of the Proposal; said deposit to be retained by the Owner as liquidated damages in event of failure of the Successful Bidder to execute the Contract within ten (10) days after the award.

3.2 Bid Bond shall be conditioned that the Surety will upon demand forthwith make payment to the Obligee upon said Bond if the Bidder fails to execute the Contract in accordance with the Bid Bond, and upon failure to immediately make payment, the Surety shall pay to the Obligee an amount equal to double the amount of said Bond. Standard Form of Bid Bond is included in these Specifications.

3.3 Only one (1) bid Surety is required, the amount of which shall be based on the total amount of all bid schedules.

4.0 Bulletins and Addenda

Any bulletins issued during the time of bidding or addenda to Specifications are to be considered covered in the Proposal, and in executing a Contract will become a part thereof. Receipt of addenda shall be acknowledged by the Bidder in the *Form of Proposal*.

5.0 Award of Contract

5.1 The award of the Contract will be made to the lowest acceptable Bidder as soon as practicable. The bid shall be awarded to the Bidder who, in the judgment of the Owner, offers the best value to the Owner. Factors to be considered by the Owner are specified in Paragraph 5.3. The Owner reserves the right to reject any and all bids.

5.2 The Owner reserves the right to waive minor irregularities or minor errors in any Proposal if it appears to the Owner that such irregularities or errors were made through inadvertence. Any such irregularities or errors so waived must be corrected on the Proposal prior to its acceptance by the Owner.

5.3 In estimating the lowest cost to the Owner as one of the factors in deciding the award of the Contract, the Owner will consider, in addition to the prices quoted in the Proposal, the following:

1. Completion date,
2. Adherence to the Plans and Specifications,
3. Contractor capabilities, crew experience, and past performance,
4. Conditional quotations (Only firm fixed prices in U.S. dollars),
5. Any additional factors deemed appropriate by the Owner.

5.4 In the event the Bidder proposes any change or deviation from the Engineer's Plans and Specifications, such proposed changes or deviations must be submitted at the time bids are opened on the *Form of Exceptions* included. The Owner reserves the right to reject any

proposed changes or deviations. All exceptions must be stated on the *Form of Exceptions*. Failure to provide a *Form of Exceptions* with the Proposal shall imply strict adherence to all details of the Plans and Specifications.

- 5.5 The Contract, when awarded, shall be deemed to include the Specifications for the equipment, and the Bidder shall not claim any modification thereof resulting from any representative or promise made at any time by any officer, agent, or employee of the Owner or by any other person.

6.0 Performance and Payment Bonds (Not Required)

- 6.1 The Successful Bidder shall be required to furnish separate Performance and Payment Bonds executed on the forms bound herein in amounts at least equal to one hundred percent (100%) of the Contract price as security for the faithful performance of this Contract and as security for the payment of all persons performing labor and furnishing materials and equipment in connection with this Contract.
- 6.2 Performance and Payment Bonds shall be with a Surety company authorized and licensed to do business in the State of North Carolina and shall be for the full Contract sum.

7.0 Examination of Conditions

Prior to the submission of the Proposal, the Bidder shall make and shall be deemed to have made a careful examination of the Plans and Specifications on file with the Owner and with the Engineer, and all other matters that may affect the cost and the time of completion of the work.

8.0 Subcontractors

The Bidder shall include in the Proposal a listing of all subcontractors (if any) and their respective support services to be utilized during the course of the project. All subcontractors will be subject to approval by the Owner and Engineer.

9.0 Completion

- a. The award of this Contract shall be issued as soon as possible, subsequent to the bid opening, by issuance of written contract to the Contractor by the Engineer or notification from the Owner. Work on the projects shall begin as soon as possible.
- b. Time for completion shall be extended for delays due to bad weather days or other special cases with the written consent of the Owner and/or Engineer.
- c. The Contractor shall include in the Proposal a project construction schedule using the completion date above, indicating each major construction activity with duration and the total number of calendar days of construction time he proposes to perform his work based on the above completion date.

10.0 Liquidated Damages

Time is of the essence, and it is critical that the work be performed on schedule and time is allowed for the completion of the work in the Contract Agreement included herewith. Damages for delay shall be at the rate of one thousand dollars (\$1,000.00) per calendar day for failure of the Contractor to complete the work within the Construction Schedule. No credit shall be given for early completion of the work.

11.0 Bids to be Retained

No bid may be withdrawn after the scheduled closing time for the receipt of bids for a period of sixty (60) days pending the execution of a Contract by the Successful Bidder. Should the Successful Bidder default and not execute a Contract, the Contract will be offered to the next lowest responsible Bidder.

12.0 Delivery Location

The prices quoted shall include delivery of any Contractor-furnished materials and equipment to the project site, and complete installation of said materials and equipment and installation of the Owner-furnished materials. The location of the station is shown on the Vicinity Map in the Appendices.

13.0 Form of Proposal

Those bids not received on the Booth & Associates, LLC Form of Proposal contained herein will be considered unresponsive. The forms shall be filled out completely. Any omissions may cause the entire Proposal to be rejected.

14.0 Contractor's License

In accordance with the State of North Carolina General Statutes, Contractors performing work of this caliber in the State must be licensed to do so. A current copy of the Contractor's State of North Carolina Board for General Contractor's License must be submitted with this Proposal in the Form of Proposal. Additionally, a valid license must be maintained during the course of the work.

Contractor represents and warrants that it is fully experienced in projects of the nature, scope and magnitude of the Work, properly qualified, registered, licensed, equipped, organized and financed to perform the Work.

GENERAL CONDITIONS

1.0 Drawings and Specifications

The Drawings and Specifications are complementary, one to the other. That which is shown on the Drawings or called for in the Specifications shall be as binding as if it were both called for and shown. The intention of the Drawings and Specifications is to include all labor, materials, transportation, equipment and any and all other items necessary to do a complete job which may include manufactured items and field service assistance. In case of discrepancy or disagreement in the Contract, the order of precedence shall be: Contract, Specifications, Drawings.

2.0 Clarifications and Detailed Drawings

In such cases where the nature of the work requires clarification by the Engineer, such clarification shall be furnished by the Engineer with reasonable promptness by means of written instructions or Detail Drawings or both. Clarifications and Drawings shall be consistent with the intent of Contract Documents, and shall become a part thereof.

3.0 Change in Drawings and/or Specifications

The Owner, or the Engineer on behalf of the Owner, may make changes to Drawings and/or Specifications after award of the Contract or while construction is in progress. The compensation for such changes shall be agreed upon in writing between the Contractor and the Owner prior to commencement of work involving the change. No payment shall be made to the Contractor for correcting work not in compliance with Specifications. Once the change of work has been agreed upon between all parties, the Engineer will initiate a change order.

Records of conditions above and below ground, water records or other observations which may have been made by or for Owner shall be made available to Contractor for its information, upon request. Site subsurface conditions which differ materially from the results reasonably indicated in any reports furnished by Owner or undertaken by Contractor shall be deemed to be changed work.

Except as otherwise set forth in the Contract, all loss or damage to Contractor arising out of the Work or from the action of the elements, or from any unforeseen circumstance in the prosecution of the Work including inefficiencies or claims of inefficiencies, shall be sustained and borne by Contractor at its own cost and expense.

4.0 Copies of Bid Documents

The Engineer will furnish free of charge to each pre-qualified Bidder one (1) copy of bid documents. Additional sets of these Specifications for approved Bidders, and sets for Bidders seeking approval may be obtained upon request for a non-refundable payment of Fifty Dollars (\$50) per set.

5.0 Working Drawings and Specifications at the Job Site

Contractor shall maintain, in readable condition at his office, one (1) complete set of as-built working Drawings and Specifications for his work. Such Drawings and Specifications shall be available for use by the Engineer or Owner. During the course of construction, the Contractor will work diligently to keep the Owner abreast of electric system conditions, so as not to interfere with normal or emergency operations.

6.0 Ownership of Drawings and Specifications

All Drawings and Specifications are instruments of service and remain the property of the Engineer whose name appears thereon. The use of these instruments on work other than this Contract without permission is prohibited. All copies of Drawings and Specifications other than Contract copies shall be returned to the Engineer upon request after completion of the work.

7.0 Materials, Equipment, And Employees

7.1 The Contractor shall, unless otherwise specified, supply and pay for all labor, equipment, transportation, tools, apparatus, lights, heat, sanitary facilities, water, and incidentals necessary for the entire proper and substantial completion of his work. The Contractor shall install, maintain, and remove all equipment of the construction and be responsible for the safe, proper,

and lawful construction, maintenance, and use of same. The Contractor shall construct, in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the Plans, stated in the Specifications, or reasonably implied there from, all in accordance with the Contract Documents. Some of the major material items required for the work will be furnished by the Owner as outlined in the Technical Specifications. **All other necessary materials are to be furnished by the Contractor as outlined in the Technical Specifications.**

- 7.2 The Contractor shall not re- use any “removed” materials in the completion of this project unless indicated as a transfer unit on the construction drawings. Materials damaged or lost during construction of the work due to carelessness of the Contractor’s personnel, shall be replaced in kind by the Contractor at no cost to the Owner.
- 7.3 If at any time during the construction and completion of the work covered by these Specifications, the conduct of any workman of the various crafts is adjudged ungentlemanly and a nuisance to the Owner or the Engineer, or if any workman is considered incompetent or detrimental to the work, the Contractor shall order such parties to be immediately removed from the grounds.
- 7.4 Any superintendent or foreman of the Contractor who ignores or refuses to follow written instructions of the Owner or the Engineer or his representative at the site shall be immediately removed and replaced.
- 7.5 The Contractor shall insure that at all times he has sufficient crew compliments, both in terms of numbers and experience of personnel to perform work tasks safely, both for workers and the general public. Any instance noted to the contrary of this requirement may result in the complete shutdown of work on the project.

8.0 Surveys

Unless otherwise specified, the Owner, will furnish all surveys and locations for locating the principal component parts of the work. Stakes missing at the time of construction will be replaced within a reasonable amount of time after notification by the Contractor.

9.0 Uncorrected Faulty Work

The Contractor shall be notified of faulty or damaged work and shall have the option to respond in a reasonable period of time. Should the correction of faulty or damaged work be considered inadvisable or inexpedient by the Owner or the Engineer, the Owner shall be reimbursed by the Contractor for the same by a deduction in the Contract prices arrived at by a fair estimate of the probable cost of correction, approved by the Engineer.

10.0 Delays and Extension of Time

- 10.1 The time to be allowed for construction of these facilities is stated in the Instructions to Bidders. The Contractor, with the proposal submission, shall prepare a construction schedule based on the allowed time, and submit such schedule to the Engineer for approval. A Pre-Construction Conference will be scheduled for all parties concerned.
- 10.2 If the Contractor is delayed at any time in the progress of the work by any act of negligence by the Owner or the Engineer, or by any separate Contractor employed by the Owner or by changes ordered in the work, then the time of completion shall be extended for such reasonable time as the Engineer may decide.
- 10.3 No extension of time for completion will be made for ordinary delays and accidents. Extensions may be granted for delays ordered by the Owner or the Engineer if the request has been made in writing within forty-eight (48) hours after the order to cease work has been given.

11.0 Liquidated Damages

Time is of the essence, and it is critical that the work be performed on schedule and time is allowed for the completion of the work in the Contract Agreement included herewith. Damages for delay shall

be at the rate of one thousand dollars (\$1,000.00) per calendar day for failure of the Contractor to complete the work within the Construction Schedule. No credit shall be given for early completion of the work.

12.0 Correction of Work Before Final Payment

12.1 Any work, materials, or other parts of the work which have been condemned or declared not in accordance with the Contract by the Owner or the Engineer shall be removed from the work site by the Contractor and shall be immediately replaced by new work in accordance with the Contract at no additional cost to the Owner. Work or property of others or the Owner damaged or destroyed by virtue of such faulty work shall be made good at the expense of the Contractor whose work is faulty.

12.2 Correction of condemned work described above shall commence within twenty-four (24) hours after receipt of notice from the Owner or the Engineer and shall be pursued to completion.

12.3 Final payment will not be made until certificates of the Engineer have been duly issued.

13.0 Correction of Work AFTER Final Payment

Neither the final certificate, final payment, acceptance of the premises by the Owner, nor any provision of the Contract, nor any other act or instrument of the Owner or Engineer shall relieve the Contractor from responsibility for negligence, or faulty materials or workmanship, or failure to comply with the Drawings and Specifications. He shall correct or make good any defects due thereto and repair any damage resulting there from which may appear during the period of the guarantee following final acceptance of the work by the Owner. The Owner will report any defects as they may appear to the Engineer who will give the instructions for a time limit for completion of corrections to the Contractor.

14.0 The Owner's Right to Perform Work

The Owner may perform or have performed by others work which is described in the Specifications to be performed by the Contractor, due to early delivery of equipment prior to the execution of this Contract. Upon the execution of the contract, the work performed will be deducted from the Contractor's price by the unit price set forth in the *Form of Proposal*.

15.0 Contractor's Affidavit

The final payment of retained amount due the Contractor on account of the Contract shall not become due until the Contractor has furnished to the Owner, with a copy to the Engineer, an affidavit signed, sworn and notarized to the effect that all payments for materials, services, or any other reason in connection with his Contract have been satisfied and that no claims or liens exist against the Contractor in connection with this Contract. In the event that the Contractor cannot obtain similar affidavits from Subcontractors to protect the Contractor and the Owner from possible liens or claims against the Subcontractor, the Contractor shall state in his affidavit that no claims or liens exist against any Subcontractor to the best of his (the Contractor's) knowledge and if any appear afterwards, the Contractor shall save the Owner harmless on account thereof.

16.0 Assignments

The Contractor shall not assign any portion of this Contract nor subcontract it in its entirety. Except as may be required under terms of the Payment and/or Performance Bond, no funds or sums of money due or to become due the Contractor under this Contract may be assigned.

17.0 Guarantee

The Contractor shall guarantee his work against defect due to faulty workmanship or negligence for a period of two (2) years following final acceptance of the work. He shall make good such defective workmanship and any damage resulting therefrom without cost to the Owner.

18.0 Engineer's Status

The Engineer has authority to stop the work whenever such stoppage may be necessary to ensure the proper execution of the Contract. He shall also have authority to reject all work and materials which

do not conform to the Contract, to direct the application of forces to any portion of the work as in his judgment is required, to order the forces increased or diminished, and to decide questions which arise in the execution of the work.

The Engineer is the interpreter of the conditions of the Contract and the judge of its performance, and he shall use his powers under the Contract to enforce its faithful performance.

19.0 Engineer's Decisions

The Engineer shall, within a reasonable time after their presentation to him, make decisions on all claims of the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract Documents. All such decisions by the Engineer shall be final.

20.0 Right-Of-Way

The Owner will obtain all easements and/or rights-of-way required for the project.

21.0 Accidents

The Contractor shall provide at the site such equipment and medical facilities as are necessary to supply first-aid service to anyone who may be injured in connection with the work. The Contractor will provide a written report to the Owner of all accidents within twenty-four (24) hours of the event.

22.0 Mediation/Binding Arbitration

In the event of any dispute between the Parties, the Parties agree to submit any dispute to non-binding mediation before a mutually agreeable Mediator prior to initiating litigation. If the Parties are unable to agree upon a Mediator within thirty (30) days after demand therefore, either Party may petition a Court of competent jurisdiction for the designation of a qualified Mediator for these purposes. Each Party shall bear its own costs and expenses of participating in the mediation (including, without limitation, reasonable attorneys' fees), and each Party shall bear one-half (1/2) of the costs and expenses of the Mediator. Unless otherwise agreed, the Parties will hold the mediation in Rocky Mount, North Carolina. The matters discussed or revealed in the mediation session shall not be disclosed in any subsequent litigation.

In the event the matter is not resolved in mediation, either Party may request arbitration. The parties shall jointly select an Arbitrator, and shall be bound by the decision of the Arbitrator with respect to any dispute between the parties with respect to this Agreement. If the parties are unable to mutually agree upon an Arbitrator, the Parties shall each select an Arbitrator, and the two Arbitrators so selected shall select a third Arbitrator, and the decision of the majority of the Arbitrators shall be conclusive and binding upon the Parties. The Parties at all times agree to equally split the costs of any Arbitrator(s) selected in an effort to resolve the dispute between the Parties. Any party desiring to resolve a dispute under the terms of this Agreement shall notify the other Party in writing, and the Parties shall seek to agree upon a mutually agreed-upon Arbitrator within a period of ten (10) days from the date of such written demand. If the Parties are unable to agree within such ten (10) day period, the Parties shall each select an Arbitrator, and the two (2) Arbitrators so selected shall select a third Arbitrator within fifteen (15) days from the date of the written demand for arbitration, and a decision shall be rendered by the Arbitrator(s) so selected within five (5) days after such Arbitrator(s) is selected.

23.0 Exceptions

All proposals are subject to the terms and conditions outlined herein. All responses will be controlled by such terms and conditions and the submission of other terms and conditions, price catalogs, and other documents as part of a Bidder's response will be waived and have no effect on this Request for Proposal or any other contract that may be awarded resulting from this solicitation. The submission of any other terms and conditions by a Bidder may be grounds for rejection of the Bidder's proposal. The Bidder specifically agrees to the terms and conditions set forth in this set of Terms and Conditions by affixing its name on the signatory page contained herein.

24.0 Confidential Information

The Owner will keep trade secrets which the Bidder does not wish to be disclosed, except as provided by statute and rule of law. Each page shall be identified in boldface at the top and bottom as

“CONFIDENTIAL” by the Bidder. Cost information shall not be deemed confidential. The determination of whether a matter is confidential will be determined by North Carolina law.

25.0 Administrative Code

Bids, proposals, and awards are subject to applicable provisions of the North Carolina Administrative Code.

26.0 Execution

In the discretion of the Owner, failure of a duly authorized official of Bidder to sign the Signatory Page may render the bid invalid.

27.0 Clarifications/Interpretations

Any and all questions regarding these Terms and Conditions must be addressed to the Owner Purchasing Manager. Do not contact the user directly. **These Terms and Conditions are a complete statement of the parties' agreement and may only be modified in writing signed by Bidder and the Owner Purchasing Manager.**

28.0 Integrated Contract

These Terms and Conditions, Instructions to Bidders, Specifications, and the selected Bidder's bid represents the entire contract between the Parties. No verbal or other written agreement(s) shall be held to vary the provisions of this Agreement.

29.0 Contract Provisions

Each of the provisions of these Terms and Conditions shall apply to the full extent permitted by law, and the invalidity in whole or in part of any provision shall not affect the remainder of such provision or any other provisions.

30.0 Uniform Guidance

Contracts funded with federal grant or loan funds must be procured in a manner that conforms with all applicable federal laws, policies, and standards, including those under the Uniform Guidance (2 C.F.R. Part 200).

CITY OF ROCKY MOUNT GENERAL CONDITIONS

1. GENERAL

It is understood and agreed that by submitting a proposal that the Contractor has examined these contract documents, drawings and specifications and has visited the site of the Work and has satisfied himself relative to the Work to be performed.

2. DEFINITIONS

Owner: "Owner" shall mean, The City of Rocky Mount

Contractor: "Contractor" shall mean the entity that will provide the services for the Owner.

Designer: The **designer(s)** are those referred to within this contract, or their authorized representatives. The Designer(s), as referred to herein, shall mean architect and/or engineer responsible for preparing the project plans and specifications. They will be referred to hereinafter as if each were of the singular number, masculine gender.

Contract Documents: "Contract Documents" shall consist of the Notice to Bidders; General Conditions of the Contract; special conditions if applicable; Supplementary General Conditions; the drawing and specifications, including all bulletins, addenda or other modifications of the drawings and specifications incorporated into the documents prior to their execution; the proposal; the contract; the performance bond if applicable; and insurance certificates. All of these items together form the contract.

3. INTENT AND EXECUTION OF DOCUMENTS

The drawings and specifications are complementary, one to the other. That which is shown on the drawings or called for in the specifications shall be as binding as if it were both called for and shown. The intent of the drawings and specifications is to establish the scope of all labor, materials, transportation, equipment, and any and all other things necessary to provide a complete job. In case of discrepancy or disagreement in the Contract Documents, the order of precedence shall be: Form of Contract, specifications, large-scale detail drawings, small-scale drawings.

In such cases where the nature of the work requires clarification by the Designer/ Owner, the Designer/ Owner shall furnish such clarification. Clarifications and drawings shall be consistent with the intent of the Contract Documents, and shall become a part thereof.

4. AS-BUILT MARKED-UP CONSTRUCTION DOCUMENTS

Contractor shall provide one complete set of legible "as-built" marked-up construction drawings and specifications recording any and all changes made to the original design during the course of construction. In the event no changes occurred, submit construction drawings and specifications set with notation "No Changes." The Designer/Owner must receive "As-built" marked-up construction drawings and specifications before the final pay request can be processed.

5. SUBMITTAL DATA

The Contractor awarded the contract shall submit all specified submittals to the Owner/Designer. A minimum number of copies as specified by the owner, of all required submittal data pertaining to construction, performance and general dimensional criteria of the components listed in the technical specifications shall be submitted. No material or equipment shall be ordered or installed prior to written approval of the submittals by the Designer/Owner. Failure to provide submittal data for review on equipment listed in the technical specifications will result in removal of equipment by the Contractor at his expense if the equipment is not in compliance with the specifications.

6. SUBSTITUTIONS

In accordance with the provisions of G.S. 133-3, material, product, or equipment substitutions proposed by the bidders to those specified herein can only be considered during the bidding phase until five (5) days prior to the receipt of proposals or by the date specified in the pre proposal conference, when submitted to the Designer with sufficient data to confirm material, product, or equipment equality. Proposed substitutions submitted after this time will be considered only as potential change order.

Submittals for proposed substitutions shall include the following information:

- a. Name, address, and telephone number of manufacturer and supplier as appropriate.
- b. Trade name, model or catalog designation.
- c. Product data including performance and test data, reference standards, and technical descriptions of material, product, or equipment. Include color samples and samples of available finishes as appropriate.
- d. Detailed comparison with specified products including performance capabilities, warranties, and test results.
- e. Other pertinent data including data requested by the Designer to confirm product equality.

If a proposed material, product, or equipment substitution is deemed equal by the Designer to those specified, all bidders of record will be notified by Addendum.

7. WORKING DRAWINGS AND SPECIFICATIONS AT THE JOB SITE

The contractor shall maintain, in readable condition at his job site one complete set of working drawings and specifications for his work including all shop drawings. Such drawings and specifications shall be available for use by the owner, designer or his authorized representative.

The contractor shall maintain at the job site, a day-to-day record of work-in-place that is at variance with the contract documents. Such variations shall be fully noted on project drawings by the contractor and submitted to the designer upon project completion and no later than 30 days after acceptance of the project.

8. MATERIALS, EQUIPMENT, EMPLOYEES

- a. The contractor shall, unless otherwise specified, supply and pay for all labor, transportation, materials, tools, apparatus, lights, power, fuel, heat, sanitary facilities, water, scaffolding and incidentals necessary for the completion of his work, and shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied therefrom, all in accordance with the contract documents.
- b. All materials shall be new and of quality specified, except where reclaimed material is authorized herein and approved for use. Workmanship shall at all times be of a grade accepted as the best practice of the particular trade involved, and as stipulated in written standards of recognized organizations or institutes of the respective trades except as exceeded or qualified by the specifications.
- c. Upon notice, the contractor shall furnish evidence as to quality of materials.
- d. Products are generally specified by ASTM or other reference standard and/or by manufacturer's name and model number or trade name. When specified only by reference standard, the Contractor may select any product meeting this standard, by any manufacturer. When several products or manufacturers are specified as being equally acceptable, the Contractor has the option of using any product and manufacturer combination listed. However, the contractor shall be aware that the cited examples are used only to denote the quality standard of product desired and that they do not restrict

proposer alters to a specific brand, make, manufacturer or specific name; that they are used only to set forth and convey to proposer alters the general style, type, character and quality of product desired; and that equivalent product(s) will be acceptable. Request for substitution of materials, items, or equipment shall be submitted to the designer for approval or disapproval; the designer prior to the opening of proposals shall make such approval or disapproval. Alternate materials may be requested after the award if it can clearly be demonstrated that it is an added benefit to the owner and the designer and owner approves.

- e. The designer is the judge of equality for proposed substitution of products, materials or equipment.
- f. If at any time during the construction and completion of the work covered by these contract documents, the language, conduct, or attire of any workman of the various crafts be adjudged a nuisance to the owner or designer, or if any workman be considered detrimental to the work, the contractor shall order such parties removed immediately from grounds.
- g. The Contractor shall cooperate with the designer and the owner in coordinating construction activities.
- h. The Contractor shall maintain qualified personnel and effective supervision at the site at all times during the project and exercise the appropriate quality control program to ensure compliance with the project drawings and specifications. The designer is responsible for determining compliance with the drawings and specifications.

9. CODES, PERMITS AND INSPECTIONS

The Contractor shall obtain the required permits, if required, give all notices, and comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work under this contract. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the Designer in writing. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules and regulations, and without such notice to the Owner, he shall bear all cost arising there from.

All work under this contract shall conform to the current North Carolina Building Code and other state and national codes as are applicable.

All fire alarm work shall be in accordance with the latest State Construction Office (SCO) *Guidelines for Fire Alarm Installation* (NFPA72). Where the contract documents are in conflict with the SCO guidelines, the SCO guidelines shall govern. The Contractor shall be responsible for all the costs for the correction of the work where he installs it in conflict with the latest edition of the SCO *Guidelines for Fire Alarm Installation*.

*Inspection and certification of compliance by local authorities is necessary if an architect or engineer was not employed on the project.

10. PROTECTION OF WORK, PROPERTY, THE PUBLIC AND SAFETY

- a. The contractors shall be jointly responsible for the entire site and the building or construction of the same and provide all the necessary protections, as required by the owner or designer, and by laws or ordinances governing such conditions. They shall be responsible for any damage to the owner's property or of that of others on the job, by them, their personnel, or their subcontractors, and shall make good such damages. They shall be responsible for and pay for any damages caused to the owner. All contractors shall have access to the project at all times, except as indicated in the Supplemental General Conditions.
- b. The contractor shall provide cover and protect all portions of the structure when the work is not in progress, provide and set all temporary roofs, covers for doorways, sash and windows, and all other materials necessary to protect all the work on the building, whether set by him, or any of the subcontractors. Any work damaged through the lack of proper protection or from any other cause, shall be repaired or replaced without extra cost to the owner.

- c. No fires of any kind will be allowed inside or around the operations during the course of construction without special permission from the designer and owner.
- d. The contractor shall protect all trees and shrubs designated to remain in the vicinity of the operations by building substantial boxes around it. He shall barricade all walks, roads, etc., as directed by the designer to keep the public away from the construction. All trenches, excavations or other hazards in the vicinity of the work shall be well barricaded and properly lighted at night.
- e. The contractor shall provide all necessary safety measures for the protection of all persons on the job, including the requirements of the A.G.C. *Accident Prevention Manual in Construction*, as amended, and shall fully comply with all state laws or regulations and North Carolina State Building Code requirements to prevent accident or injury to persons on or about the location of the work. He shall clearly mark or post signs warning of hazards existing, and shall barricade excavations, elevator shafts, stairwells and similar hazards. He shall protect against damage or injury resulting from falling materials and he shall maintain all protective devices and signs throughout the progress of the work.
- f. The contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926, published in Volume 39, Number 122, Part II, June 24, 1974, *Federal Register*), and revisions thereto as adopted by General Statutes of North Carolina 95-126 through 155.
- i. In the event of emergency affecting the safety of life, the protection of work, or the safety of adjoining properties, the contractor is hereby authorized to act at his own discretion, without further authorization from anyone, to prevent such threatened injury or damage. Any compensation claimed by the contractor on account of such action shall be determined as provided for under Article 13(b).
- j. Any and all costs associated with correcting damage caused to adjacent properties of the construction site or staging area shall be borne by the contractor. These costs shall include but not be limited to flooding, mud, sand, stone, debris, and discharging of waste products.

11. SUBCONTRACTS AND SUBCONTRACTORS

The Contractor is and remains fully responsible for his own acts or omissions as well as those of any subcontractor or of any employee of either. The Contractor agrees that no contractual relationship exists between the subcontractor and the Owner in regard to the contract, and that the subcontractor acts on this work as an agent or employee of the Contractor.

12. CONTRACTOR-SUBCONTRACTOR RELATIONSHIPS

The Contractor agrees that the terms of these Contract Documents shall apply equally to each Subcontractor as to the Contractor, and the Contractor agrees to take such action as may be necessary to bind each Subcontractor to these terms. The Contractor further agrees to conform to the Code of Ethical Conduct as adopted by the Associated General Contractors of America, Inc., with respect to Contractor-Subcontractor relationships. The Owner reserves the right to limit the amount of portions of work to be subcontracted as hereinafter specified.

13. CHANGES IN THE WORK AND CLAIMS FOR EXTRA COST

- a. The owner may have changes made in the work covered by the contract. These changes will not invalidate and will not relieve or release the contractor from any guarantee given by him pertinent to the contract provisions. These changes will not affect the validity of the guarantee bond and will not relieve the surety or sureties of said bond. All extra work shall be executed under conditions of the original contract.
- b. Except in an emergency endangering life or property, no change shall be made by the contractor except upon receipt of approved change order from the designer, countersigned by the owner authorizing such change. No claim for adjustments of the contract price shall be valid unless this

procedure is followed. Should a claim for extra compensation by the contractor be denied by the designer or the owner, the contractor may pursue his claim in accordance with G.S. 143-135.3.

In the event of emergency endangering life or property, the contractor may be directed to proceed on a time and material basis whereupon the contractor shall proceed and keep accurately on such form as specified by the designer or owner, a correct account of costs together with all proper invoices, payrolls and supporting data. Upon completion of the work the change order will be prepared as outlined under either Method "c(1)" or Method "c(2)" or both.

- c. In determining the values of changes, either additive or deductive, contractors are restricted to the use of the following methods:
 - 1. Where the extra work involved is covered by unit prices quoted in the proposal, or subsequently agreed to by the Contractor, Designer, an Owner the value of the change shall be computed by application of unit prices based on quantities, estimated or actual as agreed of the items involved, except in such cases where a quantity exceeds the estimated quantity allowance in the contract by one hundred percent (100%) or more. In such cases, either party may elect to proceed under subparagraph c (2) herein. If neither party elects to proceed under c (2), then unit prices shall apply.
 - 2. The contracting parties shall negotiate and agree upon the equitable value of the change prior to issuance of the change order, and the change order shall stipulate the corresponding lump sum adjustment to the contract price.
- d. Under Paragraph "b" and Methods "c(2)" above, the allowances for overhead and profit combined shall be as follows: all contractors (the single contracting entity (prime), his subcontractors (1st tier subs), or their sub-subcontractors (2nd tier subs, 3rd tier subs, etc.) shall be allowed a maximum of 10% on work they each self-perform; the prime contractor shall be allowed a maximum of 5% on contracted work of his 1st tier sub; 1st tier, 2nd tier, 3rd tier, etc. contractors shall be allowed a maximum of 2.5% on the contracted work of their subs. ; Under Method "c(1)", no additional allowances shall be made for overhead and profit. In the case of deductible change orders, under Method "c(2)" and Paragraph (b) above, the contractor shall include no less than five percent (5%) profit, but no allowances for overhead.
- e. The term "net cost" as used herein shall mean the difference between all proper cost additions and deductions. The "cost" as used herein shall be limited to the following:
 - 1. The actual costs of materials and supplies incorporated or consumed as part of the work;
 - 2. The actual costs of labor expended on the project site; labor expended in coordination, change order negotiation, record document maintenance, shop drawing revision or other tasks necessary to the administration of the project are considered overhead whether they take place in an office or on the project site.
 - 3. The actual costs of labor burden, limited to the costs of social security (FICA) and Medicare/Medicaid taxes; unemployment insurance costs; health/dental/vision insurance premiums; paid employee leave for holidays, vacation, sick leave, and/or petty leave, not to exceed a total of 30 days per year; retirement contributions; worker's compensation insurance premiums; and the costs of general liability insurance when premiums are computed based on payroll amounts; the total of which shall not exceed thirty percent (30%) of the actual costs of labor;
 - 4. The actual costs of rental for tools, excluding hand tools; equipment; machinery; and temporary facilities required for the work;
 - 5. The actual costs of premiums for bonds, insurance, permit fees and sales or use taxes related to the work.

Overtime and extra pay for holidays and weekends may be a cost item only to the extent approved by the owner.

- f. Should concealed conditions be encountered in the performance of the work below grade, or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the contract documents, the contract sum and time for completion may be equitably adjusted by change order upon claim by either party made within thirty (30) days after the condition has been identified. The cost of such change shall be arrived at by one of the foregoing methods. All change orders shall be supported by a unit cost breakdown showing method of arriving at net cost as defined above.
- g. Change orders shall be submitted by the contractor in writing to the owner/designer for review and approval. The contractor will provide such proposal and supporting data in suitable format. The designer shall verify correctness. Delay in the processing of the change order due to lack of proper submittal by the contractor of all required supporting data shall not constitute grounds for a time extension or basis of a claim. Within fourteen (14) days after receipt of the contractor's accepted proposal including all supporting documentation required by the designer, the designer shall prepare the change order and forward to the contractor for his signature or otherwise respond, in writing, to the contractor's proposal. Within seven (7) days after receipt of the change order executed by the contractor, the designer shall, certify the change order by his signature, and forward the change order and all supporting data to the owner for the owner's signature. The owner shall execute the change order, within seven (7) days of receipt.

At the time of signing a change order, the contractor shall be required to certify as follows:

"I certify that my bonding company will be notified forthwith that my contract has been changed by the amount of this change order, and that a copy of the approved change order will be mailed upon receipt by me to my surety."

- h. A change order, when issued, shall be full compensation, or credit, for the work included, omitted or substituted. It shall show on its face the adjustment in time for completion of the project as a result of the change in the work.
- i. If, during the progress of the work, the owner requests a change order and the contractor's terms are unacceptable, the owner, may require the contractor to perform such work on a time and material basis whereupon the contractor shall proceed and keep accurately on such form as specified by the Designer or owner, a correct account of cost together with all proper invoices, payrolls and supporting data. Upon completion of the work a change order will be prepared with allowances for overhead and profit per paragraph d. above and "net cost" and "cost" per paragraph e. above. Without prejudice, nothing in this paragraph shall preclude the owner from performing or to have performed that portion of the work requested in the change order.

14. ANNULMENT OF CONTRACT

If the contractor fails to begin the work under the contract within the time specified, or the progress of the work is not maintained on schedule, or the work is not completed within the time specified, or fails to perform the work with sufficient workmen and equipment or with sufficient materials to ensure the prompt completion of said work, or shall perform the work unsuitably or shall discontinue the prosecution of the work, or if the contractor shall become insolvent or be declared bankrupt or commit any act of bankruptcy or insolvency, or allow any final judgment to stand against him unsatisfied for a period of forty-eight (48) hours, or shall make an assignment for the benefit of creditors, or for any other cause whatsoever shall not carry on the work in an acceptable manner, the owner may give notice in writing, sent by certified mail, return receipt requested, to the contractor and his surety (if applicable) of such delay, neglect or default, specifying the same, and if the contractor within a period of seven (7) days after such notice shall not proceed in accordance therewith, then the owner shall, declare this contract in default, and, thereupon, the surety shall promptly take over the work and complete the performance of this contract in the manner and within the time frame specified. In the event the contractor, or the surety (if applicable) shall fail to take over the work to be done under this contract within seven (7) days after being so notified and notify the owner in writing, sent by certified mail, return receipt requested, that he is taking the same over and stating that he will diligently pursue and complete the same, the owner shall have full power and authority, without violating the

contract, to take the prosecution of the work out of the hands of said contractor, to appropriate or use any or all contract materials and equipment on the grounds as may be suitable and acceptable and may enter into an agreement, either by public letting or negotiation, for the completion of said contract according to the terms and provisions thereof or use such other methods as in his opinion shall be required for the completion of said contract in an acceptable manner. All costs and charges incurred by the owner, together with the costs of completing the work under contract, shall be deducted from any monies due or which may become due said contractor and surety (if applicable). In case the expense so incurred by the owner shall be less than the sum which would have been payable under the contract, if it had been completed by said contractor, then the said contractor and surety (if applicable) shall be entitled to receive the difference, but in case such expense shall exceed the sum which would have been payable under the contract, then the contractor and the surety (if applicable) shall be liable and shall pay to the owner the amount of said excess.

15. TERMINATION FOR CONVENIENCE

- a. Owner may at any time and for any reason terminate Contractor's services and work at Owner's convenience, after notification to the contractor in writing via certified mail. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.
- b. Upon such termination, Contractor shall be entitled to payment only as follows: (1) the actual cost of the work completed in conformity with this Agreement; plus, (2) such other costs actually incurred by Contractor as approved by Owner; (3) plus ten percent (10%) of the cost of the balance of the work to be completed for overhead and profit. There shall be deducted from such sums as provided in this subparagraph the amount of any payments made to Contractor prior to the date of the termination of this Agreement. Contractor shall not be entitled to any claim or claim of lien against Owner for any additional compensation or damages in the event of such termination and payment.

16. OWNER'S RIGHT TO DO WORK

If, during the progress of the work or during the period of guarantee, the contractor fails to prosecute the work properly or to perform any provision of the contract, the owner, after seven (7) days' written notice sent by certified mail, return receipt requested, to the contractor from the designer, may perform or have performed that portion of the work. The cost of the work may be deducted from any amounts due or to become due to the contractor, such action and cost of same having been first approved by the designer. Should the cost of such action of the owner exceed the amount due or to become due the contractor, then the contractor or his surety, or both, shall be liable for and shall pay to the owner the amount of said excess.

17. REQUESTS FOR PAYMENT

Contractor shall refer to the Supplemental General Conditions for specific directions on payment schedule, procedures and the name and address where to send applications for payments for this project. It is imperative that invoices be sent only to the above address in order to assure proper and timely delivery and handling.

The Designer/Owner will process all Contractor pay requests as the project progresses. The Contractor shall receive payment within thirty (30) consecutive days after Designer/Owner's approval of each pay request. Payment will only be made for work performed as determined by the Designer/Owner.

Retainage:

- a. Retainage withheld will not exceed 5% at any time.
- b. The same terms apply to general contractor and subcontractors alike.
- c. Following 50% completion of the project no further retainage will be withheld if the contractor/subcontractor has performed their work satisfactorily.
- d. Exceptions:
 1. Owner/Contractor can reinstate retainage if the contractor/subcontractor does not continue to perform satisfactorily.

2. Following 50% completion of the project, the owner is authorized to withhold additional retainage from a subsequent periodic payment if the amount of retainage withheld falls below 2.5%.

Final payment will be made within thirty (30) consecutive days after acceptance of the work, receipt of marked-up "as-built" drawings and specifications and the submission both of notarized Contractor's affidavit and final pay request. All pay requests shall be submitted to the Designer/Owner for approval.

THE CONTRACTOR'S FINAL PAYMENT AFFIDAVIT SHALL STATE: "THIS IS TO CERTIFY THAT ALL COSTS OF MATERIALS, EQUIPMENT, LABOR, SUBCONTRACTED WORK, AND ALL ELSE ENTERING INTO THE ACCOMPLISHMENT OF THIS CONTRACT, INCLUDING PAYROLLS, HAVE BEEN PAID IN FULL."

18. PAYMENTS WITHHELD

The designer with the approval of the Owner may withhold payment for the following reasons:

- a. Faulty work not corrected.
- b. The unpaid balance on the contract is insufficient to complete the work in the judgment of the designer.
- c. To provide for sufficient contract balance to cover liquidated damages that will be assessed.
- d. The secretary of the Department of Administration may authorize the withholding of payment for the following reasons:
 - i. Claims filed against the contractor or evidence that a claim will be filed.
 - ii. Evidence that subcontractors have not been paid.

When grounds for withholding payments have been removed, payment will be released. Delay of payment due the contractor without cause will make owner liable for payment of interest to the contractor as provided in G.S. 143-134.1. As provided in G.S. 143-134.1(e), the owner shall not be liable for interest on payments withheld by the owner for unsatisfactory job progress, defective construction not remedied, disputed work, or third-party claims filed against the owner or reasonable evidence that a third-party claim will be filed.

19. MINIMUM INSURANCE REQUIREMENTS

Requirements. Providing and maintaining adequate insurance coverage is a material obligation of the Contractor and is of the essence of The Contract. All such insurance shall meet all laws of the City of Rocky Mount. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized by the Commissioner of Insurance to do business in North Carolina. The Contractor shall at all times comply with the terms of such insurance policies, and all requirements of the insurer under any such insurance policies, except as they may conflict with existing North Carolina laws or The Contract. The limits of coverage under each insurance policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under the Contract.

Insurance. Contractor agrees to maintain **Commercial General Liability** in amount of \$1,000,000 each occurrence, \$1,000,000 each occurrence in Personal & Advertising Injury with \$2,000,000 General Aggregate, and \$2,000,000 Products/Completed Operations Aggregate. Contractor shall maintain \$1,000,000 in **automobile liability**, and other appropriate insurance, as well as Workers Compensation in the required statutory amount of \$500,000.00 for all employees participating in the provision of services under this Contract. Contractor also agrees to maintain \$1,000,000 in **professional liability insurance** if the Contractor is engaged in a professional service pursuant to this Contract. The City of Rocky Mount shall be named by endorsement as an additional insured on the General and Automobile Liability policies. Certificates of such insurance shall be furnished by Contractor to the City and shall contain an endorsement to provide the City at least 30 days' written notice of any intent to cancel or terminate by either Contractor or the insuring company. Failure to furnish insurance certificates or maintain

such insurance shall be a default under this contract and shall be grounds for immediate termination of this Contract.

20. ASSIGNMENT

No assignment of the Contractor's obligations or the Contractor's right to receive payment hereunder shall be permitted. However, upon written request approved by the Owner and solely as a convenience to the Contractor, the Owner may: (1) forward the Contractor's payment check directly to any person or entity designated by the Contractor, and (2) include any person or entity designated by Contractor as a joint payee on the Contractor's payment check. In no event shall such approval and action obligate the Owner to anyone other than the Contractor, and the Contractor shall remain responsible for fulfillment of all contract obligations.

21. CLEANING UP AND RESTORATION OF SITE

The Contractor shall keep the sites and surrounding area reasonably free from rubbish at all times and shall remove debris from the site from time to time or when directed to do so by the Owner. Before final inspection and acceptance of the project, the Contractor shall thoroughly clean the sites, and completely prepare the project and site for use by the Owner.

At the end of construction, the contractor shall oversee and implement the restoration of the construction site to its original state. Restoration includes but not limited to walks, drives, lawns, trees and shrubs, corridors, stairs and other elements shall be repaired, cleaned or otherwise restored to their original state.

22. GUARANTEE

The contractor shall unconditionally guarantee materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the final acceptance of the work and shall replace such defective materials or workmanship without cost to the owner.

Where items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The contractor shall replace such defective equipment or materials, without cost to the owner, within the manufacturer's warranty period.

Additionally, the owner may bring an action for latent defects caused by the negligence of the contractor, which is hidden or not readily apparent to the owner at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law.

Guarantees for roofing workmanship and materials shall be stipulated in the specifications sections governing such roof, equipment, materials, or supplies.

23. STANDARDS

All manufactured items and/or fabricated assemblies subject to operation under pressure, operation by connection to an electric source, or operation involving a connection to a manufactured, natural, or LP gas source shall be constructed and approved in a manner acceptable to the appropriate State inspector which customarily requires the label or re-examination listing or identification marking of appropriate safety standard organization, such as the American Society of Mechanical Engineers for pressure vessels; the Underwriters Laboratories and/or National Electrical Manufacturers Association for electrically operated assemblies; or the American Gas Association for gas operated assemblies, where such approvals of listings have been established for the type of device offered and furnished. Further, all items furnished shall meet all requirements of the Occupational Safety and Health Act (OSHA), and State and federal requirements relating to clean air and water pollution.

All equipment and products must be independent third party tested and labeled (UL, FM, or CTS) before final connections to Owner services or utilities.

24. EQUAL OPPORTUNITY CLAUSE

The non-discrimination clause contained in Section 202 (Federal) Executive Order 11246, as amended by Executive Order 11375, relative to equal employment opportunity for all persons without regard to race, color, religion, sex or national origin, and the implementing rules and regulations prescribed by the secretary of Labor, are incorporated herein.

The contractor(s) agree not to discriminate against any employee or applicant for employment because of physical or mental disabilities in regard to any position for which the employee or applicant is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified individuals with such disabilities without discrimination based upon their physical or mental disability in all employment practices.

25. MINORITY BUSINESS PARTICIPATION

GS 143-128.2 establishes a ten percent (10%) goal for participation by minority businesses valued \$100,000.00 or more for each State funded building project.

For construction contracts with a value of less than \$300,000, the Owner has the responsibility to make a good faith effort to solicit minority proposals and to attain the goal. The contractor shall include with his proposal a completed Identification of HUB Certified/Minority Business Participation form. Contractor shall submit completed Appendix F MBE Documentation for Contract Payments form with final payment request.

For construction contracts with a value of \$300,000 or greater, the contractor shall comply with the document *Guidelines for Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts* including Identification of Minority Business Participation, Affidavits A, B, C, and D, and Appendix E. These forms provided herein are hereby incorporated and made a part of this contract. Forms can be found at rockymountnc.gov/mwbe.

26. MINORITY BUSINESS RESOLUTION

The City Council Minority Business Resolution establishes a **five percent (5%) goal** for participation by minority business valued \$100,000.00 or more for each City building project funded by local funds.

27. ACCESS TO PERSONS AND RECORDS

The State Auditor shall have access to persons and records as a result of all contracts or grants entered into by the Owner in accordance with General Statute 147-64.7. The Owner's internal auditors shall also have the right to access and copy the Contractor's records relating to the Contract and Project during the term of the Contract and within two years following the completion of the Project/close-out of the Contract to verify accounts, accuracy, information, calculations and/or data affecting and/or relating to Contractor's requests for payment, requests for change orders, change orders, claims for extra work, requests for time extensions and related claims for delay/extended general conditions costs, claims for lost productivity, claims for lost efficiency, claims for idle equipment or labor, claims for price/cost escalation, pass-through claims of subcontractors and/or suppliers, and/or any other type of claim for payment or damages from Owner and/or its project representatives.

28. GOVERNING LAWS

This contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina, without regard to its conflict of laws rules, and within which State all matters, whether sounding in Contract or tort or otherwise, relating to its validity, construction, interpretation and enforcement shall be determined.

SPECIAL CONDITIONS

1.0 Defective Workmanship

The acceptance of any workmanship by the Owner shall not preclude the subsequent rejection thereof if such workmanship shall be found to be defective after installation, and any such workmanship found defective before final acceptance of the work or within two (2) years after completion shall be remedied or replaced, as the case may be, by and at the expense of the Contractor. In the event of failure by the Contractor to do so, the Owner may remedy such defective workmanship and in such event the Contractor shall pay to the Owner the cost and expense thereof. The Contractor shall not be entitled to any payment hereunder so long as any defective workmanship, of which the Contractor shall have had notice, shall not have been remedied or replaced, as the case may be.

2.0 Materials

2.1 At or prior to the commencement of construction, the Owner shall make available to the Contractor all materials which the Owner has on hand, and from time to time as such additional deliveries of materials, if any, are received by the Owner, the Owner shall make such materials available to the Contractor; Provided, however, that the Contractor or his authorized representative shall give to the Owner a receipt in such form as the Owner shall approve for all materials furnished to the Contractor by the Owner. Upon completion of the project, the Contractor shall return all materials furnished by the Owner which are in excess of those required for the construction. Excess will be determined by comparison of Contractor's material receipts with final inventory as approved by the Owner. The Contractor shall also return to the Owner all material, usable and scrap, removed during construction. The Contractor will reimburse the Owner, at the current invoice cost to the Owner, for loss and/or breakage resulting from Contractor's negligence, of materials furnished to the Contractor by the Owner.

The winning Bidder will use the material package supplied by the Owner. The structures and equipment list is located in the Appendices.

3.0 Defective Materials (Supplied by Contractor)

- 3.1 All materials supplied by the Contractor shall be subject to the inspection, tests and approval of the Owner. The Contractor shall furnish all information required concerning the nature or source of any materials and provide adequate facilities for testing and inspecting the materials at the plant of the Contractor.
- 3.2 The materials furnished hereunder shall become the property of the Owner when delivered at the point to which shipment is to be made. The Owner may, however, reject any materials and/or warranties of the Contractor and manufacturers. Recognition and subsequent rejection of any defective materials may occur either before or after incorporation of such materials into the work, provided such rejection is made within one (1) year of date of delivery of the materials. Upon any such rejection, the Contractor shall replace the rejected materials with materials complying with the Specification for Materials and warranties at the substation site. The Owner shall return the rejected materials F.O.B. truck at the same destination. In the event of the failure of the Contractor to so replace rejected materials, the Owner shall make such replacement and the cost and expense thereof shall be paid by and recoverable from the Contractor.

4.0 Storage of Materials

The substation structures, equipment, poles, and hardware for this construction will be delivered and stored at the Station site, shown on the Vicinity Map in the Appendices. All driveways and public roadways must be kept clear. No parking, storage or staging of materials shall be placed in a driveway or roadway, causing said roadway impassable any time.

5.0 Protection to Persons and Property

The Contractor shall at all times take all reasonable precautions for the safety of employees on the work and of the public, and shall comply with all applicable provisions of Federal, State, and Municipal safety laws and building and construction codes, as well as the safety rules and regulations of the Owner. All machinery and equipment and other physical hazards shall be guarded in accordance with the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America unless such instructions are incompatible with Federal, State, or Municipal laws or regulations.

The following provisions shall not limit the generality of the above requirements:

- 5.1 The Contractor shall so conduct the substation construction as to cause the least possible obstruction of public highways or streets.
- 5.2 The Contractor shall provide and maintain all such guard lights and other protection for the public as may be required by applicable statutes, ordinances, and regulations or by local conditions.
- 5.3 The Contractor shall do all things necessary or expedient to protect properly any and all parallel, converging, and intersecting lines, joint line poles, highways, railways and any and all property of others from damage, and in the event that any such parallel, converging and intersecting lines, joint line poles, highways, railways or other property are damaged in the course of the construction of the line, the Contractor shall at his own expense immediately restore any or all of such damaged property to as good a state as before such damage occurred.
- 5.4 The Contractor shall enter and exit the right-of-way at those locations specified by Owner or the Engineer.

It shall be the responsibility of the Contractor to maintain safe and unobstructed control of traffic along all state roads, highways, and all other streets within the project area. The Contractor shall obtain sufficient and suitable traffic cones, barriers, warning signs, and other devices necessary to maintain a safe work environment for crews and the general public. Traffic control must be provided for in accordance with the Manual of Uniform Traffic Control Devices (MUTCD), the North Carolina Department of Transportation (NC D.O.T.) Supplement to the MUTCD, all local ordinances, and as approved by local and state authorities.
- 5.5 All ditches and access ways disturbed shall be returned to their pre-existing condition at the end of construction.
- 5.6 Any and all excess earth, rock, debris, underbrush, and other useless material shall be removed by the Contractor from the site of the work as rapidly as practicable as the work progresses.
- 5.7 Before beginning work in or around any areas where underground facilities are known to exist, the Contractor shall locate all such facilities including water, sewer, gas, telephone and electrical lines.
- 5.8 Upon violation by the Contractor of any provisions of this section, after written notice of such violation given to the Contractor by the Owner, the Contractor shall immediately correct such violation. Upon failure of the Contractor to do so, the Owner may correct such violation at the Contractor's expense.
- 5.9 The Contractor shall submit to the Owner monthly reports in duplicate of all accidents, giving such data as may be prescribed by the Owner.

6.0 Supervision and Inspection

- 6.1 The Contractor shall cause the construction work to receive constant supervision by a competent superintendent (hereinafter called the "Superintendent") who shall be present at all times during working hours where construction is being carried on. The Contractor shall also employ, in connection with the construction of the substation capable, experienced, and reliable foremen and such skilled workmen as may be required for the various classes of work

to be performed. Directions and instructions given to the Superintendent by the Owner shall be binding upon the Contractor.

- 6.2 The Owner reserves the right to require the removal from the project of any employee of the Contractor if, in the judgment of the Owner, such removal shall be necessary in order to protect the interest of the Owner. The Owner shall have the right to require the Contractor to increase the number of his employees and to increase or change the amount or kind of tools and equipment if at any time the progress of the work shall be unsatisfactory to the Owner; the failure of the Owner to give any such directions shall not relieve the Contractor of his obligations to complete the work within the time and in the manner specified in this Proposal.
- 6.3 The manner of performance of the work, and all equipment used therein, shall be subject to the inspection, tests and approval of the Owner. The Contractor shall have an authorized agent accompany the Owner when final inspection is made and, if requested by the Owner, when any other inspection is made.
- 6.4 In the event that the Owner shall determine that the construction contains or may contain numerous defects, it shall be the duty of the Contractor, if requested by the Owner to have an inspection made by the Engineer for the purpose of determining the exact nature, extent, and location of such defects.

7.0 Temporary Construction

All temporary construction required to accomplish the work covered in these Specifications shall be the sole responsibility of the Contractor. The Contractor shall furnish all labor and materials necessary for temporary construction including the installation and removal of structures, poles, insulators, hardware, guys, anchors, etc. All materials used for temporary construction shall be removed from the site as soon as practicable and the site restored to as good a state as before such construction. All temporary materials supplied by the Contractor will remain the property of the Contractor. All temporary construction shall be performed and shall adhere to the same safety and code requirements as the proposed work and shall be covered by all requirements of these Plans, Specifications, and Contract Documents.

No extra pay item will be issued for temporary construction, or for subsequent removal of same.

8.0 Normal Work Week

- 8.1 The Contractor shall provide the Owner quoted prices on a per-hour basis, for various personnel and equipment, assuming a normal work week as being forty (40) hours.
- 8.2 The Contractor shall state in the Proposal his normal work week for the project.
- 8.3 Work on weekends or generally accepted holidays will only be allowed if specific outage arrangements are required or the Contractor falls behind in meeting the project's scheduled completion date.
- 8.4 The Contractor will not be paid for inclement weather days or for travel time to and from the job site, unless expressly requested by the Contractor as a written stipulation to his original Proposal.

9.0 Job-Site Obligations

- 9.1 Except as otherwise provided in the Contract, necessary sanitary conveniences for use by the Contractor's employees and Subcontractors at the Jobsite shall be furnished and maintained by the Contractor in such manner and at such locations as shall be approved by the Company Representative and their use shall be strictly enforced.
- 9.2 The Contractor shall, at all times, keep its work areas in a neat, clean, and safe condition. The Contractor shall be responsible for continuous clean up and removal of its trash, debris, waste materials and scrap and disposal of same off the Jobsite. Upon completion of any portion of the Work, the Contractor shall immediately remove all of its equipment, construction plant, temporary structures and surplus materials not to be used at or near the same location during later stages of the Work. Upon completion of the Work and before final payment is made, the

Contractor shall, at its expense, satisfactorily dispose of all plant, buildings, rubbish, unused materials, and other equipment and materials belonging to it or used in the performance of the Work, including return to the Owner's warehouse or designated lay down area(s), at the Owner's option of any salvageable materials for which the Owner has reimbursed the Contractor or that has been supplied by the Owner for incorporation into the Work but not used; and the Contractor shall leave the premises in a neat, clean and safe condition acceptable to the Company Representative. In the event of the Contractor's failure to comply with the foregoing, the same may be accomplished by the Owner at the Contractor's expense.

- 9.3 The Owner reserves the right to authorize its agents or designees to enter the Jobsite as it may elect for the purpose of inspecting the Work, or constructing or installing such collateral work as it may desire, or testing, boring or surveying, or any other purpose.
- 9.4 The Contractor understands and agrees that duly authorized representatives of government agencies having appropriate jurisdiction may enter the Jobsite at any time and from time to time.
- 9.5 If any Work or part thereof shall be covered contrary to the requirements of the Contract or the request of the Owner or Engineer, it must, if required by the Company Representative, be uncovered for observation and inspection and covered again at the Contractor's sole expense.
- 9.6 If any other Work that the Company Representative has not specifically requested to observe and inspect prior to being covered has been covered, the Owner or Engineer may request to see such Work or part thereof and it shall be uncovered by the Contractor. If such Work or part thereof is found to be in accordance with the Contract, the cost of uncovering and covering again shall, by appropriate Change Form, be charged to the Owner. If such Work or part thereof fails to meet the requirements of the Contract, the Contractor shall pay all costs of uncovering, correcting, and covering again and any additional costs resulting there from.
- 9.7 The Contractor shall conduct daily and weekly on-site safety meetings at the beginning of each work period. These meetings should not preclude the Contractor from conducting tailgate safety meetings before each new work period, after break, different work assignments, etc. as determined by OSHA and other applicable safety laws and regulations. In addition, the Contractor shall be required to attend onsite safety meetings with the Owner.
- 9.8 All personnel / visitors / individuals shall have a safety briefing by the Contractor prior to entering the energized substation area.
- 9.9 The Contractor shall facilitate a formal safety program for all individuals entering the site.
- 9.10 The Contractor shall provide the Owner a copy of the Contractor's Safety Manual, outlining policies, procedures, documentation and training. The Owner will provide the Contractor with a copy of the Owner's Safety Manual. The Contractor shall perform the work using the more stringent of the two policies.

**CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA**

**SPECIFICATIONS AND BID DOCUMENTS FOR
THE INSTALLATION OF THE
ROCKY MOUNT 230KV SOUTH POD SUBSTATION FOUNDATION**

TECHNICAL INSTALLATION SPECIFICATIONS
--

1.0 Scope of Work

1.1 Project Summary

The City will be receiving a transformer by the end of April to be installed on the transformer pad described within this contract. The Bidder shall install the concrete foundation as described in the drawings such that the transformer will be ready to be received. The bidder shall take multiple concrete samples during the pour to be tested for breaking strength. The foundation will need to be at 3,000 psi prior to the transformer delivery.

1.2 Contractor's Work

The Contractor's work shall include the furnishing of all labor, tools and equipment, and materials and the installation of those materials as necessary to complete the following work:

1. Demolition of existing transformer foundation of size 20'x12'. The Concrete excavated is to be disposed of by the Contractor.
2. Installation of transformer foundation and oil containment basin as shown in Foundation Details (Appendix 2) and as specified in the Foundation Specification (Appendix 1). In addition, Galvanized Steel Grating will be provided by the owner which will be installed by the bidder by means of wedge bolts. The Bidder will be responsible for performing the labor of the install. The material will be provided by the owner.
3. The removal of 44' of existing duct bank and one electrical manhole. The proposed foundation construction location is near an existing duct bank and electrical manhole. The removal of which may be performed by others but may need to be performed by the Contractor. The Contractor shall submit a price for such removal to be considered by the Owner, but that work may not be required at the Owner's discretion. The Contractor will be notified at the time of award if this line item is selected or not. The duct bank and manhole equipment shall be left on site by the contractor to be disposed of by others. The connections to the duct bank that is to remain and be abandoned on site shall be appropriately sealed either by pouring a concrete cap at all open ends, or other approved means approved by the engineer.

The Contractor shall be responsible for removing any spoils from the required excavation and disposing of it according to all applicable laws. At the conclusion of the project, the site shall be left as found, with any disturbed yard rock replaced to match the surrounding site.

The site is within an energized electrical substation that is maintained by both The City of Rocky Mount and Duke Energy Progress (DEP). The construction area is near Utility structures energized to 230 kV as well as 69 kV. The nearest conductors to the worksite have been removed were possible or will be de-energized and grounded by City of Rocky Mount personnel prior to construction. If the Contractor discovers any subgrade conductors including ground grid during excavation the Contractor shall promptly notify the Owner for repairs to be made before continuing work. The Contractor shall abide by all safety requirements requested by the Owner as well as DEP.

CONTRACT AGREEMENT

THIS CONTRACT, made this _____ day _____, 2022, by _____, hereinafter called Bidder, and The City of Rocky Mount, hereinafter called the Owner.

WITNESSETH

THAT WHEREAS, a Contract for

**CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA
SUBSTATION WORK FOR
ROCKY MOUNT 230kV SOUTH POD FOUNDATIONS AND OIL CONTAINMENT**

has recently been awarded to Bidder by the Owner at and for a total price of _____
AND 00/100 (\$ _____) named in the Bidder's Proposal attached hereto;

AND WHEREAS, it was provided in said award that a formal Contract would be executed by and between Bidder and Owner, evidencing the terms of said award, and that Bidder would commence the work to be performed under this agreement on a date to be specified in a written order of Owner, and would fully complete all work thereunder no later than 60 days from the date of contract.

NOW, THEREFORE, Bidder doth hereby covenant and agree with Owner that it will well and faithfully perform and execute such work and furnish such work and furnish such materials and equipment in accordance with each and every one of the conditions, covenants, stipulations, terms, and provisions contained in said Specifications in accordance with the Plans, at the total price named therefore in the Bidder's Proposal attached hereto, and will well and faithfully comply with and perform each and every obligation imposed upon it by said Plans and Specifications and the terms of said award.

Bidder shall promptly make payments to all laborers and others employed thereon.

Bidder shall be responsible for all damages to the property of the Owner that may be consequent upon the normal procedure of its work or that may be caused by or result from the negligence of Bidder, its employees, or agents during the progress of or connected with the prosecution of the work, whether within the limits of the work or elsewhere. Bidder must restore all property so injured to a condition as good as it was when Bidder entered upon the work.

By execution of this Contract, both parties acknowledge the following conditions as a part of their respective obligations:

- a) Governing Law - This Contract shall be construed and enforced in accordance with the laws of the State of North Carolina. All parties agree to the jurisdiction of the Courts of North Carolina with respect to any action or dispute arising between the parties.
- b) Further Assurances - The parties hereto agree to execute and deliver any and all papers and documents which may be necessary to carry out the terms of this Contract.
- c) Entire Contract - This Contract (including materials incorporated herein by reference) constitutes the entire agreement between the parties hereto and there are no agreements, representations, or warranties which are not set forth herein. All prior negotiations, agreements, and understandings are superseded hereby. This Contract may not be amended or revised except by a writing signed by all parties hereto. This Contract shall be construed and interpreted without any presumption either for or against the party who caused its preparation.

- d) Binding Effect - This Contract shall be binding upon an inure to the benefit of the heirs, legal representatives, successors and assigns of the respective parties hereto, provided that this Contract and all rights hereunder may not be assigned by any party hereto without the written consent of the other party.
- e) Time of Performance - Time is of the essence with regard to the performance of this Contract.
- f) Survivability - The terms of this Contract shall survive execution and delivery of any deeds or bills of sale called for hereunder.
- g) Headings - The headings in the paragraphs of this Contract are inserted for convenience only and do not constitute a part hereof.

Bidder shall furthermore be responsible for and required to make good at its expense any and all damages of whatever nature to persons or property arising during the period of the Contract caused by carelessness, neglect, or want of due precaution on the part of Bidder, its agents, employees, or workmen. Bidder shall also indemnify and save harmless the Owner, and the officers and agents thereof, from all third party claims, suits, and proceedings of every name and description which may be brought against the Owner, or the officers and agents thereof, for or on account of any injuries or damages to persons or property received or sustained by any person or persons, firm, or corporation, by or in consequence of any materials used in said work, to the extent caused by the negligence of Bidder, its agents, employees, servants, or workmen.

It is agreed and understood that the Notice to Prospective Bidders, Definitions, Instructions to Bidders, and Technical Specifications, the accepted Bidder's Proposal, and the enumerated addenda are incorporated in this Contract by reference and are an integral part thereof as set forth herein.

And the Owner doth hereby covenant and agree with Bidder that it will pay to Bidder, when due and payable under the terms of said Specifications and said award, the above-mentioned sum; and that it will well and faithfully comply with and perform each and every obligation imposed upon it by said Specifications and the terms of said award.

Bidder shall, upon completion of all work awarded under this Contract, furnish to the Owner invoices or copies of invoices for all materials purchased for said work; and such invoices shall state the amount of North Carolina sales tax paid for said materials. Bidder shall also furnish the Owner an affidavit certifying the total costs of materials purchased for all work performed under the Contract and the total amount of state sales tax paid for said materials.

Whenever used herein, the singular shall include the plural, the plural the singular, and the use of any genders shall be applicable to all genders as the context may require.

**CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA**

**SUBSTATION INSTALLATION CONTRACT FOR
ROCKY MOUNT 230KV SOUTH POD FOUNDATIONS AND OIL CONTAINMENT**

FORM OF PROPOSAL
(Provide two (2) copies)

Respectfully submitted this ____ day of _____, 2022.

OWNER:	BIDDER:	
City of Rocky Mount P.O. Box 1880 Rocky Mount, North Carolina 27802 Ms. Chynice Chapman Purchasing Manager Office: 252-972-1228 Email: Chynice.Chapman@rockymountnc.gov		
	NAME	TITLE
	STREET ADDRESS	
	CITY/STATE/ZIP	
	PHONE:	
	FAX:	
	E-MAIL:	
SIGNATURE		
MANUFACTURER OF PROPOSED EQUIPMENT		
MANUFACTURER		
STREET ADDRESS		
CITY / STATE / ZIP		

TERMS AND CONDITIONS

1. The undersigned, hereafter called the Contractor, hereby declares that the only person or persons interested in this Proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this Proposal or in the Contract to be entered into; that this Proposal is made without connection with any other person, company or parties making a bid or Proposal; and that it is in all respects fair and in good faith without collusion or fraud.
2. The Contractor further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the locations where the work is to be done; that he has examined the Technical Specifications for the work and Contract Documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed.
3. The Contractor proposes and agrees, if this Proposal is accepted, to contract with the Owner in the form of Contract specified, to furnish all necessary labor, equipment, and materials, except materials and equipment specified to be furnished by the Owner, required for the installation of the station, complete in accordance with the Plans, Specifications and Contract Documents, to the full and entire satisfaction of the Owner with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and Contract Documents, as filed on Change Order forms. No changes in work shall begin without prior written approval by the Owner or its representative Engineer.
4. The Bid Schedule is subject to the following terms and conditions which, by reference, are made a part of this Proposal.
5. The prices of materials set forth herein do not include any sums which are or may be payable by the Contractor on account of North Carolina Sales Tax upon the sale, purchase, or use of the materials hereunder, the amount thereof shall be added to the purchase price and paid by the Owner after the Contractor has ascertained the actual sales tax to be included in the Contract price.
6. The prices quoted in the Proposal shall be firm unless otherwise clearly noted in the Proposal.
7. The price quoted includes delivery FOB substation site of any equipment and materials and complete installation at substation site. The prices of the equipment and installation set forth herein shall include the cost of delivery at the Contractor's risk to the site.
8. The Contractor shall provide the Owner quoted prices on a per-hour basis, for various personnel and equipment, assuming a normal work week as being forty (40) hours.
9. The Contractor shall state his normal work week for the project:
 _____ Five (5), eight (8) hour days (Monday through Friday)
 _____ Four (4), ten (10) hour days (Monday through Thursday)
 _____ Other, _____
10. Work on weekends or generally accepted holidays will only be allowed if specific outage arrangements are required, or if the Contractor falls behind in meeting the project's scheduled completion date. If the Contractor deems this necessary, he must receive the Owner's written approval five (5) business days prior to beginning the revised work scheme.
11. The time of completion for the project is of the essence.
12. The Contractor shall submit a proposed project construction schedule with the Proposal for review and approval by the Owner and Engineer. The targeted date for completion is April 6, 2022. If this date is not possible, please present an alternate date.

13. The time for delivery and installation shall be extended for the period of any reasonable delay due exclusively to causes beyond the control and without fault of the Contractor, including acts of God, fires, floods, strikes, and delay in transportation
14. The Contractor will not be paid for inclement weather days or for travel time to and from the job site, unless expressly requested by the Contractor as a written stipulation to his original Proposal.
15. The Contractor-furnished materials shall conform to the "Technical Specifications" attached hereto and made a part hereof.
16. Title to the materials furnished by the Contractor shall pass to the Owner upon completion of the installation at the point above specified.
17. This Proposal is made pursuant to the provisions of the Notice and Instructions to Bidders, the Specifications, and the Contractor agrees to the terms and conditions thereof.
18. The Contractor warrants the accuracy of all statements contained in the Bidders Qualifications, if any shall be submitted, and agrees that the Owner shall rely upon such accuracy as a condition of the Contract in the event that this Proposal is accepted.
19. The Contractor warrants that the Contractor-furnished Materials will conform to the performance data and guarantees attached which, by this reference, are made a part of this Proposal. Any exceptions or deviations from the Plans and Specifications must be clearly stated in the Proposal to warrant consideration.
20. The Contractor assumes liability for the proper care, handling, storage, and security of all materials furnished to the Contractor by the Owner for the project.
21. The undersigned further agrees that in case of failure on his part to execute said Contract within ten (10) consecutive calendar days after written notice has been given of the Award of the Contract, bid security accompanying this bid, and the monies payable thereon, shall be paid into the funds of the Owner's account set aside for this project, as liquidated damages for such failure, otherwise, the check, cash, or Bid Bond accompanying the Proposal shall be returned to the undersigned.
22. The Contractor shall maintain during the course of the project and shall provide the Owner/Engineer one (1) complete set of "as-constructed" drawings upon the completion of the project.
23. The Contractor warrants that it possesses Electric Utility Contractor's License for the State of North Carolina. A copy of the license shall be included in this *Form of Proposal*.
24. The Contractor shall submit, in the *Form of Proposal*, the proposed project management staff, i.e., project manager, site superintendent, general foreman, etc. The qualifications / work experience level of the Bidder's proposed work force shall be included as well. The Contractor shall provide evidence of a minimum of 60% of the proposed work force having five (5) years or more tenure with the Bidder's firm. If other personnel are actually assign to the project, similar information will be required prior to construction assignment.
25. The Contractor shall provide a list of recent projects of similar voltage class and complexity, along with the Owner and contact information of the representative who was reported to directly.
26. If the proposed staff along with their qualifications is not provided, the bid may be subject to non-compliance, thus, making it unacceptable.
27. The Contractor shall provide a list of subcontractors (if any) in the proposal and their respective support services which will be used by the Contractor when undertaking this project. All subcontractors will be subject to review and approval by the Owner.
- 28. A mandatory pre-construction meeting will be scheduled at a later time based on the construction schedule at the South POD site.**

INSERT

ADDENDA / CLARIFICATIONS / BULLETINS

Instructions to Bidders, 4.0 Bulletins and Addenda

BID SCHEDULES

BID SCHEDULE NO. 1 – ROCKY MOUNT 230kV SOUTH POD SUBSTATION

<u>Description</u>	<u>Quantity</u>	<u>Total Price</u>
Furnish and Construct the Transformer Foundation for the Rocky Mount 230kV South POD Substation as per the Foundation Details and Specifications	1	\$
Demolition of existing transformer pad	1	\$
Removal of 44' of existing duct bank and one electrical Man Hole	1	\$
Sales Tax (if applicable)		\$
	BASE BID:	\$

**CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA**

ROCKY MOUNT 230kV SOUTH POD SUBSTATION

BID AND CONSTRUCTION SCHEDULE

DATE	ITEM
March 18, 2022	Public Advertisement
March 24, 2022	Pre-Bid Meeting (10am EST) (540 Old Mill Rd. Rocky Mount, NC 27804)
March 29, 2022	Deadline for Questions (4pm EST; Submit to Chynice Chapman)
March 31, 2022	Deadline for Addendum and Question Responses (2pm EST)
April 5, 2022	Bid Opening/Bid Deadline (2pm EST)
April 19, 2022	Foundation Concrete to be Poured

INSERT

PROPOSED CONSTRUCTION SCHEDULE

*Instructions to Bidders, 9.0 Completion
Form of Proposal, Terms and Conditions – Item 12*

Instructions to Bidders, 5.0 Award of Contract

230kV POD SUBSTATION FOUNDATIONS AND OIL CONTAINMENT

The following is a list of exceptions to the Bidding Documents and/or Technical Specifications pertaining to the furnishing of the subject materials. Bidders shall identify each exception by Specification page and paragraph number on this form. The omission of exception implies complete compliance with Plans and Specifications.

EXCEPTION/VARIATION[illegible]

EQUAL EMPLOYMENT OPPORTUNITY AFFIDAVIT

General Conditions, 24.0 Equal Employment Opportunity

The Contractor shall include the provisions of the Equal Employment Opportunity, as found in General Conditions section, in every Subcontract unless exempted by rules, regulations, or orders of the Owner so that such provisions will be binding upon each Subcontractor.

Bidder:

By:

Date:

PROPOSED PROJECT MANAGEMENT STAFF*Form of Proposal, Terms and Conditions – Item 24*

Title/Function	Name	Years with Firm	Total Years Experience
Project Manager			
Site Superintendent			
General Foreman - Foundations			

CONTRACTOR HAS ☐ DOES NOT HAVE ☐ SIXTY PERCENT (60%) OF PROPOSED WORK FORCE WITH FIVE (5) YEARS CONTINUOUS SERVICE WITH BIDDER'S FIRM.

REFERENCES*Form of Proposal, Terms and Conditions – Item 25***CONTACT INFORMATION FOR RECENT SIMILAR PROJECTS**

Owner Name	Project Description	Contact Name and Phone Number

LIST OF SUBCONTRACTORS
Form of Proposal, Terms and Conditions – Item 27

SUBCONTRACTOR	PROPOSED WORK TO BE PERFORMED

Letter of Compliance to E-Verify for City of Rocky Mount

1. I have submitted a bid for contract or desire to enter into a contract with the City of Rocky Mount;
2. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that I am aware of and in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
3. ____ After hiring an employee to work in the United States I verify the work authorization of said employee through E-Verify and retain the record of the verification of work authorization while the employee is employed and for one year thereafter; or
4. ____ I employ less than fifteen (15) employees in the State of North Carolina.
5. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that to the best of my knowledge and subcontractors employed as a part of this bid and/or contract, are in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
6. ____ After hiring an employee to work in the United States the subcontractor verifies the work authorization of said employee through E-Verify and retains the record of the verification of work authorization while the employee is employed and for one year thereafter; or
7. ____ Employ less than fifteen (15) employees in the State of North Carolina.

Specify subcontractor: _____

_____ (Company Name)

By: _____ (Typed Name)

_____ (Authorized Signatory)

_____ (Title)

_____ (Date)

LETTER OF COMPLIANCE TO THE IRAN DIVESTMENT ACT CERTIFICATION

Name of Vendor or Bidder: _____

IRAN DIVESTMENT ACT CERTIFICATION REQUIRED BY N.C.G.S. 143C-6A-5(a)

As of the date listed below, the vendor or bidder listed above is not listed on the Final Divestment List created by the State Treasurer pursuant to N.C.G.S. 143-6A-4.

The undersigned hereby certifies that he or she is authorized by the vendor or bidder listed above to make the foregoing statement.

Signature	Date
-----------	------

Printed Name	Title
--------------	-------

APPENDICES

1. Foundation Specifications
2. Foundation Detail Drawings
3. Vicinity Map
4. Identification of HUB Certified/ Minority Business Participation

1

Foundation Specifications

**CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA**

**FOUNDATION SPECIFICATIONS
FOR
230 to 66kV POD 1-2-3
ROCKY MOUNT, NORTH CAROLINA**

ISSUED FOR CONSTRUCTION

**ISSUED FOR
CONSTRUCTION
FEBRUARY 24, 2022**

BOOTH & ASSOCIATES, LLC

**CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA**

**FOUNDATION SPECIFICATIONS
FOR
230 to 66kV POD 1-2-3
ROCKY MOUNT, NORTH CAROLINA**

**Booth & Associates, LLC
Consulting Engineers
5811 Glenwood Avenue, Suite 109
Raleigh, North Carolina 27612
Firm License No.: 09-47715**

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TECHNICAL SPECIFICATIONS

1.0 General

The Foundation Specifications, Oil Containment Specifications, and Drawings are complementary, each to the other.

The Contractor shall furnish and install the reinforced concrete foundations as shown on the drawings, complete with excavation, off-site disposal of excavated spoils, grading, backfilling, and compaction of all excavations to restore existing grade levels, foundation layout, concrete, rebar, tie wire, and forming materials.

The reinforced concrete foundations, footings, piers and pads shall be installed as indicated on the Drawings, and to undisturbed earth. Dimensions indicated for anchor bolt settings shall be checked against the manufacturer's erection drawings, structural steel and/or equipment to be installed prior to the construction of the formwork.

1.1. Special Conditions

The contractor is responsible to review and become familiar with the soil boring report.

1.2. Concrete

This section specifies the minimum materials, workmanship, and performance standards for cast-in-place concrete including reinforcing steel, forms, finishing, curing, and other associated work.

Cast-in-place concrete shall be in accordance with the latest applicable requirements of the ACI, ASTM, and CRSI, except as modified by these Specifications. For the purposes of mix design, cast-in-place concrete is considered to be of Exposure Category F2 as defined by ACI 318.

Requirements for Concrete By Exposure Class				
Exposure Class	Max <i>w/cm</i>	Minimum Compressive Strength	Air Content	Cement Type
F2	0.45	4,500	6 ± 1	I

**Source: ACI 318-11, Table 4.3.1

The Owner shall be informed a minimum of 24 hours in advance of the times and places at which concrete will be placed.

1.3. Materials

1.3.1. Cement

Only one (1) brand of cement shall be used for exposed concrete. Cement reclaimed from cleaning bags or leaking containers shall not be used. Cement

shall be used in the sequence of receipt of shipments, unless otherwise directed by the Engineer. Cement will be accepted on the basis of the manufacturer's mill certificate of compliance with the Specification requirements. Portland cement shall conform to the "Standard Specifications for Portland Cement", serial designation C150, Type I of the ASTM.

1.3.2. Cementitious Materials

Fly ash shall conform to the latest edition of ASTM C 618 and be of type Class F.

1.3.3. Fine Aggregate

Fine aggregate shall consist of washed natural siliceous sand, composed of clean, hard and durable grains, and shall be of a quality and gradation approved by the Engineer. Manufactured sand will not be accepted. All fine aggregate shall be free from injurious amounts of alkaline and organic impurities. Fine aggregate shall be graded from coarse to fine and shall conform to ASTM C33.

1.3.4. Coarse Aggregate

Coarse aggregate shall consist of crushed stone or other approved inert material with similar characteristics. It shall be clean, hard, durable, and free from injurious amounts of deleterious matter. Clay and shale particles shall not exceed 1 percent (1%). Course aggregate shall be graded from coarse to fine and shall conform to ASTM C33.

1.3.5. Water

Water shall be clean, fresh, and free from injurious amounts of mineral and organic substances. Iron in water shall not exceed 0.25 ppm.

1.3.6. Admixtures

All admixtures are to be supplied by a single approved manufacturer, such as: Master Builders, WR Grace & Co., or Sika Chemical. Admixtures shall conform to the following standards:

Water Reducing (plasticizer)	ASTM C494, Type A
Water Reducing and Retarding	ASTM C494, Type D
High Range Water Reducer	ASTM C494, Type F
High Range Water Reducer and Retarder	ASTM C494, Type G
Air-Entraining Agent	ASTM C260

1.3.7. Reinforcing Steel

- a. Reinforcing Bars - All reinforcing steel bars shall be of the deformed type conforming to the requirements of the "Standard Specifications for Bars, Deformed, and Plain, Billet-Steel for Concrete Reinforcement". Steel shall be Type A615 or A996-Grade 60.

- b. Welded Wire Fabric – Welded wire fabric reinforcement used in slabs shall conform to the requirements of ASTM A1064. It shall be continuous, shall have joints lapped at least one full mesh, and shall be supported at proper elevations by standard accessories. Lapping of sheets shall be staggered to avoid continuous lap in either direction.
- c. Accessories – Accessories such as chairs, ties, bolsters, spacers, etc., shall be of suitable type, as approved, adequate to prevent displacement during construction.
- d. Mechanical Splices – Classified Type 2 in accordance with ACI 318-11 and approved by Engineer. Dayton/Richmond “Dowel Bar Splicer” or “Coupler Splice” system, Bar-Lock “Coupler Systems” or Barsplice Products.

1.3.8. Forms

Forms shall be made of rigid, straight, and uniform material that is free of injurious chemicals or organic matter.

Plywood	Product Standard PS1, waterproof, resin-bonded, exterior type Douglas fir; face adjacent to concrete Grade B plywood or better.
Metal	Of sufficient gauge to resist deformation.
Fiberboard	Fed Spec LLL-B-810, Type II; tempered, waterproof, screenback.
Lumber	Straight, uniform width and thickness, and free from knots, offsets, holes, dents, and other surface defects.
Chamfer strips	Clear pine, surface against concrete shall be planed.
Form coating	Nonstaining and nontoxic after 30 days, VOC compliant; Burke "Form Release (WB)," L&M Chemical "E Z Strip," Nox-Crete "Form Coating," or Symons "Thrift Kote E."
Polyethylene film	Fed Spec L-P-378D, Type I; 6 mil.

1.3.9. Finishing Compounds

Bonding compound	Epoxy - ASTM C881; Sika Chemical "Sikadur Hi-Mod"; or acceptable equal Latex - ASTM C1059; Dayton Acrylic Bonding Agent J40; or acceptable equal
Membrane Curing compound	ASTM C1315, Type I, Class A, maximum VOC 5.8 lb/gal (700 g/L), minimum 25 percent solids, acrylic, nonyellowing, unit moisture loss 0.40 kg/m ² maximum in 72 hours; L&M Chemical "Dress &

	Seal 30," Sonneborn "Kure-N-Seal 30," or Symons "Cure & Seal 30%."
--	--

1.4. Submittals

Three copies of all reports shall be submitted to the Owner and Engineer within fifteen (15) days of contract award and prior to any concreting operations. The Engineer will provide approval within ten days (10 days) of receipt of submittals. All submittals shall be provided to the Owner and Engineer as a single packet. A Submittal Log is provided in Appendix B.

1.4.1. Material Reports

The report should include the source and quality of concrete materials and the concrete proportions proposed for the work. Complete certified reports covering the materials and proportions proposed and tested in accordance with ACI 318 shall be submitted to the Owner and Engineer. Reports shall be prepared by an independent testing laboratory. Owner and Engineer review of these reports will be for general acceptability only; continued compliance with all contract provisions will be required.

Reports on cement shall include the type, brand, manufacturer, composition, and method of handling (sack or bulk).

Reports on admixtures shall include the ASTM C260 or ASTM C494 classification, brand, manufacturer, and active chemical ingredients. All admixtures shall be the products of one manufacturer.

Reports on aggregates shall include the source, type, gradation, deleterious substances, soundness, potential for harmful materials, and potential for alkali reactivity. The results of all tests and field service records to verify potential reactivity are required to verify compliance with ASTM C33, including Appendix XI.

A certification that the reinforcing steel furnished complies with the requirements specified in the section titled "Materials" shall be furnished to the Owner and Engineer. The certification shall be signed by the Contractor and the reinforcing steel fabricator.

1.4.2. Mix Design Reports

A tentative concrete mix shall be designed and tested for each size and gradation of aggregates and for each mix class specified. Mix Design Reports shall be provided to the Owner and Engineer for each mix class to be utilized in the project and intended use identified on each mix report. Design quantities and test results of each mix shall be submitted to Owner and Engineer for review. With Engineer's and/or Owner's approval, acceptable mixes may be field adjusted as necessary to meet the requirements of these Specifications.

The report for each tentative concrete mix submitted shall contain the following

information:

- a. Intended use and placement method.
- b. Design Slump.
- c. Total gallons of water per cubic yard.
- d. Cement content.
- e. Cementitious materials content.
- f. Ratio of fine to total aggregates.
- g. Weight (surface dry) of each aggregate per cubic yard.
- h. Quantity of each admixture.
- i. Air content.
- j. Compressive strength based on 7 day and 28 day compression test.
- k. Times of initial set.
- l. Documentation of required average compressive strength or mix proportioning data per ACI 318.

Initial set tests shall be made at ambient temperatures of 70° F and 90° F to determine compliance with the initial set time specified hereinafter. The test at 70° F shall be made using concrete containing the specified plasticizing and air-entraining admixtures. The test at 90° F shall be made using concrete containing the specified plasticizing retarder and air-entraining admixtures. The initial set shall be determined in accordance with ASTM C403.

1.4.3. Mix Class

Each concrete mix class shall be designed and controlled within the limits specified in the following table:

Mix Class Table Coarse					
Usage	28 Day Strength (psi)	Nominal Maximum Aggregate Size No. 4 Sieve	Slump ± 1"	Min Cement (lb/cu yd)	Max Water/ Cement Ratio
General Usage	4,500	1"	4"	535	0.45
Drilled Piers (dry, uncased, or permanent casing)	4,500	3/4"	5" ⁽¹⁾	560	0.45
Drilled Piers (temporary casing)	4,500	3/4"	7" ⁽¹⁾	560	0.45
Drilled Piers (slurry displacement)	4,500	3/4"	8" ⁽¹⁾	560	0.45
Underwater	5,000	3/4"	8"	658	0.41
Note: A plasticizer or plasticizing retarder shall be included in all general usage and drilled piers concrete mixes. High range water reducer (Type F or G) shall be included in all underwater mixes. (1) Slump requirement during placement with any admixtures.					

**Source: ACI 318-11, Table 4.3.1; ACI 336.1-01, Table 2.4.3; ACI 350-06, Table 4.1.2.1

Concrete shall not be deposited under water, except with specific permission of the Owner and Engineer.

1.5. Mix Requirements

The acceptability of concrete will be judged on compliance with the specified requirements listed in the Mix Class Table and not on the basis of strength alone.

1.5.1. Total Water Content

Total water content of concrete shall not exceed the amount calculated using the maximum water to cement ratio in the Mix Class Table.

1.5.2. Slump

Slump shall not be greater than that indicated in the Mix Class Table for each mix, unless otherwise authorized by the Owner.

1.5.3. Total Air Content

The total volumetric air content of concrete after placement shall be six percent plus or minus one percent ($6\% \pm 1\%$).

1.5.4. Admixtures

The admixture content, batching method, and time of introduction to the mix shall be in accordance with the manufacturer's recommendations for compliance with these Specifications.

A plasticizing or plasticizing retarder admixture shall be included in all concrete, unless otherwise accepted by the Owner.

Plasticizing retarder admixture shall be adjusted as specified under the initial set.

1.5.5. Strength

The minimum 28 day acceptable compressive strength for each mix class as determined by ASTM C39 shall not be less than that indicated in the Mix Class Table.

All concrete shall exceed the specified minimum compressive strengths. Each test cylinder will be evaluated separately, and the Owner will be the sole judge of the validity and representative qualities of the tests.

In cases where the strength of the test cylinders for any portion of the work falls below the requirements specified herein, the Owner or Engineer may require the Contractor to secure test specimens of the hardened concrete represented by these cylinders. Specimens shall be secured and tested in accordance with ASTM C42 and shall have a minimum diameter of 3 inches.

Dependent upon the location of the concrete section in question, the Owner or Engineer may approve low frequency ultrasonic testing or other nondestructive techniques as an alternate to cone drilling and testing.

If the additional investigation verifies the existence of defective concrete, one of the following remedial actions shall be implemented as determined by the Owner:

- a. Assume the costs to remove and replace all defective concrete.
- b. Assume the cost of design and construction changes necessary to incorporate the inferior concrete.
- c. Provide satisfactory reimbursement or allowance to the Owner for the acceptance of the lower quality concrete.

1.5.6. Initial Set

The initial set as determined by ASTM C403 shall not be attained until at least 2.5 hours after the water and cement are added to the aggregates. The quantity of retarding admixture shall be adjusted as necessary to compensate for variations in temperature and job conditions.

1.6. Storage of Materials

Cement shall be stored in suitable moisture proof enclosures. Reclaimed cement or cement that has become caked or lumpy shall not be used.

Aggregates shall be stored so that segregation and the inclusion of foreign materials are prevented. The bottom 6 inches of aggregate piles that have been in contact with the ground shall not be used.

Reinforcing steel and embedments shall be carefully handled and stored on supports that will keep the steel from contact with the ground.

1.7. Batching and Mixing

Batching and mixing may be performed at the jobsite with suitable equipment, or by an acceptable ready-mix concrete supplier. Personnel performing the batching and mixing shall be qualified and experienced. Mixing and transporting concrete shall be in accordance with ASTM C94 unless otherwise indicated herein.

1.7.1. Batching

Aggregates and cement shall be measured by weight. Aggregate weights shall be adjusted for moisture content.

Each admixture shall be dispensed by a mechanical device that will ensure accurate and automatic measurement.

The minimum amount of water required to produce the desired slump shall be batched automatically. Any additional water required to produce and maintain a uniform slump shall be added manually by the mixer operator. Slump shall be kept uniform. Aggregates shall float uniformly throughout the mass and the concrete shall flow sluggishly when vibrated.

1.7.2. Mixing

Concrete shall be mixed in a rotating drum as specified in ASTM C94 until all ingredients are uniformly distributed throughout the batch. Mixers shall not be loaded in excess of their rated capacities. Each batch shall be completely discharged before the mixer is recharged.

1.7.3. Ready-Mix Concrete

Ready-mixed concrete shall conform to ASTM C94, except as otherwise specified herein.

Truck mixers shall be revolving drum type and shall be equipped with a mixing water tank. Only the prescribed amount of mixing water shall be placed in the tank for any one batch, unless the tank is equipped with a device by which the amount of water added to each batch can be readily verified by the Owner.

A delivery ticket shall be prepared for each load of ready-mixed concrete delivered. The truck operator shall hand a copy of each ticket to the Owner at the

time of delivery. Tickets shall indicate the mix identification, the number of yards delivered, the quantities of each material in the batch, the outdoor temperature in the shade, the time at which the cement was added, and the numerical sequence of the delivery.

When a truck mixer or agitator is used for transporting concrete, the concrete shall be delivered to the jobsite and completely discharged within 90 minutes, or before the drum has revolved 300 revolutions, whichever comes first, after the introduction of the mixing water to the cement and aggregates, or the introduction of the cement to the aggregates. Longer time periods must be approved by the Engineer. In hot weather, or under conditions contributing to quick stiffening of the concrete, a time less than that specified above may be required by the Engineer. When a truck mixer is used for the complete mixing of the concrete, the mixing operation shall begin within 30 minutes after the cement has been mixed with the aggregates.

1.8. Placement Temperature

The temperature of concrete, when being placed, shall be checked in accordance with ASTM C1064 and be as follows:

- a. Not less than 40°F in moderate weather.
- b. Not less than 50°F in weather during which the mean daily temperature drops below 40°F.
- c. Not greater than 90°F during hot weather.

1.9. Hot Weather Concreting

Except as modified herein; hot weather concreting shall comply with ACI 305R. A water-reducing retarder shall be added to the concrete mix when the placement temperature of the concrete exceeds 75°F.

At air temperatures of 90°F or above, special procedures shall be applied to keep the concrete as cool as possible during placement and curing. The temperature of the concrete during placement shall not exceed 90°F.

1.10. Cold Weather Concreting

Cold weather concreting shall comply with ACI 306R.

1.11. Field Control Testing

The Contractor shall engage an independent professional testing company and laboratory to provide all necessary equipment and personnel to perform all concrete testing at the Contractor's expense. The testing company and laboratory must be approved by the Owner and Engineer, prior to commencing work. Personnel performing tests shall be certified ACI Grade 1 Concrete Field Testing Technician. Copies of the test results shall be sent directly from the testing company to the Engineer for review. Structures or equipment shall not be placed on the foundations until acceptance of test results by the Engineer.

The frequency hereinafter specified for each field control test is a minimum. If directed to do so by the Owner, any additional field control tests required shall be made.

1.11.1. Sampling

All concrete used for testing purposes shall be obtained in accordance with ASTM C172.

1.11.2. Slump

Consistency will be determined in the field by the slump test in accordance with ASTM C143. A minimum of one (1) slump test shall be performed on each load of concrete. If water is added at the job site to increase the slump, the recorded slump shall be tested after the addition of water. The specified slump for each class and usage of concrete can be found in the Mix Class Table.

1.11.3. Air Entrainment

Air entrained concrete shall be used in all applications where concrete will be exposed to moisture and cycles of freezing and thawing. Air content shall be determined in accordance with ASTM C231 or ASTM C173. A minimum of one (1) air entrainment test shall be performed for each batch of concrete used on the project and from which concrete compression test cylinders are made. The specified air content shall be between five and seven percent (5% and 7%).

1.11.4. Compression Test Cylinders

A set of compression test cylinders is required for each batch of concrete used on the project. Each set will consist of five (5), four inch by eight inch (4" x 8") compressive test cylinders prepared, cured, and delivered in accordance with ASTM C31. Each cylinder shall be labeled with the project name, date, and cylinder identification number. An information card or field report shall be completed for each set of cylinders and shall include the following:

- a. Date sampled
- b. Time batched
- c. Time sampled
- d. Ticket number
- e. Air temperature
- f. Concrete temperature
- g. Gallons of water added
- h. Specified 28-day strength
- i. Slump
- j. Air Content
- k. Admixtures
- l. Concrete mix identification
- m. Specific location of pour

The test cylinders shall be transported to a professional testing laboratory at least 8 hours after final set and within 20 to 24 hours from the time they were made. Transportation time of test cylinders shall not exceed 4 hours.

Testing of the cylinders shall be handled by the Contractor through a qualified testing laboratory in accordance with ASTM C39 in accordance with the following schedule:

- a. One (1) cylinder at seven (7) days
- b. Three (3) cylinders at twenty-eight (28) days
- c. One (1) cylinder reserved for a fifty-six (56) day test, if necessary

The Contractor shall require the laboratory to send three sets of compressive test reports to the Owner, in addition to those copies furnished to the Contractor. One (1) copy of the test reports shall be forwarded directly to the Engineer for review within two (2) working days after the tests are performed.

In the event a test fails to meet the specified compressive strength requirements, the Engineer may require the Contractor to obtain core samples of the hardened concrete in question. Core samples shall be secured and tested in accordance with ASTM C42 and shall have a minimum diameter of three inches (3"). If tests further substantiates that the concrete represented by the cylinders and core samples is below the strength requirements specified herein, the Engineer may order such concrete removed and replaced at the expense of the Contractor.

At the location of pole foundations one of the cylinders shall be taken from the concrete used in the top 5 feet of each pole foundation. Such cylinders shall be individually identified by pole number and tested prior to pole erection.

1.11.5. Test Reports

Certified reports of all tests made by the testing laboratory shall be promptly furnished to the Owner and Engineer, and all other persons designated by the Owner.

1.12. Compaction

The contractor shall engage an independent professional Geotechnical engineering company to provide all necessary equipment and personnel to perform excavation inspections of foundation subgrade. If unsuitable material is encountered at the proposed subgrade elevation shown on the drawings, the contractor shall, under the direction of the geotechnical engineer, remove the unsuitable material and backfill with well compacted six inch (6") layers of stone or gravel base material, or concrete. Compacted sub grade shall be approved by the Geotechnical engineer to provide adequate bearing for the specified foundation.

1.13. Protection Against Moisture Loss

Immediately after placing or finishing, concrete surfaces not covered by forms shall be protected against moisture loss (cured) for not less than seven (7) days by covering with white opaque polyethylene sheets lapped four inches (4") at edges and ends. Burlap may be used only for unexposed concrete surfaces and shall be in at least two (2) layers. Surface from which forms are removed before the curing period has elapsed shall be protected as specified for surfaces not covered by forms. All materials used for prevention of moisture loss shall be in accordance with ASTM C171.

1.14. Curing

Curing of concrete shall be by methods which will keep the concrete surfaces adequately wet during the specified curing period and in accordance with ACI 308R. Troweled surfaces shall be cured, except those which will receive a separate finish or coating, with the membrane curing compound specified in the article titled "Materials" in this section. Float finished surfaces shall be cured, except those which will receive a separate finish, with either the membrane curing compound specified or with water. Only water curing will be permitted on surfaces that will receive a separate finish or coating.

Water saturation of concrete surfaces shall begin as quickly as possible, but no later than 12 hours in dry weather and 24 hours in damp weather after initial set of the concrete. The rate of water application shall be regulated to provide complete surface coverage with a minimum of runoff. The application of water to formed surfaces may be interrupted for surface rubbing only over the areas being rubbed at the time. The concrete surface shall not be allowed to become dry during such interruption.

After rubbing has been completed, rubbed surfaces shall be covered with saturated burlap for the remainder of the curing period.

Membrane curing compound shall be applied within 30 minutes after final finishing of the surface. Membrane curing compound shall be spray applied at a coverage of not more than 300 square feet per gallon. Membrane curing shall not be used on surfaces that will be covered at a later date with grout, mortar, concrete, or other coating.

1.15. Protection

The Contractor shall protect all concrete against injury until final acceptance by Owner. The Contractor shall be prepared to protect all concrete in accordance with the requirements of this paragraph. Temperature shall be controlled by controlling the temperature of aggregate and mixing water. Mixing time shall be kept at a minimum and elapsed time between mixing and placing shall be minimized. The interior surfaces of forms and ground upon which concrete is to be placed shall be thoroughly wetted before concrete is poured. After the first frost and until the mean daily temperature in the vicinity of the work rises above 40°F for more than 1 day, the concrete shall be protected against freezing for not less than 48 hours after it is placed.

1.16. Earthwork

1.16.1. Surveying

Prior to commencing earthwork, the Owner shall provide staking at the site. This will include substation centerline, transmission line center line, including points of intersection (PIs) and line of sight points, and new structure pole and anchor locations. Excavation work shall not proceed until Owner approves staked structure locations.

The Contractor shall be responsible for all necessary environmental and roadway surveying necessary to complete the project. The Contractor shall perform all subsequent layout work necessary to ensure that the foundation is constructed to the correct dimensions and in the locations specified on the Drawings. If the

Contractor finds that any staking has been disturbed, is missing or is in error, he shall notify the Engineer promptly. The Contractor shall exercise caution to protect all reference staking.

1.16.2. Subsurface Conditions

The Contractor shall familiarize himself with the subsurface conditions as shown on the boring logs, and exercise his own judgment as to the nature and difficulty of the proposed work. It should be noted in particular that the ground water level may change from the level existing at the time of the test borings.

1.16.3. Excavations

All excavation will be classified as “common excavation.” All excavation, including soft shale, gravel or other material, which can be moved by hand or machine, is defined as common excavation. Owner shall be notified if excavated material is significantly different from that indicated in the soil borings. Excavation work shall include the removal and subsequent handling of all materials excavated or otherwise removed in performance of the contract work, regardless of the type, character, composition, or condition thereof. Over-excavation shall be backfilled with well compacted six inch (6”) layers of stone or gravel base material, or concrete. If the over-excavation is unnecessary, the cost of the backfill shall be borne by the Contractor. The quality of the soil and the adequacy of its bearing value shall be decided by the Engineer before backfill or concrete is placed in any excavation. Where water is encountered, the excavation shall be kept dry by pumping during the installation of the structure and during the backfilling process. If unsuitable material is encountered at the proposed bearing surface under the concrete foundation, the Geotechnical Engineer may require further excavation to reach sound bearing. Proposed washed stone or no frost structural fill indicated under foundations is required as an integral part of the foundations. The dimensions indicated on the drawings are a minimum and required for adequate foundations. All existing underground pipes, conduits, drains, and other underground facilities uncovered or otherwise affected by the excavation work shall be located, protected, shored, braced, supported, and maintained.

Excavation for structures shall be performed according to lines and elevations indicated on the drawings and to the limits required to perform the line construction work. Machine excavation shall be controlled to prevent undercutting the proper subgrade elevations. Machine excavation shall not be used within 5 feet of existing permanent structures and facilities. Only hand tools shall be used for excavation around existing permanent structures and facilities.

Work shall be performed so that construction areas will be as free as possible from obstructions and from interference with the transportation, storage, or handling of materials. Excavated materials free of trash, rocks, roots, and other foreign materials, and that meet the specified requirements, may be used as required for backfills constructed under these Specifications.

Excavations shall be maintained in a safe, clean, and sound condition up to the

time of placement of concrete. All excavations shall be suitably protected when not attended. Whenever necessary, the Contractor shall re-excavate materials which have accumulated in previously prepared excavations. Any muck or other unsatisfactory bearing material resulting from frost, action or entrance of water into excavations previously prepared to the required bearing shall be removed and replaced with well-compacted stone or gravel, backfill or concrete at the Contractor's expense.

Subgrades for structures shall be firm, dense, and thoroughly compacted and consolidated; shall be free from mud and muck; and shall be sufficiently stable to remain firm and intact under the feet of the workers.

Subgrades that are otherwise solid but become mucky on top due to construction operations shall be reinforced with one or more layers of crushed rock or gravel subgrades.

The finished elevation of stabilized structure subgrades shall not be above the subgrade elevations indicated on the drawings.

1.16.4. Backfill (Other than subgrade)

Material for backfill shall be composed of earth free of wood, grass, roots, broken concrete, large stones, trash, or debris of any kind.

A Standard Proctor Compaction Test shall be performed on the proposed backfill material samples. The samples should be tested to determine the maximum, dry density, optimum moisture content and natural moisture content. These test results are to be used to ensure proper compaction during backfilling procedures.

All fill material shall be placed in lifts not to exceed eight inches (8") in uncompacted thickness and be free of all organic material. Fill shall not be placed in heavy rain or placed on frozen ground. Frozen material shall not be used as backfill.

Field compaction tests shall be taken by the approved geotechnical engineer from each fill volume measuring 2,000 feet² maximum by twelve inches (12") deep. If testing results indicate that compaction does not meet specified requirements, fill materials shall be removed, replaced as required, and compacted and retested until acceptable.

All fill areas shall be compacted to at least ninety-five percent (95%) of the Standard Proctor maximum dry density.

1.16.5. Rock Excavation

The Contractor shall be responsible for the removal and proper disposal of solid rock when encountered in holes for concrete foundations. Solid rock shall be defined as solid, naturally-occurring mineral formations that cannot be effectively removed by conventional trenchers, backhoes, or pressure augers. Loose rock or limestone in intermittent layers that result in "difficult digging" shall not be defined as solid rock excavations. "Solid rock" shall require the use

of air hammers, blasting or other specialized equipment (Note: Blasting must be approved by the Owner or Engineer in accordance with local ordinances). When solid rock, boulders, or detached stones are encountered and cannot be removed by normal power-driven drills or augers, the Owner shall be notified. Rock excavation techniques shall be used to achieve the desired excavated dimensions. Rock excavation shall consist of igneous, metamorphic, and sedimentary stones, each having a volume of 1/2 cubic yard or more, as determined by physical or visual measurements and approved by Owner.

If rock is encountered, it shall be removed and replaced with suitable materials in such a manner as to provide fully compacted earth in all areas disturbed external to foundations. In the event that rock is encountered in the excavation, the Contractor shall be compensated for such rock removal, based upon unit price as set forth by the Contractor in the Form of Proposal. In the event such rock is encountered, it shall be the duty of the Contractor to notify the Engineer and/or Owner and arrange a meeting to agree upon the approximate total cost for the removal of the rock, prior to any removal of the rock. Quantities will be agreed upon jointly by the Contractor and the Owner (or Engineer) as excavations occur. Over-excavation to remove rock will not be counted in the quantity of rock excavations.

An accurate record shall be kept of the dates and amounts of rock excavation at each location. The Owner will authorize payment for rock excavation at each location by signing the Contractor's record as excavations occur. Payment will be on a cubic yard basis as measured in place in the hole requiring rock excavation. This measurement will be based on the foundation excavation or normal trench width and depth, as if no rock were encountered.

In cases where the extent of rock excavation is questioned, the Engineer and/or Owner may require the Contractor to prove that material should be classified as rock excavation. The Contractor shall provide a demonstration that the material cannot be removed with a backhoe equipped with a minimum one-half (1/2) cubic yard heavy-duty trenching bucket placed on a machine capable of a lifting capacity of 7,500 pounds at a trench depth of ten feet (10'). The Contractor may be required to provide equipment specification data verifying that the above minimum-rated equipment will be used for demonstration purposes. The equipment is to be in good repair and in proper working condition.

1.16.6. Blasting

Blasting or other use of explosives will not be permitted without Owner's approval.

1.16.7. Sheet piling and Shoring

The Contractor shall do all bracing, sheet piling, and shoring necessary to perform and protect all excavations as required for safety and to conform to laws and regulations of all governmental bodies having jurisdiction. When sheet piling is used, it shall be removed during or upon completion of backfilling.

The stability of previously constructed structures and facilities shall not be

impaired or endangered by new excavation work. Previously constructed structures and facilities include those existing when this construction begins and those provided under these Specifications.

Adequate sheeting and shoring shall be provided as required to protect and maintain the stability of previously constructed structures and facilities and the sides of excavations until they are backfilled. Sheeting, bracing, and shoring shall be designed and built to withstand all loads that might be caused by earth movement or pressure. Sheeting and shoring shall maintain the shape of the excavation under all circumstances.

2.0 **Slabs on Grade and Mat Foundations**

2.1. **General**

This section covers general installation of concrete slabs on grade, mat foundations, and vertical surfaces; formwork; testing of concrete for slabs on grade and mat foundations; and other appurtenant work. All work shall be in accordance with the Plans, Specifications, and Assembly Drawings.

2.2. **Concrete**

The Contractor shall supply ready mixed concrete prepared in accordance with ASTM C94, "Standard Specification for Ready-Mixed Concrete" with a minimum compressive strength of 4,500 psi at twenty-eight (28) days when tested in accordance with ASTM C39. Concrete shall conform to specifications in Mix Class Table. Air content for concrete in slabs on grade and mat foundations shall be six percent plus or minus one percent ($6\% \pm 1\%$).

2.3. **Subgrade**

The subgrade shall be brought to an even plane and compacted solid. Washed stone or no frost structural fill shall be installed, at a minimum, as indicated on the drawings and properly compacted. All slabs on grade and mat foundations shall be placed on a minimum six inch (6") thick layer of compacted washed stone. An independent professional Geotechnical engineering company shall inspect all subgrades for adequate bearing capacity as specified on the Foundation Drawings.

2.4. **Formwork**

Forms shall be constructed to the shape, form, line, and grade required and shall be maintained sufficiently rigid to prevent deformation under the load imposed by supported inserts or by wet concrete. The top edges of forms shall be finished to a specified elevation, slope, or contour. They shall be brought to a true line and grade so that the top concrete surface can be finished with a screed or template resting on the top edges of the forms.

Design and construction tolerances shall be in accordance with ACI 117. Forms shall be designed and constructed in proper position and accurate alignment. Formed surfaces exposed to view shall have a Class C finish, and concealed surfaces may have a Class D finish as defined by ACI 301.

Concrete shall be placed against job-built plywood forms or forms that are lined with plywood or fiberboard, except as otherwise specified. At Owner's discretion, prefabricated forms or metal frames may be permitted only for surfaces that are not normally exposed to view when construction has been completed. Plywood and fiberboard shall be new when brought to the construction site and shall be properly coated, protected, and maintained throughout its use. All plywood and fiberboard materials that are damaged, cracked, weathered, or otherwise unsuitable, in the Owner's opinion, for producing smooth, uniformly textured formed surfaces will be rejected as form material.

Vertical surfaces of footings extended above grade shall be formed.

Form ties shall be of the removable end, permanently embedded body type, and shall have sufficient strength, stiffness, and rigidity to support and maintain the form in proper position and alignment without the use of auxiliary spreaders. Outer ends of the permanently embedded portions of form ties shall be at least 1 inch back from adjacent outer concrete faces. Permanently embedded portions of form ties that are not provided with threaded ends shall be constructed so that the removable ends can be broken off by twisting, without chipping or spalling the concrete surface. The type of form ties used shall be acceptable to the Owner.

Form ties shall be uniformly spaced in exposed surfaces and aligned in horizontal and vertical rows.

After removal of form ties, the resulting voids in the outer concrete face shall be filled with grout and finish flush with surface of concrete.

Chamfer strips shall be placed in forms to bevel all salient edges and corners except edges which are to be buried and edges which are indicated on the drawings as requiring special treatment. Foundations shall have formed beveled salient edges for all vertical and horizontal corners unless specifically indicated otherwise on the drawings. Bevel dimensions shall be 3/4 by 3/4 inch unless indicated otherwise on the drawings.

2.4.1. Coating

Forms shall be coated with form oil before reinforcement is placed.

2.4.2. Removal

Forms shall not be removed until permission of the Engineer has been obtained.

2.5. Expansion Joints

Expansion joints and joints between slabs and vertical surfaces shall be installed according to the Drawings. Premolded fibrated asphalt expansion joint material shall be in accordance with ASTM 1751 and shall be one-half inch (1/2") wide and extend from the bottom of the slab to one half inch (1/2") from the top of the slab. The premolded fibrated asphalt expansion joint material shall then be covered by a one-half inch (1/2") wide strip of polyethylene bond breaker tape. The tape shall be installed along the top of the asphalt expansion joint material only and not on the vertical walls of the slabs. The polyethylene bond breaker tape shall then be covered with one-half inch (1/2") wide by one-half inch (1/2") thick by required length of Vulkem #45 polyurethane sealant for horizontal joints and Dymonic FC Polyurethane sealant for vertical joints according to the manufacturer's installation guidelines.

2.6. Construction Joints

Construction joints not indicated on the Drawings shall be so made and located as to least impair the strength of the structure. Where a joint is to be made, the surface of the placed concrete shall be thoroughly wetted and slushed with a coat of neat cement grout

immediately before placing the new concrete. All laitance shall first be removed from the placed concrete.

2.7. Reinforcement

Reinforcements shall be accurately formed. Unless otherwise indicated on the drawings or specified herein, the details of fabrication shall conform to ACI 318.

All bar supports, ties, spacers, bolsters, inserts, screeds, and other concrete accessories required shall be provided to maintain reinforcing in its proper position and permit proper placement of concrete.

Responsibility for the design of all bar support systems shall be assumed by the contractor.

Except where indicated on the drawings, welding of reinforcement for any purpose, and tack welding in particular, is expressly prohibited. Reinforcements upon which unauthorized welding has been performed will be presumed to be damaged and such reinforcing shall be removed and replaced at Contractor's expense. Replacement materials shall conform to all applicable requirements of these specifications.

Welded chairs and supports may be used provided they are clamped or wired to the reinforcement.

Except as otherwise indicated on the drawings, metal reinforcement for concrete shall have the concrete protective cover specified in Chapter 7 of ACI 318.

Steel reinforcing bars shall be placed in the concrete wherever shown on the drawings. Unless otherwise shown on the drawings or directed, measurements made in placing the bars shall be to the center lines of the bars. Before the reinforcing bars are placed, the surfaces of the bars and the surfaces of any metal bar supports shall be cleaned of heavy flaky rust, loose mill scale, dirt, grease, or other foreign substances. After being placed, the reinforcing bars shall be maintained in a clean condition until they are completely embedded in the concrete. Main reinforcement shall have a minimum clear protective cover to the surface of the concrete as shown on the drawings. Reinforcing bars shall be accurately placed and secured in position so that they will not be displaced during the placing of the concrete, and special care shall be exercised to prevent any disturbance of the reinforcing bars in concrete that already has been placed. Rustproof metal chairs, metal hangers, metal spacers, or other satisfactory metal supports may be used for supporting reinforcing bars. No metallic reinforcement supports will be allowed to break the plane at the edge of concrete. Precast concrete blocks may be used for supporting reinforcing bars.

With the exception of lapped portions of spliced bars that are wired or clamped together, the clear distance between parallel bars shall be not less than 1.5 times the maximum size of coarse aggregate in the concrete, or less than 2 inches.

Unless otherwise required by the Specifications or drawings, splices shall conform to ACI 318. Splices shall be Class B or C tension-lapped splices unless a different class is indicated on the drawings.

Splices shall not be used in regions of maximum bending stress. Welded splices shall not be used.

Mechanical splices are acceptable if approved by the Owner.

All reinforcement shall be shop bent cold. No field bends in reinforcement will be permitted.

2.8. Installation of Anchorage Items

Anchorage items, including bolts, dowels, and other similar devices, shall be of sufficient number and size and so located to ensure anchorage sufficient for the purpose intended. Anchorage items shall be checked against equipment base plates and Drawings prior to placing of concrete.

Anchor bolts shall be securely fastened in a template in the dimensions / orientation / spacings to match the structural steel base plate as shown on the Drawings. The template shall be secured to support the anchor bolts independent of the concrete being placed and cast in place during the concrete placement around the anchor bolts to ensure the proper bonding to the concrete.

In the event the anchor bolts are installed and require re-alignment and/or spacing correction, the Contractor shall contact the Owner and Engineer promptly for permission to proceed prior to any realignment methods. Anchor bolt projection shall be installed per the dimensions as shown on the detail drawings.

2.9. Placing

Water shall be removed from excavations before concrete is deposited. Hardened concrete, debris, and other foreign materials shall be removed from the interior of forms and from the inside of mixing and conveying equipment; reinforcement secured in position will be subject to inspection and approval by the Engineer. Runways for buggies or wheelbarrows shall not be supported on reinforcement or formwork

Concrete shall be conveyed from mixer to forms as rapidly as practicable without segregation or loss of ingredients. Concrete shall be deposited in its final position without moving it laterally in the forms for a distance greater than 5 feet.

Concrete having attained its initial set or having contained its water content for more than one and one half (1 ½) hours shall not be used in the work. Concrete shall not be dropped freely more than five feet (5') in unexposed work nor more than three feet (3') in exposed work. Unless approved by the Engineer, concrete shall be mixed and placed only when the temperature is at least 40°F; concrete footings shall be placed upon surfaces free from frost, ice, mud, loose or unsound rock, and other detrimental substances.

All concrete shall be thoroughly vibrated with appropriate vibrating equipment while concrete is being placed. Settling concrete with shovels only will not be accepted. Vibrators shall not be used as a method to move concrete laterally.

Concrete shall be deposited to the required thickness and finished monolithically to a

smooth, level surface by floating and troweling.

2.10. Bonding and Grouting

Before depositing new concrete on or against concrete that has set, the existing surfaces shall be roughened and cleaned. Horizontal construction joints shall be given a brush coat of grout consisting of cement and fine aggregate in the same proportion as the concrete to be placed, following by approximately three inches (3") of concrete of regular mix, except that the proportion of coarse aggregate shall be reduced fifty percent (50%). Grout for setting bearing plates and other items shall be composed of equal parts of sand and Portland Cement.

2.11. Finishes of Concrete Other Than Floors and Slabs

Slight honeycomb and minor defects shall be patched with cement mortar made with one (1) part cement and two (2) parts fine aggregate. Exposed surfaces shall be given a rubbed finish. Fins and other projections shall be carefully removed, offsets leveled, and surface damage repaired. The surfaces then shall be rubbed with cement or carborundum bricks and water, leaving the surface uniformly smooth and clean. Projecting ends of all form ties shall be removed and recessed a minimum of 1 inch. The resulting recesses shall be cleaned, wetted, and filled with patching mortar.

No surface treatment will be required for buried or permanently submerged concrete not forming an integral part of a structure except that required to obtain the surface elevations or contours and surfaces free of laitance. The unformed surfaces of all other concrete shall be screeded and given an initial float finish, followed by additional floating and troweling where required.

Float finished surfaces shall be finished to provide a flat profile per ACI 347 Class C Finishing.

Screeding shall provide a concrete surface conforming to the proper elevation and contour with all aggregates completely embedded in adjacent mortar. Surface irregularities in screeded surfaces shall be limited as required to produce finished surfaces within the tolerances specified. If no further finishing is required, surface irregularities shall not exceed ACI 347 Class C.

Screeded surfaces shall be given an initial float finish as soon as the concrete has stiffened sufficiently for proper working. Any piece of coarse aggregate that may be disturbed by the float or that causes a surface irregularity shall be removed and replaced with mortar. Initial floating shall produce a surface of uniform texture and appearance with no unnecessary working of the surface with the float.

The initial floating shall be followed with a second floating at the time of initial set. The second floating shall produce a smooth, uniform, and workmanlike float finish of uniform texture and color. Unless additional finishing is specifically required, the completed finish for all unformed surfaces shall be a float finish as produced by the second floating.

Floating shall be performed with hand floats or suitable mechanical compactor floats.

Any surfaces designated on the drawings to be troweled shall be steel trowel finished.

Troweling shall be performed after the second floating when the surface has hardened sufficiently to prevent an excess of fines being drawn to the surface. Troweling shall produce a dense, smooth, uniform surface free from blemishes and trowel marks.

2.12. Clean-Up

All forms shall be completely removed. All materials, equipment, and rubbish shall be removed and the premises left in a neat condition.

3.0 **Drilled Cylindrical Foundations**

3.1. **General**

This section covers general requirements for the installation of drilled cylindrical foundations and other appurtenant work. All work shall be in accordance with the Plans, Specifications, Plan & Profile Sheets, and Assembly Drawings. Work shall conform to all requirements of ACI 336.1-01 published by the American Concrete Institute, except as modified by these Contract Documents.

3.2. **Concrete**

The Contractor shall supply ready mixed concrete prepared in accordance with ASTM C94, "Standard Specification for Ready-Mixed Concrete" with a minimum compressive strength of 4,500 psi for surface mounted structures and 3,000 psi for direct embedded structures at twenty-eight (28) days when tested in accordance with ASTM C39. Concrete shall conform to specifications in Mix Class Table. Air content shall be six percent plus or minus one percent ($6\% \pm 1\%$).

3.3. **Excavations**

The diameter and depth of each hole shall be as required for structures to be placed according to the Plans and Drawings. Holes shall be drilled with such types of drilling equipment that will produce the excavation shown on the drawings. Drill rigs, which do not run true, will not be acceptable.

Holes for direct embedded structures shall be as required for compaction of backfill around the pole, but shall not be less than the pole diameter at the butt plus 12 inches.

Holes for caissons shall be as shown on the Plans and Drawings. The depth noted on the drawings is to be considered minimum. If unsuitable materials affecting required bearing value are encountered, the excavation shall be continued to whatever depth is necessary to obtain suitable material per the approval of the geotechnical engineer on site. When depth required by the Owner is greater than depth shown on the drawings, the neat line excavation and volume of reinforced concrete to fill it will be paid for by the Owner.

Hole excavation shall include removal of stumps, roots, and other obstructions necessary to provide a clean vertical hole to the depth specified on the drawings. Excavation shall be performed with a power driven auger. As soon as the auger is withdrawn, any direct embedded structures shall be set to the depth specified on the drawings and in accordance with these specifications.

Excavated holes shall be covered and protected when the associated structures will not be set during the same working day.

Holes may be excavated by the drilling and mud slurry technique. Prior to start of construction, Owner's approval shall be submitted for a drilling mud procedure for wet hole excavation when sufficient side wall pressure cannot be obtained by use of water void of additives. Drilling mud shall be Super Mud manufactured by Polymer Drilling Systems or acceptable equal. Drilling mud shall be mixed in accordance with

manufacturer's recommendations and to the proper consistency for maintaining the sides of the hole. With the Owner's approval, attapulgate clay type drilling mud may be substituted for Super Mud on holes where Super Mud will not provide sufficient side wall pressure to maintain the sides of the hole excavation.

Under no circumstances can bentonitic or kaolinitic clay products be used.

3.4. Removal of Water

Adequate dewatering equipment shall be provided and maintained to remove and dispose of all surface and groundwater entering excavations and other parts of the work. Each excavation shall be kept dry during subgrade preparation and continually thereafter until construction to be provided therein is completed to the extent that no damage from hydrostatic pressure, flotation, or other cause will result. Disposal of water shall be in accordance with federal, state, and local regulations.

If infiltration of groundwater exceeds a rise of one-quarter inch (1/4") per minute or the total height of water in the bottom of the pier exceeds two inches (2"), the pier shall be considered a wet pier and wet pier concrete placement methods shall be used. Wet pier placement methods shall be approved by the Engineer and Owner, prior to the commencement of work.

3.5. Temporary Casing

Temporary casing will be required at all excavations where workmen are required to do hand excavation or remove obstructions in the lower portions of the caissons or to re-clean the bottoms of caissons prior to the placement of concrete. Temporary casings will also be required at locations where the soil will not stand without support or where, because of ground water or soil conditions, sloughing of the sides of caissons may seriously delay or endanger the satisfactory completion of excavation and placement of concrete. The Contractor shall have immediately available for use on the job an ample supply of casing for each size that will be required for use in the caissons and shall provide additional amounts, if required, to ensure orderly progress of the job. Such casing may be in short pieces but with jointing pieces of sufficient strength that assembled sections of casing may be pulled complete as concrete is placed or immediately thereafter. The casing shall also be of such strength and rigidity as to maintain the required excavation lines against the pressure of sloughing material from the sides of the caissons. All temporary casing shall be removed from caissons as concrete is placed or immediately thereafter, and in such a manner as to prevent sloughing material from dropping to the bottoms of caissons, falling on top of freshly placed concrete or intruding into the concrete mass.

Permanent casing will not be permitted except by special permission of the Owner or as shown on the drawings.

3.6. Permanent Casing

Smooth wall metal pipe casing shall be installed as indicated on the drawings or as permitted by special permission of the Owner.

The casing shall not extend more than 6 inches below the top of the hole. Any part of the

casing extending above this elevation shall be cut off. Casings shall be installed as drilling proceeds or immediately after the auger is withdrawn as required to prevent sloughing or caving of the excavation walls.

3.7. Dimensional Tolerances

The location and dimensions of the drilled caisson shall be as exact as possible to the locations shown on the drawings and staked in the field. The maximum allowable tolerance will be as follows.

Top of the drilled caisson shall be set to the elevation shown on drawings, except where otherwise directed by the Owner or Engineer.

The variation in elevation of the bottom of the drilled caisson from the specified depth shall be from 0 to +6 inches, except where required to be deeper due to soil conditions.

Maximum deviation of the axis of the hole from the vertical shall be no more than 1 inch in 8 feet.

The diameter of any drilled caisson shall not be less than specified or more than 4 inches greater than specified.

3.8. Pier Installation Record

Accurate pier installation records shall be maintained and shall contain the following information for each pier:

- a. Contractor's name.
- b. Drill rig operator's name.
- c. Location/Structure Number.
- d. Shaft diameter.
- e. Elevation of shaft above grade.
- f. Depth of rock.
- g. Depth of shaft.
- h. Depth of ground water.
- i. Caving or sloughing of excavation.
- j. Drilling difficulties.
- k. Casing insertion, size and length, and whether or not removed.
- l. Date and time of start and finish excavation.
- m. Length and diameter of reinforcing bar cage.
- n. Date and time concrete placed.
- o. Calculated volume of excavation based on diameter of shaft.
- p. Total quantity of concrete placed.
- q. Test Cylinder Numbers in order of placement in foundation (bottom to top)

3.9. Reinforcement

Steel reinforcing bars shall be placed in the concrete wherever shown on the drawings. Unless otherwise shown on the drawings or directed, measurements made in placing the bars shall be to the center lines of the bars. Before the reinforcing bars are placed, the surfaces of the bars and the surfaces of any metal bar supports shall be cleaned of heavy

flaky rust, loose mill scale, dirt, grease, or other foreign substances. After being placed, the reinforcing bars shall be maintained in a clean condition until they are completely embedded in the concrete. Main reinforcement shall have a minimum clear protective cover to the surface of the concrete as shown on the drawings. Reinforcing bars shall be accurately placed and secured in position so that they will not be displaced during the placing of the concrete, and special care shall be exercised to prevent any disturbance of the reinforcing bars in concrete that already has been placed.

All reinforcement shall be shop bent cold. No field bends in reinforcement will be permitted.

3.10. Concrete Placement General

The handling, depositing, and compacting of concrete shall conform to these Specifications subject to adjustment by the Owner for weather or placement conditions.

Concrete shall not be pumped through aluminum pipe or aluminum alloy pipe.

Before concrete is placed, forms and anchor bolts shall be rigidly secured in their proper position; all dirt, mud, water, and debris removed from the space to be occupied by the concrete; and all surfaces cleaned that may have become encrusted with dried mortar or concrete from previous placement operations. The entire installation shall be acceptable to the Owner.

Anchorage items shall be checked against equipment base plates and Drawings prior to placing of concrete. In the event the anchor bolts are installed and require re-alignment and/or spacing correction, the Contractor shall contact the Owner and Engineer promptly for permission to proceed prior to any realignment methods. Anchor bolt projection shall be installed per the dimensions as shown on the detail drawings.

Cold joints are not allowed unless specifically approved by the Owner and Engineer. When a cold joint is approved the surface of hardened concrete upon which fresh concrete is to be placed shall be rough and clean. An epoxy bonding compound shall be applied in accordance with the manufacturer's recommendation.

Concrete shall be brought to the point of final deposit by methods that prevent the separation or loss of the ingredients. Concrete shall not be allowed to free fall, uncontrolled, more than 5 feet. Concrete shall be deposited in its final position without moving it laterally in the forms for a distance greater than 5 feet.

3.11. Concrete Placement – Dry Hole

Concrete shall be placed in the drilled caisson as soon after excavation as possible. Immediately prior to the placement of concrete, the caisson shall be cleaned of water, debris, or other materials harmful to concrete including ice, clods, and piles of loose earth. Surfaces against which concrete is being placed shall be free of frost, and in cold weather shall be enclosed or heated, if necessary, prior to placing concrete to ensure this requirement is met. Water in bottom of caissons must be removed or absorbed. Equipment shall include a pump and two vibrators in good working condition, hoppers and elephant trunks for directing the flow of concrete down the caissons, and an ample supply of sacked cement for use in drying the bottom of caissons. The Contractor shall

not place any concrete until the excavation and embedded items are checked and approved by the Owner or Engineer. In a drilled caisson where the Contractor can free fall the concrete down the center of the caisson without having the concrete come in contact with the embedded items, which may cause segregation of the aggregate, the Contractor may place the concrete with the use of an elephant trunk or drop chutes and shall use vibrators. The maximum free fall distance shall be no more than 5 feet. If the Owner or Engineer sees the above method cannot be implemented, then the Contractor shall place the concrete for the first lift using hoppers and sections of elephant trunk or drop chutes. Normal procedure expected to be followed by the Contractor will be to place the concrete to an elevation approximately 5 feet above the bottom of the caissons and vibrate this deposit with one pass of the vibrator down to the bottom of the caisson and back to the top of concrete. Following this, the remainder of the concrete may be poured in two or more lifts of equal height with one pass of the vibrator down to the bottom of the lift and back up on each lift. In placing concrete, internally operated vibrators of a minimum diameter of 2-1/4 inches and having a speed of 5,000 rpm or more are to be used. On the upper lifts of the piles, elephant trunks will not be required, but the placing of the concrete shall be done in such a manner as to prevent segregation of the aggregates.

3.12. Concrete Placement – Wet Hole

Where sufficient groundwater is encountered during excavation to result in standing water in the caisson, the Contractor shall provide pumps with sumps just large enough for pump sections or special pumps, which can extract water from the bottom of the caisson without the requirement of a sump. Immediately prior to the start of the concrete placement, water shall be pumped from the caisson to the elevation of the bottom of the caisson or, if a sump is used, leaving a depth of water not exceeding 4 inches in the sump. The use of dry cement to “dry up” the water left in the sump will then be permissible provided the rate of inflow is sufficiently slow to permit placement of concrete without increasing the water-cement ratio. To follow this procedure, the Contractor must have dry cement ready to place into the caisson immediately after pumping is terminated and also have adequate concrete at the site. If, in the opinion of the Owner or Engineer, the rate of inflow of ground water is too great to obtain concrete of acceptable quality, it will be necessary for the Contractor to place concrete using the tremie method.

3.13. Concrete Placement – Tremie Method

Where the inflow of water into a caisson is too rapid to permit placement of concrete in the dry, the Contractor shall place the concrete underwater by the tremie method. In such cases, a special mix of concrete will be required with coarse aggregate (gravel), 3/4 inch maximum size, and a minimum of seven bags of cement per yard. A retarding agent, approved by the Owner and Engineer, may be used. No vibration of the tremie concrete will be required or permitted, but it will be permissible to vibrate the tremie pipe under certain conditions when the flow of concrete becomes sluggish, and it will also be permissible to vibrate the casing, if used, when the caisson is filled with concrete at the time the casing pull is started. The tremie pipe shall have the minimum diameter of 8 inches and shall be equipped with a foot valve or gate at the bottom end, which is watertight and can be positively controlled from the ground surface. If joints are required in the tremie pipe, they shall be watertight. The entire assembly shall be watertight, and under no circumstances will concrete be permitted to flow through water in the tremie. In placing concrete, the lower end of the tremie shall be placed as close to the bottom as

possible and no more than 6 inches to the bottom of the caisson and shall not be raised until a seal has been established between the tremie pipe and the concrete sufficient to prevent entry of water into the tremie. The discharge end of the tremie shall be kept submerged in the concrete a sufficient depth to maintain, at all times, an adequate seal during underwater placement. The placing of concrete by tremie in any caisson shall not be started until a sufficient supply of concrete is at the site to complete placing of concrete in the caisson up to the ground surface. Once started, the underwater placement shall proceed without interruption until the top of the concrete has been brought to the above-mentioned elevation. As soon as the level of concrete has reached the above-mentioned level over the tremie pipe, the Contractor shall remove the water being displaced by the concrete. Concrete may be placed by tremie only when authorized by the Owner or Engineer.

3.14. Consolidation

During and immediately after depositing, concrete shall be consolidated thoroughly and worked around reinforcements, embedments, and into the corners of the forms.

Concrete shall be consolidated by means of mechanical vibrating equipment supplemented by hand rodding, spading, and/or tamping. Unless otherwise accepted by the Owner, mechanical vibrators shall be spud type immersion vibrators which will maintain at least 9,000 cycles per minute when immersed in concrete. The number and type of vibrators shall be subject to the acceptance of the Owner.

The vibrator shall be constantly relocated and placed in each location only once for each lift. Lower lifts shall be vibrated with the one immediately above it.

3.15. Finishes of Concrete Other Than Floors and Slabs

Slight honeycomb and minor defects shall be patched with cement mortar made with one (1) part cement and two (2) parts fine aggregate. Exposed surfaces shall be given a rubbed finish. Fins and other projections shall be carefully removed, offsets leveled, and surface damage repaired. The surfaces then shall be rubbed with cement or carborundum bricks and water, leaving the surface uniformly smooth and clean. Projecting ends of all form ties shall be removed. The resulting recesses shall be cleaned, wetted, and filled with patching mortar.

No surface treatment will be required for buried or permanently submerged concrete not forming an integral part of a structure except that required to obtain the surface elevations or contours and surfaces free of laitance. The unformed surfaces of all other concrete shall be screeded and given an initial float finish, followed by additional floating and troweling where required.

Float finished surfaces shall be finished to provide a flat profile per ACI 347 Class C Finishing.

Screeding shall provide a concrete surface conforming to the proper elevation and contour with all aggregates completely embedded in adjacent mortar. Surface irregularities in screeded surfaces shall be limited as required to produce finished surfaces within the tolerances specified. If no further finishing is required, surface irregularities shall not exceed ACI 347 Class C.

Screeded surfaces shall be given an initial float finish as soon as the concrete has stiffened sufficiently for proper working. Any piece of coarse aggregate that may be disturbed by the float or that causes a surface irregularity shall be removed and replaced with mortar. Initial floating shall produce a surface of uniform texture and appearance with no unnecessary working of the surface with the float.

The initial floating shall be followed with a second floating at the time of initial set. The second floating shall produce a smooth, uniform, and workmanlike float finish of uniform texture and color. Unless additional finishing is specifically required, the completed finish for all unformed surfaces shall be a float finish as produced by the second floating.

Floating shall be performed with hand floats or suitable mechanical compactor floats.

Any surfaces designated on the drawings to be troweled shall be steel trowel finished. Troweling shall be performed after the second floating when the surface has hardened sufficiently to prevent an excess of fines being drawn to the surface. Troweling shall produce a dense, smooth, uniform surface free from blemishes and trowel marks.

3.16. Clean-Up

All forms shall be completely removed. All materials, equipment, and rubbish shall be removed and the premises left in a neat condition.

3.17. Repairing Defective Concrete

Defects in formed concrete surfaces shall be repaired to the satisfaction of the Owner within 24 hours, and defective concrete replaced within 48 hours after the adjacent forms have been removed. All concrete that is porous, honeycombed, or otherwise defective to a depth in excess of 1 inch shall be cut out and removed to sound concrete, with edges square cut to avoid feathering. Surfaces shall be coated with epoxy bonding compound before the repair concrete is placed.

Concrete repair work shall be performed in a manner that will not interfere with thorough curing of surrounding concrete. Mortar and concrete used in repair work shall be adequately cured and finished to match adjacent surfaces.

4.0 **References**

4.1. American Concrete Institute

1. ACI 117 – Specifications for Tolerances for Concrete Construction and Materials
2. ACI 318 – Building Code Requirements for Structural Concrete and Commentary
3. ACI 301 – Specifications for Structural Concrete
4. ACI 305R – Hot Weather Concreting
5. ACI 306R – Cold Weather Concreting
6. ACI 308R – Guide to Curing Concrete
7. ACI 336.1 – Specification for the Construction of Drilled Piers
8. ACI 347 – Guide to Formwork for Concrete
9. ACI 350 – Code Requirements for Environmental Engineering Concrete Structures and Commentary

4.2. ASTM International

1. ASTM A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
2. ASTM C31 – Standard Practice for Making and Curing Concrete Test Specimens in the Field
3. ASTM C33 – Standard Specification for Concrete Aggregates
4. ASTM C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
5. ASTM C42 – Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
6. ASTM C94 – Standard Specification for Ready Mixed Concrete
7. ASTM C143 – Standard Test Method for Slump of Hydraulic-Cement Concrete
8. ASTM C150 – Standard Specification for Portland Cement
9. ASTM C171 – Standard Specification for Sheet Materials for Curing Concrete
10. ASTM C172 – Standard Practice for Sampling Freshly Mixed Concrete
11. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
12. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
13. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete
14. ASTM C403 – Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance
15. ASTM C494 – Standard Specification for Chemical Admixtures for Concrete
16. ASTM C1064 – Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete

17. ASTM C1315 – Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete
18. ASTM D1751 – Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)

APPENDIX A

SUBMITTAL LOG

2

Foundation Detail Drawings



- ## REFERENCES

FOUNDATION PLAN	18899	FP1
OIL CONTAINMENT PLAN & DETAILS	18899	OC1, OC2, OC3



Booth & Associates
5811 Glenwood Avenue, Raleigh NC 27612
NC F-0221



02/24/2022

© 02/2022

[illegible]

PROJECT NAME:
CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA

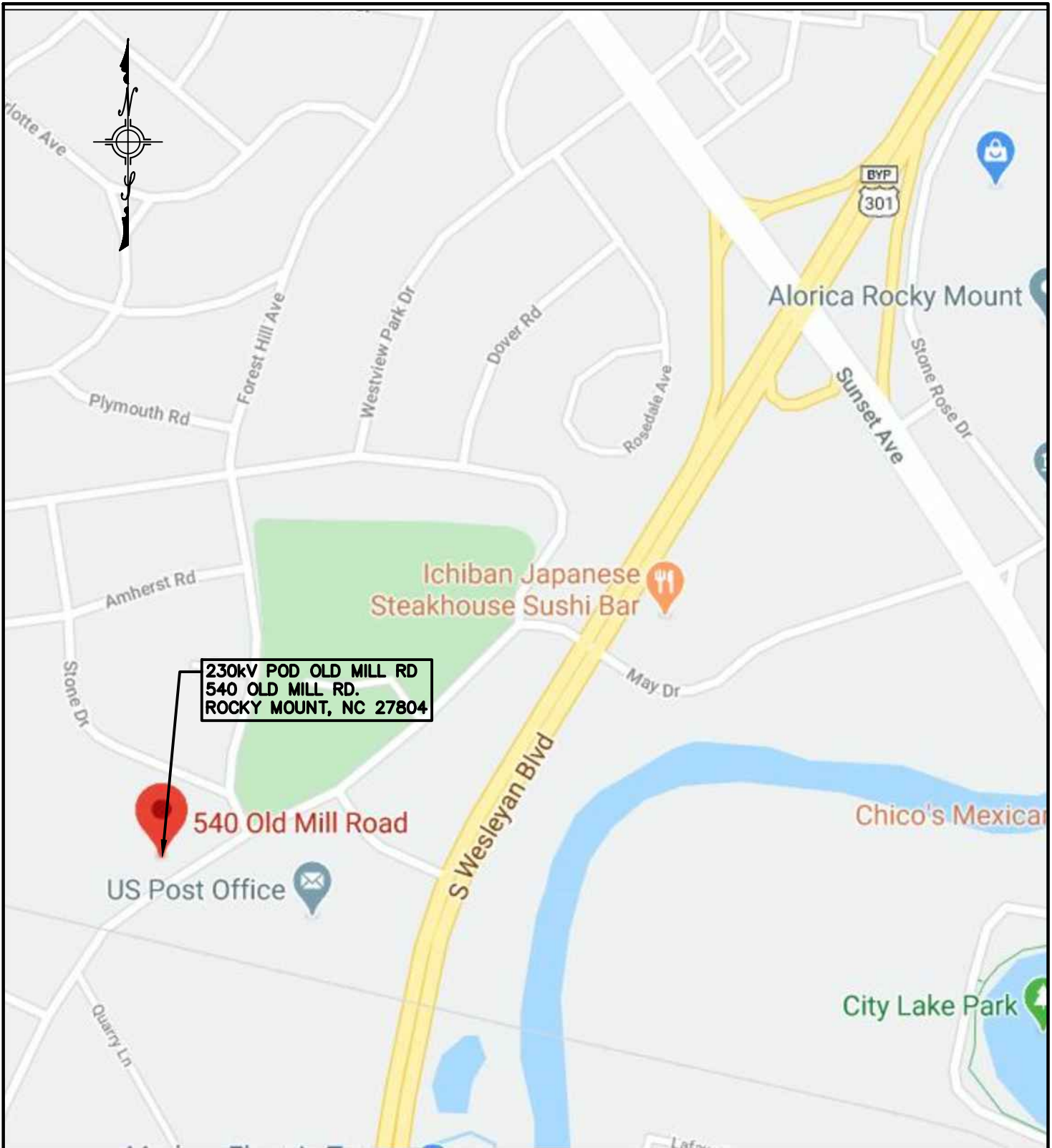
G TITLE:
230 TO 66 kV POD 1-2-3
FOUNDATION DETAILS

DRAWN BY:	VK
CHECKED BY:	VK
APPROVED BY:	MJM
DATE:	02/24/2022
SCALE:	1/2" = 1'-0"
FILE NUMBER:	18899FD
SHEET:	

FD1

3

Vicinity Map



SITE LOCATION

ADDRESS:
540 Old Mill Rd.
Rocky Mount, NC 27804

LATITUDE: 35.951766°
LONGITUDE: -77.8342348°

CITY OF ROCKY MOUNT
ROCKY MOUNT, NORTH CAROLINA

230kV POD OLD MILL RD
VICINITY MAP

Booth & Associates, LLC

5811 Glenwood Avenue | Raleigh, NC 27612 CONSULTING ENGINEERS NC P-0221

DWN. BAA

DATE: 4/4/20

CKD. KPM

APPD. KPM

SCALE: 1"=2,000'

FILE: 18899VM

JOB NO. 18899

DATE

REVISION

© 07/20

DWG. NO.

VM-1

4

Identification of HUB Certified/ Minority Business Participation

SUPPLEMENTAL VENDOR INFORMATION

HISTORICALLY UNDERUTILIZED BUSINESSES

Historically Underutilized Businesses (HUBs) consist of minority, women and disabled business firms that are at least fifty-one percent owned and operated by an individual(s) of the categories. Also included in this category are disabled business enterprises and non-profit work centers for the blind and severely disabled.

Pursuant to G.S. 143B-1361(a), 143-48 and 143-128.4, the State invites and encourages participation in this procurement process by businesses owned by minorities, women, disabled, disabled business enterprises and non-profit work centers for the blind and severely disabled. This includes utilizing subcontractors to perform the required functions in this RFP. Any questions concerning NC HUB certification, contact the [North Carolina Office of Historically Underutilized Businesses](#) at (919) 807-2330. The Vendor shall respond to question #1 and #2 below.

- a) Is Vendor a Historically Underutilized Business? ☐ Yes ☐ No
- b) Is Vendor Certified with North Carolina as a Historically Underutilized Business? ☐ Yes ☐ No

If so, state HUB classification: _____

CONTRACTOR REGISTRATION

New vendors must complete a vendor registration form using the link below. If you are a current vendor that has not completed the online vendor registration also complete the form. Once registration is complete email a copy of your W9 and E-Verify Affidavit to the contact person listed on the coversheet.

rockymountnc.gov/vendor

HOW TO DO BUSINESS WITH THE CITY OF ROCKY MOUNT

Becoming a Vendor <https://youtu.be/MGOjZxl4iQc>

Competing in the Bid Process <https://youtu.be/yy8dYzPOCUs>

Purchase Order, Payment and Performance <https://youtu.be/wA5zVTizZQM>

4.4 MINORITY BUSINESS PARTICIPATION

The Bidder has the responsibility to make a good faith effort to solicit minority proposals and to attain the aspirational ten percent (10%) goal. We encourage all Bidders even MWBE/HUBs to obtain the aspirational goal where sub-contracting and supplier opportunities exist. Use the table below to note the MWBE businesses that will be used as suppliers or subcontractors for this contract.

MWBE FIRM	OWNERSHIP STATUS	ADDRESS	WORK TYPE

If the goal of 10% participation by HUB Certified or minority businesses is not achieved, the Bidder shall provide the following documentation to the City of his/her good faith efforts:

Examples of documentation that may be required to demonstrate the Bidder's good faith efforts to meet the goals set forth in these provisions include, but are not necessarily limited to, the following:

- a) Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- b) Copies of quotes or responses received from each MWBE responding to the solicitation.
- c) A telephone log of follow-up calls to each firm sent a solicitation.
- d) For subcontracts where a minority business is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- e) Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- f) Copy of pre-bid roster
- g) Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- h) Letter detailing reasons for rejection of minority business.
- i) Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in a non-responsive bid.

ATTACHMENT G: PROPOSED PRODUCTS FORM

No.	Item	Proposed Product(s)	Supplier Names & Addresses
1			
2			
3			
4			
5			

CERTIFICATION BY PRIME CONTRACTOR:

Each supplier listed above has established his ability and responsibility to supply the specified materials in accordance with the Contract Documents.

Contractor

By: _____ Date: _____
Signature & Title

Approved: CITY OF ROCKY MOUNT

By: _____ Date: _____
City of Rocky Mount