

ADVERTISEMENT FOR RE-BIDS

Sealed proposals will be received in the Office of the Procurement Manager, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina 27834 until 10:00 AM (EDST) on September 19, 2024 and immediately thereafter publicly opened and read for the furnishing of Hudson Substation Site Work.

Instructions for submitting bids and complete specifications will be available in the Office of the Procurement Manager, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina during regular office hours, which are 8:30AM – 5:00PM Monday through Friday.

Greenville Utilities Commission reserves the right to reject any or all bids. **Late bids will not be considered.**

SECTION I

GENERAL INSTRUCTIONS FOR FORMAL BIDS

RELATED TO THE PURCHASE OF APPARATUS, SUPPLIES,

MATERIALS, AND EQUIPMENT

1.0 NOTICE TO BIDDERS

Sealed bids, subject to the conditions made a part hereof, will be received in the Office of the Procurement Manager, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina 27834 until 10:00 AM (EDST) on September 19, 2024, the day of opening. **Bids submitted in a fax or e-mail in response to this Invitation for Bids will not be acceptable. Late Bids will not be considered.**

2.0 STANDARD FORMS REQUIRED

Each bidder must submit a proposal on the enclosed bid forms. **The bid must be signed by an authorized official of the firm. Return only the attached Proposal Form. Do not return the Advertisement for Bids, Instructions to Bidders or Specifications.**

3.0 PREPARATION OF BID

Bids must be in sealed envelopes clearly marked on the outside with the name of the bid and the bid opening date and time. Bid shall be addressed to the Procurement Manager, GREENVILLE UTILITIES COMMISSION, P. O. BOX 1847, 401 S. GREENE STREET, GREENVILLE, NORTH CAROLINA 27835-1847.

4.0 TIME FOR OPENING BIDS

Bids will be opened promptly and read at the hour and on the date set forth in the advertisement in the Office of the Procurement Manager, Greenville Utilities Main Office, 401 S. Greene Street, Greenville, North Carolina. Bidders or their authorized agents are invited to be present.

5.0 DEPOSIT

A deposit is required for this bid.

6.0 NC SALES TAX

Do **not** include NC sales taxes in bid figure; however, Greenville Utilities Commission (GUC) does pay sales tax. Sales tax should be added to the invoice as a separate item.

7.0 FEDERAL EXCISE TAX

GUC is exempt from Federal Excise Tax and will issue a Federal Exemption Certificate upon request to the successful bidder.

8.0 EXCEPTIONS TO BE CLEARLY STATED

If bid is not in strict accordance with Section II, "Specifications," bidder must list or note all exceptions **on the Request for Proposal Form**, otherwise, it is fully understood that the successful bidder will furnish equipment and/or materials exactly as specified. GUC reserves the right to accept or reject bids with noted minor deviations from specifications and to determine the lowest responsible, responsive bid from the standpoint of quality, performance, and price.

9.0 EVALUATION AND AWARD OF BIDS

GUC reserves the right to reject any and all bids, to waive any and all informalities, and to disregard all nonconforming or conditional bids or counter proposals. In evaluating bids, GUC shall consider whether the bids comply with the prescribed requirements, plus all alternates or options requested. GUC reserves the right to include or exclude any option or alternative in GUC's opinion is in GUC's best interests. If a bid is to be awarded, it will be awarded to the lowest responsible, responsive bidder whose evaluation by GUC indicates that the award will be in GUC's best interests. Only firm prices will be considered for award of this bid.

10.0 PROMPT PAYMENT DISCOUNTS

Bidders are urged to compute all discounts into the price offered. If a prompt payment discount is offered, it may be considered in the award of the contract.

11.0 NUMERICAL ERRORS

In the case of a discrepancy between a unit price and the extension (the unit price multiplied by the number of units), the unit price governs. In the case where numerical bids are stated both in numbers and in words, the words govern.

12.0 BID WITHDRAWAL

A bidder must notify GUC in writing of its request to withdraw a bid within seventy-two (72) hours after the bid opening, not including Saturdays, Sundays, or holidays. In order to justify withdrawal, the bidder must demonstrate that a substantial error exists and that the bid was submitted in good faith.

13.0 MINORITY BUSINESS PARTICIPATION PROGRAM

GUC has adopted an Affirmative Action and Minority and Women Business Enterprise Plan (M/WBE) Program. Firms submitting a proposal are attesting that they also have taken affirmative action to ensure equality of opportunity in all aspects of employment, and to utilize M/WBE suppliers of materials and/or labor.

14.0 QUANTITIES

Quantities specified are only estimates of GUC's requirements. GUC reserves the right to purchase more or less than the stated quantities at prices indicated in the submitted Proposal Form based on our actual needs.

15.0 DELIVERY

Shipments will be made to GUC only upon releases from a purchase order issued by GUC in accordance with its current needs.

Time is of the essence with respect to all deliveries under this Agreement.

Delivery of all equipment, materials, or supplies shall be made Free on Board (FOB), customer's site, Hudsons Substation, Corner of Fox Pen Rd and Blackjack Simpson Rd. unless otherwise specified. The agreed price for such equipment, materials, or supplies shall include all costs of delivery and ownership, and risks of loss shall not be transferred from Provider to GUC until express written acceptance of delivery and inspection by GUC. Delivery hours are between 8:00 AM and 4:30 PM Monday-Friday only. **GUC's purchase order number is to be shown on the packing slip or any related documents.** GUC reserves the right to refuse or return any delivery with no purchase order number or which is damaged. GUC will not be charged a restocking fee for any delivery which is refused or returned.

16.0 DELIVERY TIME

Delivery time is to be stated and will be considered in the evaluation of bids. Failure by the successful bidder to meet quoted delivery shall be interpreted as non-compliance with these specifications and may be deemed sufficient cause for removal of the manufacturer and/or distributor from our lists as acceptable manufacturers or bidders..

17.0 CONTRACT PERIOD

TBD.

18.0 MANUFACTURER

Bidder is to specify the manufacturer of items being quoted.

19.0 CONTACT INFORMATION

Questions regarding this bid request should be directed to Cleve Haddock, Procurement Manager, Finance Department at (252) 551-1533, haddockc@guc.com. **All questions must be received via e-mail by or before 5:00pm (EDST) September 13, 2024.**

20.0 TERMS AND CONDITIONS

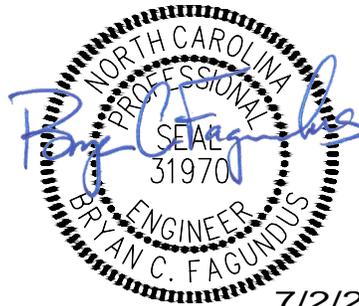
The attached Terms and Conditions apply to all purchases made by Greenville Utilities Commission (GUC) and must be considered as part of the bid proposal.

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The technical specifications for site work for the proposed Hudson's Substation in Greenville, North Carolina prepared by Ark Consulting Group, PLLC are as follows:

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7/2/2024

SECTION 01010 - PROJECT REQUIREMENTS

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

GENERAL DESCRIPTION OF WORK:

The Work to be performed under these Contract Documents consists of

Site Work for the Hudson's Substation for Greenville Utilities Commission.

OTHER CONSTRUCTION CONTRACTS:

Work at the site performed by others under separate contracts includes the following:

Electrical Substation Construction

RESPONSIBILITY FOR MATERIALS AND EQUIPMENT:

Items Furnished by CONTRACTOR: CONTRACTOR shall be fully responsible for all materials and equipment which he has furnished, and shall furnish necessary replacements at any time prior to expiration of the Guaranty Period.

OFF SITE STORAGE:

Off-site storage arrangements shall be acceptable to OWNER for all materials and equipment not incorporated into the work but included in Applications for Payment. Such off-site storage arrangements shall be presented in writing, and shall afford adequate and satisfactory security and protection. Off-site storage facilities shall be accessible to ENGINEER.

EQUIVALENT MATERIALS AND EQUIPMENT:

Whenever a material or article is specified or described by using the name of a propriety product or the name of a particular manufacturer or vendor without the words "or equal" or "or approved equal" etc., the specified item mentioned shall be provided. Other manufacturers' products will not be accepted.

It is the intent of these specifications to insure that materials and equipment of the highest reliability are supplied. The design of the overall product and selection of materials and equipment included in these specifications have been based upon dimensions, structures, connection wiring, etc. required for the first manufacturer listed in every reference to a quality standard. If material or equipment of another manufacturer (including alternatives specifically referenced) is offered, the cost of any changes in structures, building, piping, wiring, etc., as well as any detailed drawings necessary to show such required changes, shall be borne by the CONTRACTOR with no additional cost to the Owner.

PREPARATION FOR SHIPMENT:

All materials shall be suitably packaged to facilitate handling and protection against damage during transit and storage. Painted surfaces shall be protected against impact, abrasion, discoloration and other damage. All painted surfaces which are damaged prior to acceptance of equipment shall be repainted to the satisfaction of ENGINEER.

Each item, package or bundle of material shall be tagged or marked as identified in the delivery schedule or on the Shop Drawings. Complete packing lists and bills of material shall be included with each shipment.

LAND FOR CONSTRUCTION PURPOSES:

CONTRACTOR will be permitted to use available land belonging to OWNER, on or near the site of the Work, for construction purposes and for the storage of materials and equipment. The location and extent of the areas so used shall be as indicated on the drawings or will be as follows:

CONTRACTOR shall immediately move stored material or equipment if any occasion arises, as determined by OWNER, requiring access to the storage area. Materials or equipment shall not be placed on the property of OWNER until OWNER has agreed to the location to be used for storage.

EASEMENTS AND RIGHTS-OF-WAY:

The easements and rights-of-way for the pipelines will be provided by OWNER. CONTRACTOR shall confine his construction operations within the limits indicated on the drawings, and shall use due care in placing construction tools, equipment, excavated materials and pipeline materials and supplies, so as to cause the least possible damage to property and interference with traffic.

On Private Property: Easements across private property are indicated on the drawings. CONTRACTOR shall set stakes to mark the boundaries of construction easement across private property. The stakes shall be protected and maintained until completion of construction and cleanup.

CONTRACTOR shall not enter for pipe delivery or occupy for any other purpose with men, tools, equipment, construction materials or with materials excavated from the pipe trench, any private property outside the designated construction easement boundaries without written permission from the owner and tenant of the property.

Whenever the easement is occupied by crops which will be damaged by construction operations, CONTRACTOR shall notify the owner and tenant sufficiently in advance so that the crops may be removed before excavation or trenching is started. CONTRACTOR shall be responsible for all damage to crops outside of the easement, and shall make satisfactory settlement for the damage directly with the property owner and tenant involved.

Where the line crosses fields which are leveled for irrigation or terraced, CONTRACTOR shall relevel irrigated fields and replace all terraces to their original or better condition, and to the satisfaction of the property owner and tenant involved.

Work Within Highway and Railroad Rights-of-Way: Permits shall be obtained by OWNER. All Work performed and all operations of CONTRACTOR, his employees or subcontractors, within the limits of railroad and highway rights-of-way, shall be in conformity with the requirements and be under the control (through OWNER) of the railroad or highway authority owning, or having jurisdiction over and control of, the right-of-way in each case.

OPERATION OF EXISTING FACILITIES:

The existing water, sanitary sewer and storm drainage utilities must be kept in continuous operation throughout the construction period. No interruption will be permitted which adversely affects the degree of service provided. Provided permission is obtained from OWNER in advance, portions of the existing facilities may be taken out of service for short periods corresponding with periods of minimum service demands.

CONTRACTOR shall provide temporary facilities and make temporary modifications as necessary to keep the existing facilities in operation during the construction period.

NOTICES TO OWNERS AND AUTHORITIES:

CONTRACTOR shall, as provided in General Conditions, notify owners of adjacent property and utilities when prosecution of the Work may affect them.

When it is necessary to temporarily deny access by owners or tenants to their property, or when any utility service connection must be interrupted, CONTRACTOR shall give notices sufficiently in advance to enable the affected persons to provide for their needs. Notices shall conform to any applicable local ordinance and, whether delivered orally or in writing, shall include appropriate information concerning the interruption and instructions on how to limit their inconvenience.

Utilities and other concerned agencies shall be contacted at least 72 hours prior to cutting or closing streets or other traffic areas or excavating near underground utilities or pole lines.

CONTRACTOR shall contact N.C. ONE-CALL 72 hours prior to any excavation. Locations of existing utilities by N.C. ONE-CALL are good for only ten (10) days after the date of location.

LINES AND GRADES:

All Work shall be done to the lines, grades, and elevations shown on the drawings.

Basic horizontal and vertical control points have been or will be established or designated by ENGINEER on the Drawings. These points shall be used as datum for the Work. All additional field survey, layout and measurement Work shall be performed by CONTRACTOR as a part of the Work.

CONTRACTOR shall provide an experienced surveyor, instrument man, competent assistants and such instruments, tools, stakes and other materials required to complete the survey, layout and measurement Work. In addition, CONTRACTOR shall furnish, without charge, competent surveyors from his force and such tools, stakes and other materials as ENGINEER may require in establishing or designating control points, in establishing construction easement boundaries or in checking survey, layout and measurement Work performed by CONTRACTOR.

CONTRACTOR shall keep ENGINEER informed, a reasonable time in advance, of the times and places at which he wishes to do Work, so that any checking deemed necessary by ENGINEER may be done with minimum inconvenience to ENGINEER and minimum delay to CONTRACTOR.

CONTRACTOR shall remove and reconstruct Work which is improperly located.

Construction staking shall be performed by a Registered Land Surveyor at least twenty-four hours in advance of construction.

ALLOWANCES:

The Contract Price includes cash allowances for certain materials, equipment and portions of the Work as follows:

Allowances are shown in the Proposal.

OWNER, in consultation with ENGINEER, shall select from supplies, samples, information or alternatives submitted by CONTRACTOR. Testing agency shall be selected by and work for the OWNER, but be paid by the CONTRACTOR out of the above allowance.

CONTRACTOR shall cause the Work to be done by materialmen, suppliers or Subcontractors and for amounts satisfactory to ENGINEER. The Contract Price will be adjusted by Change Order for any difference between CONTRACTOR's direct cost for the selected alternative and the cash allowance included in such price adjustments. The cost shall be the actual invoice cost including tax and shipping of items covered by the allowance. The CONTRACTOR shall include any costs for labor overhead and profit in other portions of his bid.

CONNECTIONS TO EXISTING FACILITIES:

Unless otherwise specified or indicated, CONTRACTOR shall make all necessary connections to existing facilities including structures, drain lines and utilities such as water, sewer, gas, telephone and electric. In each case, CONTRACTOR shall receive permission from OWNER or the owning utility prior to undertaking connections. CONTRACTOR shall protect facilities against deleterious substances and damage.

Connections to existing facilities which are in service shall be thoroughly planned in advance, and all required equipment, materials and labor shall be on hand at the time of undertaking the connections. Work shall proceed continuously (around the clock) if necessary to complete connections in the minimum time. Operation of valves or other appurtenances on existing utilities, when required, shall be by or under the direct supervision of the owning utility.

UNFAVORABLE CONSTRUCTION CONDITIONS:

During unfavorable weather, wet ground or other unsuitable construction conditions, the CONTRACTOR shall confine his operations to work which will not be affected adversely by such conditions. No portion of the Work shall be constructed under conditions which would affect adversely the quality or efficiency thereof, unless special means or precautions are taken by CONTRACTOR to perform the Work in a proper and satisfactory manner.

CUTTING AND PATCHING:

As provided in General Conditions, CONTRACTOR shall perform all cutting and patching required for the Work, and as may be necessary in connection with uncovering Work for inspection or for the correction of defective Work.

CONTRACTOR shall perform all cutting and patching required for the installation of improperly timed Work, to remove samples of installed materials for testing and to provide for alteration of existing facilities or the installation of new Work in existing construction.

Except when the cutting or removal of existing construction is specified or indicated, CONTRACTOR shall not undertake any cutting or demolition which may affect the structural stability of the Work or existing facilities without ENGINEER's concurrence.

CONTRACTOR shall provide all shoring, bracing, supports and protective devices necessary to safeguard all Work and existing facilities during cutting and patching operations.

Materials shall be cut and removed to the extent indicated on the drawings or as required to complete the Work. Materials shall be removed in a careful manner with no damage to adjacent facilities or materials. Materials which are not salvable shall be removed from the site by CONTRACTOR.

All Work and existing facilities affected by cutting operations shall be restored with new materials, or with salvaged materials acceptable to ENGINEER, to obtain a finished installation with the strength, appearance and functional capacity required. If necessary, entire surfaces shall be patched and refinished.

CLEANING UP:

CONTRACTOR shall keep the premises free at all times from accumulations of waste materials and rubbish. CONTRACTOR shall provide adequate trash receptacles about the site, and shall promptly empty the containers when filled.

Construction materials stored on the site shall be kept off the ground, neatly stacked, protected from rain and sun when required by the ENGINEER, and the area around the stored materials shall be kept free of trash, weeds and brush.

Construction materials, such as concrete forms and scaffolding shall be neatly stacked by CONTRACTOR when not in use. CONTRACTOR shall promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids and cleaning solutions from surfaces to prevent marring or other damage.

Volatile wastes shall be properly stored in covered metal containers and removed daily. Wastes shall not be buried or burned on the site or disposed of into storm drains, sanitary sewers, streams or waterways. All wastes shall be removed from the site and disposed of in a manner complying with local ordinances and antipollution laws.

Adequate cleanup shall be a condition for recommendation of progress payment applications.

APPLICABLE CODES:

References in the Contract Documents to local codes mean the North Carolina State Building Code and any applicable County or municipal codes.

Other standard codes which apply to the Work are designated in the specifications.

REFERENCE STANDARDS:

Reference to the standards of any technical society, organization or association, or to codes of local or state authorities, shall mean the latest standard, code, specification or tentative standard adopted and published at the date of receipt of bids, unless specifically stated otherwise.

ABBREVIATIONS AND SYMBOLS:

Abbreviations used in the Contract Documents are defined as follows:

| | |
|--------|---|
| AAMA | Architectural Aluminum Manufacturers Association |
| AASHTO | American Association of State Highway and Transportation Officials |
| ACI | American Concrete Institute |
| AFBMA | Antifriction Bearing Manufacturers Association |
| AGA | American Gas Association |
| AGMA | American Gear Manufacturers Association |
| AISC | American Institute of Steel Construction |
| AISI | American Iron and Steel Institute |
| AMCA | Air Moving and Conditioning Association |
| ANSI | American National Standards Institute |
| APA | American Plywood Association |
| API | American Petroleum Institute |
| ASCE | American Society of Civil Engineers |
| ASHRAE | American Society of Heating, Refrigerating and Air Conditioning Engineers |
| ASME | American Society of Mechanical Engineer |
| ASSE | American Society of Sanitary Engineering |
| ASTM | American Society for Testing and Materials |
| AWG | American Wire Gauge |
| AWPA | American Wood Products Association |
| AWS | American Welding Society |
| AWWA | American Water Works Association |
| CGA | Compressed Gas Association, Inc. |
| CISPI | Cast Iron Soil Pipe Institute |
| CRSI | Concrete Reinforcing Steel Institute |
| CS | Commercial Standard |

| | |
|----------|---|
| DENR | Department of Environment and Natural Resources |
| DHI | Door and Hardware Institute |
| Fed Spec | Federal Specifications |
| FGMA | Flat Glass Marketing Association |
| IBBM | Iron Body, Bronze Mounted |
| IEEE | Institute Electrical and Electronics Engineers |
| IFI | Industrial Fasteners Institute |
| IPS | Iron Pipe Size |
| MIL | Military Specification |
| NAAMM | National Association of Architectural Metals Manufacturers |
| NCDOT | North Carolina Department of Transportation |
| NEC | National Electrical Code |
| NEMA | National Electrical Manufacturers Association |
| NFPA | National Fire Protection Association |
| NPT | National Pipe Thread |
| NSPC | National Standard Plumbing Code |
| OSHA | Occupational Safety and Health Administration |
| PCI | Prestressed Concrete Institute |
| PS | Product Standard |
| SAE | Society of Automotive Engineers |
| SCPRF | Structural Clay Products Research Foundation |
| SMACNA | Sheet Metal and Air Conditioning Contractors National Association |
| SPI | Society of the Plastics Industry |
| SSPC | Steel Structures Painting Council |
| UL | Underwriters' Laboratories |
| US | U. S. Bureau of Standards |
| USBR | U. S. Bureau of Reclamation |

PRECONSTRUCTION CONFERENCE:

Prior to the commencement of Work at the site, a preconstruction conference will be held at a mutually agreed time and place. The conference shall be attended by:

CONTRACTOR and his superintendent

Principal Subcontractors

Representatives of principal suppliers and manufacturers as appropriate

ENGINEER and his Resident Project Representative

Representatives of OWNER

Governmental representatives as appropriate

Others as requested by CONTRACTOR, OWNER, or ENGINEER

Unless previously submitted to ENGINEER, CONTRACTOR shall bring to the conference a tentative schedule for each of the following:

Progress

Procurement

Values for progress payment purposes

Shop Drawings and other submittals

The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The agenda will include:

CONTRACTOR's tentative construction schedules

Transmittal, review, and distribution of CONTRACTOR's submittals

Processing applications for payment

Maintaining record documents

Critical Work sequencing

Processing of Field Orders, Work Change Directives, and Change Orders

Use of premises, office and storage areas, security, housekeeping, working hours, and OWNER's needs

Major equipment deliveries and priorities

CONTRACTOR'S assignments for safety and first aid

ENGINEER will preside at the conference and will arrange for keeping the minutes and distributing the minutes to all persons in attendance.

PROGRESS MEETINGS:

CONTRACTORS shall attend regular progress meetings at least monthly and at other times as requested by ENGINEER or required by progress of the Work.

CONTRACTOR, ENGINEER, OWNER, and all subcontractors active on the site shall be represented at each meeting. CONTRACTORS may at their discretion request attendance by representatives of their suppliers, manufacturers and other subcontractors. Representatives at the progress meeting must be authorized to make decisions and to act on behalf of the organization they represent.

ENGINEER shall preside at the meetings and provide for keeping and distribution of the minutes. The purpose of the meetings will be to review the progress of the Work, maintain coordination of efforts, discuss changes in scheduling and resolve other problems which may develop.

The CONTRACTOR shall generate documentation to list and/or illustrate work/tasks begun or completed since the previous progress meeting, and work/tasks expected to begin or be completed in the next 30 days following the current progress meeting. Preliminary or draft versions of this documentation should be circulated among critical subcontractors, the ENGINEER, and the OWNER, at least two (2) days prior to the scheduled progress meeting, such that schedule conflicts and other scheduling issues can be discussed during the progress meeting. CONTRACTOR shall provide sufficient copies of the documentation for distribution at the progress meeting.

OTHER MEETINGS AND CONFERENCES:

The OWNER and ENGINEER reserve the right to conduct other site meetings and conferences as necessary to monitor and facilitate the quality of the work and operation of the existing facility. Specific meetings and conferences have been outlined in individual specification sections. Other meetings and/or conferences may include, but not be limited to, pre-installation and pre-startup. These meetings and/or conferences shall be attended by the CONTRACTOR, the ENGINEER, the

OWNER, critical subcontractors, regulatory officials (if necessary), and representatives of manufacturers and suppliers as deemed necessary.

END OF SECTION 01010

SECTION 01150 - PAYMENT

RELATED DOCUMENTS:

The general provisions of the Contract, including the General, Special Conditions and Division-1 Specification sections apply to work of this section.

SCOPE:

This section covers methods of payment for items of Work under this Contract.

GENERAL:

The total Bid Price for each part of the Project shall cover all Work required by the Contract Documents. All costs in connection with the proper and successful completion of the Work, including furnishing all materials, equipment, supplies, and appurtenances; providing all construction plant, equipment, and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the unit and lump sum prices bid. All Work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of Contractor and all costs in connection therewith shall be included in the prices bid.

ESTIMATED QUANTITIES:

Payment will be made or lump sum prices adjusted according to unit prices bid and as described below.

Base Bid: This item shall include labor, equipment and materials necessary to accomplish all work specified and shown on the plans {Including but not limited to clearing & grubbing, demolition, mucking out existing ditches, excavation of new ditches, earthwork, storm drainage, stone placement, general grading and incidentals). Payment shall be lump sum based upon the price shown in the Proposal.

Soil and Materials Testing Allowance: This item shall include an allowance as indicated in the Bid Form as herein established. Payment shall be for the actual amount invoiced by the Testing Company.

Subsidiary Obligations: All work not specifically set forth as a pay item in the Bid Schedule shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid. Subsidiary obligations include, but are not limited to: temporary drainage provisions, dewatering, removal and off-site disposal of excess or unsuitable materials

and debris, removal and replacement of existing features.

Undercut Excavation With Off Site Disposal and Select Borrow Excavation: This item includes the excavation and off site disposal of materials as directed by the Engineer, as well as the excavation, transportation and compaction of off site select borrow material used in filling undercut areas. No additional compensation will be made for proof-rolling subgrade. Payment for the allotted amount shall be included in the Base Bid. The unit price shown in the Proposal shall be used as an add/deduct for adjustment of costs, based upon the actual number of cubic yards of material used.

END OF SECTION 01150

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

CONSTRUCTION SCHEDULE:

Before Work is started, CONTRACTOR for Contract of the project shall submit to ENGINEER for review a minimum of five copies of the schedule of the proposed construction operations. OWNER shall cooperate with CONTRACTOR in arrangements for continuity of service and operation of valves and other control facilities. The construction schedule shall indicate the sequence of the Work, the time of starting and completion of each part for the general contractor and all subcontractors, the installation date for each major item of equipment, and the time for making connections to existing piping, structures, or facilities, for water testing of below grade structures prior to backfilling operations, and time for testing and start of each part or piece of equipment.

The construction schedule shall be a comprehensive, fully developed, horizontal Gantt-Chart or bar-chart type schedule, and shall include sufficient detail to communicate and/or illustrate the construction progress for such items/tasks as listed above. At least one copy of the construction schedule shall be submitted on one sheet, large enough to show the entire schedule for the entire construction period.

At least every 90 days the schedule shall be revised as necessary to reflect changes in the progress of the Work. Reviewed and approved construction schedules which indicate one or more tasks more than 30 days behind schedule shall also be revised and submitted to review. These revised schedules shall include a progress report as described in this section.

Failure of the CONTRACTOR to provide acceptable, updated/revised construction schedules and required progress reports will be grounds for the ENGINEER to recommend the OWNER withhold a portion of requested partial payment.

OWNER may require CONTRACTOR to add to his plant, equipment, or construction forces, as well as increase the working hours, if operations fall behind schedule at any time during the construction period.

In preparation of the construction schedule, the CONTRACTOR shall coordinate the schedule with his subcontractors schedules, the schedule of values, submittals schedule, progress reports, schedule of payments, and other required schedules and reports.

The following requirements shall be taken into consideration in preparing the proposed schedule of construction operations:

Shop drawing submittal schedule, review time, and any revision and resubmittal time.

The CONTRACTOR shall allow ample time in the schedule for equipment / utilities testing, record drawing preparation and acceptance prior to final completion.

PROGRESS REPORTS:

A progress report shall be furnished to ENGINEER with each copy of the application for progress payment. If the Work falls behind schedule, CONTRACTOR shall submit additional progress reports at such intervals as ENGINEER may request.

Each progress report shall include sufficient narrative to describe current and anticipated delaying factors, their effect on the construction schedule, and proposed corrective actions. Any Work reported complete, but which is not readily apparent to ENGINEER, must be substantiated with satisfactory evidence.

SURVEY DATA:

All field books, notes, and other data developed by CONTRACTOR in performing surveys required as part of the Work shall be available to ENGINEER for examination throughout the construction period. All such data shall be submitted to ENGINEER with the other documentation required for final acceptance of the Work.

SHOP DRAWINGS, MATERIAL CERTIFICATES AND PRODUCT DATA:

Engineering data covering all equipment and fabricated materials which will become a permanent part of the Work under this contract shall be submitted to ENGINEER for review prior to installation.

Shop drawings are technical drawings and data that have been specially prepared for this project.

Material Certificates are notarized statements by an official of the supplier certifying that the materials meet the specifications and are used in lieu of or in addition to shop drawings and product data.

Product data includes standard printed information on manufactured products that has not been specially-prepared for this project.

These data shall include drawings and descriptive information in sufficient detail to show the kind, size, arrangement and operation of component materials and devices; the external connections, anchorages and supports required; performance characteristics; and dimensions needed for installation and correlation with other materials and equipment.

All submittals, regardless of origin, shall be stamped with the approval of CONTRACTOR and identified with the name and number of the Contract, CONTRACTOR's name, and references to applicable specification paragraphs and Contract Drawings. Each submittal shall indicate the intended use of the item in the Work. When catalog pages are submitted, applicable items shall be clearly identified. The current revision, issue number, and date shall be indicated on all drawings and other descriptive data.

CONTRACTOR's stamp of approval is a representation to OWNER and ENGINEER that CONTRACTOR accepts full responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, and that he has reviewed or coordinated each submittal with the requirements of the Work and the Contract Documents.

All deviations from the Contract Documents shall be identified on each submittal and shall be tabulated in CONTRACTOR's letter of transmittal. Such submittals shall, as pertinent to the deviation, indicate essential details of all changes proposed by CONTRACTOR (including modifications to other facilities that may be a result of the deviation) and all required piping and wiring diagrams.

CONTRACTOR shall accept full responsibility for the completeness of each submission, and, in the case of a resubmission, shall verify that all exceptions previously noted by ENGINEER have been taken into account. In the event that more than one resubmission is required because of failure of CONTRACTOR to account for exceptions previously noted, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER for review of the additional resubmissions.

Any need for more than one resubmission, or any other delay in obtaining ENGINEER's review of submittals, will not entitle CONTRACTOR to extension of the Contract Time unless delay of the Work is directly caused by a change in the Work authorized by a Change Order or by failure of ENGINEER to return any submittal within 21 days after its receipt in ENGINEER's office.

ENGINEER's review of drawings and data submitted by CONTRACTOR will cover only general conformity to the drawings and specifications, external connections, and dimensions which affect the layout. ENGINEER's review does not indicate a thorough review of all dimensions, quantities, and details of the material, equipment, device, or item shown. ENGINEER's review of submittals shall not relieve CONTRACTOR from responsibility for errors, omissions, or deviations, nor responsibility for compliance with the Contract Documents.

Five copies of each drawing and necessary data shall be submitted to ENGINEER. ENGINEER will not accept submittals from anyone but CONTRACTOR. Submittals shall be consecutively numbered in direct sequence of submittal and without division by subcontracts or trades.

Resubmittals shall bear the number of the first submittal followed by a letter {A, B, etc.,) to indicate the sequence of the resubmittal.

When the drawings and data are returned marked DISAPPROVED or RESUBMIT, the corrections shall be made as noted thereon and as instructed by ENGINEER and five corrected copies resubmitted.

When corrected copies are resubmitted, CONTRACTOR shall in writing direct specific attention to all revisions and shall list separately any revisions made other than those called for by ENGINEER on previous submissions.

When the drawings and data are returned marked APPROVED AS NOTED, APPROVED, or RECORD COPY, no additional copies need be furnished.

LAYOUT DATA:

CONTRACTOR shall keep neat and legible notes of measurements and calculations made by him in connection with the layout of the Work. Copies of such data shall be furnished to the ENGINEER for use in checking CONTRACTOR's layout as provided under Lines and Grades. All such data considered of value to OWNER will be transmitted to OWNER by ENGINEER with other records upon completion of the Work.

RECORD DRAWING:

CONTRACTOR shall keep one record copy of all specifications, drawings, addenda, modifications, and shop drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the ENGINEER and shall be delivered to the ENGINEER upon completion of the project. Complete record drawings shall be submitted to the ENGINEER and then approved by the ENGINEER before final payment is approved.

Updated record drawings shall be submitted for all work that is covered up including piping and utility work within 30 days of the installation.

An updated record drawing shall be prepared by the CONTRACTOR and submitted to the ENGINEER as a condition for approval for any pay request which includes pay items for sanitary sewer or water items.

Annotations on the drawings shall include the exact location of each service stub in relation to the next lowest manhole and centerline of street. Lengths, sizes and types of materials for mains and services shall also be shown.

REPORTS:

DAILY REPORTS:

The CONTRACTOR'S Site Superintendent shall prepare and maintain, at the site, daily construction reports recording the following information concerning events at the Project site:

- List of subcontractors at Project site.
- Approximate count of personnel at Project site.
- Time of arrival and departure of testing agency representative.
- Equipment at Project site.
- Material deliveries.
- High and low temperatures and general weather conditions.
- Accidents.
- Meetings and significant decisions.
- Unusual events.
- Stoppages, delays, shortages, and losses.
- Emergency procedures.
- Orders and requests of authorities having jurisdiction.
- Change Orders, Field Orders, and/or Work Change Directives received and implemented.
- Services connected and disconnected.
- Equipment or system tests and startups.
- Work/tasks started and/or completed.
- Substantial Completions authorized.

These daily reports shall be made available to the Engineer, Owner, or the Resident Project Representative for examination. These reports, as with Record Drawings, shall be kept up-to-date and will be checked as a partial basis for approval of the Pay Request.

MATERIAL LOCATION REPORTS:

The CONTRACTOR'S Site Superintendent shall prepare and submit to the Resident Project Representative prior to review of the monthly pay request, a comprehensive list of materials delivered to and stored at the Project site. The list shall be cumulative, with item numbers corresponding to the Schedule of Values and the Stored Materials as outlined in the Supplementary Conditions, showing materials previously reported plus items recently delivered. Include with the list, items which are stored away from the Project site. Items stored at locations away from the site have to be approved by the Owner, as outlined in Section 01010 - Project Requirements. The CONTRACTOR shall prepare a maintenance schedule and log of maintenance activities for the individual stored materials. This schedule and log should be kept up-to-date for review by the RPR and OWNER.

The Contractor shall also submit to the RPR, a site map of the storage area, indicating the location of the stored materials, for confirmation of storage by the RPR during review of the Pay Request. The site map should be neat, legible, and of sufficient size to illustrate the location of the individual stored materials.

CLARIFICATION/INFORMATION REQUEST REPORTS:

The CONTRACTOR, in requesting clarification, information, and/or deviation, shall prepare and submit to the ENGINEER a Request for Information (RFI). The RFI should include a detailed description of the request, and in the case of a clarification or deviation, any proposed changes requested to complete the Work. Multiple RFI's should be sequentially numbered and dated to logically track the submittals.

END OF SECTION 01300

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract; including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

TESTING LABORATORY SERVICES:

All tests which require the services of a laboratory to determine compliance with the Contract Documents shall be performed by an independent commercial testing laboratory acceptable to ENGINEER. The laboratory shall be staffed with experienced technicians, properly equipped, and fully qualified to perform the tests in accordance with the specified standards.

Testing Laboratory Services for Materials Qualification: CONTRACTOR shall be responsible for all testing laboratory services in connection with concrete materials and mix designs, the design of asphalt mixtures, gradation tests for embedment, fill, and backfill materials, and all other tests and engineering data required for ENGINEER's review of materials and equipment proposed to be used in the Work. CONTRACTOR shall pay all costs for services for materials qualifications.

Testing Laboratory Services for Field Quality Control: The testing laboratory for field quality control shall be selected by and work for the OWNER but be paid for by the CONTRACTOR from the testing allowance. A copy of the Testing Laboratory's monthly invoices shall be submitted to the Engineer for review prior to being included in the Contractor's monthly pay request. All charges of testing laboratories for field quality control tests made in the field or laboratory on concrete, asphalt mixtures, moisture-density (Proctor) and relative density tests on embedment, fill, and backfill materials, in-place field density tests on embedments and fills, and other materials and equipment, during and after their incorporation in the Work shall be paid by CONTRACTOR out of the testing allowance as discussed in SECTION 01010. The CONTRACTOR shall be responsible for scheduling of testing agency for field quality control. To verify that equipment, materials, and installations conform to the requirements outlined in the contract documents, the CONTRACTOR shall also schedule such additional testing as deemed necessary by the ENGINEER. Testing due to failed tests and wasted time due to improper scheduling by the CONTRACTOR will be paid for by the CONTRACTOR, not out of the testing allowance. Field sampling and testing will be performed by the testing laboratory personnel, in the general manner indicated in the specifications, with minimum interference with construction operations. ENGINEER shall determine the exact time and location of field sampling and testing, and may require such additional sampling and testing as necessary to determine that materials and equipment conform with data previously furnished by CONTRACTOR and with the Contract Documents.

Arrangements for delivery of samples and test specimens to the testing laboratory will be made by CONTRACTOR. The testing laboratory shall perform all laboratory tests within a reasonable time consistent with the specified standards and shall furnish a written report of each test.

CONTRACTOR shall furnish all sample materials and cooperate in the sampling and field testing activities, interrupting the Work when necessary. When sampling or testing activities are performed in the field by testing laboratory personnel, CONTRACTOR shall furnish personnel and facilities to assist in the activities.

OWNER shall not require the CONTRACTOR to retain any testing laboratory against which CONTRACTOR has reasonable objection, and if at any time during the construction process the services become unacceptable to CONTRACTOR, he may request in writing that such services be terminated. The request must be supported with evidence of improper testing. If ENGINEER and OWNER determine that sufficient cause exists, CONTRACTOR may terminate the services and engage a different testing laboratory.

Transmittal of Test Reports: Written reports of tests and engineering data furnished by CONTRACTOR for ENGINEER's review of materials and equipment proposed to be used in the Work shall be submitted as specified for Shop Drawings in Section 01300.

The testing laboratory will furnish four copies of a written report of each test performed by laboratory personnel in the field or laboratory. Three copies of each test report will be transmitted to the ENGINEER and one copy to CONTRACTOR within three days after each test is completed. Testing laboratory will provide Resident Inspector and CONTRACTOR copies of field reports and test results on a daily basis prior to leaving the site. Notify ENGINEER and CONTRACTOR immediately of failing test results.

END OF SECTION 01400

SECTION 01500 - TEMPORARY FACILITIES

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

OFFICE AT SITE OF WORK:

During the performance of this Contract, CONTRACTOR for each Contract shall maintain a suitable office at or near the site of the Work which shall be the headquarters of his representative authorized to receive drawings, instructions, or other communication or articles. Any communication given to the said representative or delivered at CONTRACTOR's office at the site of the Work in his absence shall be deemed to have been delivered to CONTRACTOR.

Copies of the drawings, specifications, and other contract documents shall be kept at CONTRACTOR's office at the site of the Work and available for use at all times.

WATER:

All water required for and in connection with the Work to be performed and for any specified tests of piping, equipment, devices, etc., or for any other use as may be required for proper completion of the Work shall be provided by and at the expense of CONTRACTOR. No separate payment for water used or required will be made and all costs in connection therewith shall be included in the Bid.

POWER:

CONTRACTOR shall provide all power for heating, lighting, operation of CONTRACTOR's plant or equipment, or for any other use by CONTRACTOR. Temporary heat and lighting shall be maintained until the work is accepted.

SANITARY FACILITIES:

CONTRACTOR under Contract shall furnish temporary sanitary facilities at the site, as provided herein, for the needs of all construction workers and others performing work or furnishing services on the Project.

Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period, and obscured from public view to the greatest practical extent. If toilets of the chemically

treated type are used, at least one toilet will be furnished for each 20 men. CONTRACTOR shall enforce the use of such sanitary facilities by all personnel at the site.

MAINTENANCE OF TRAFFIC:

CONTRACTOR shall conduct his work to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways and walks, whether public or private, CONTRACTOR shall provide and maintain suitable and safe bridges, detours, or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them. Such maintenance of traffic will not be required when CONTRACTOR has obtained permission from the owner and tenant of private property, or from the authority having jurisdiction over public property involved, to obstruct traffic at the designated point.

In making open cut street crossings, CONTRACTOR shall not block more than one-half of the street at a time. Whenever possible, CONTRACTOR shall widen the shoulder on the opposite side to facilitate traffic flow. Temporary surfacing shall be provided as necessary on shoulders.

Temporary Bridges: CONTRACTOR shall construct substantial bridges at all points where it is necessary to maintain traffic across pipeline construction. Bridges in public streets, roads, and highways shall be acceptable to the authority having jurisdiction thereover. Bridges erected in private roads and driveways shall be adequate for the service to which they will be subjected. Bridges shall be provided with substantial guard rails and with suitably protected approaches. Foot bridges shall be not less than 4 feet wide, provided with handrails and uprights of dressed lumber. Bridges shall be maintained in place as long as the conditions of the Work require their use for safety of the public, except that when necessary for the proper prosecution of the Work in the immediate vicinity of a bridge, the bridge may be relocated or temporarily removed for such period as ENGINEER may permit.

Detours: Where required by the authority having jurisdiction thereover that traffic be maintained over any construction work in a public street, road, or highway, and the traffic cannot be maintained on the alignment of the original roadbed or pavement, CONTRACTOR shall, at his own expense, construct and maintain a detour around the construction work. Each detour shall include a bridge across the pipe trench and all necessary barricades, guard rails, approaches, lights, signals, signs, and other devices and precautions necessary for protection of the Work and safety of the public.

BARRICADES AND LIGHTS:

All streets, roads, highways, and other public thoroughfares which are closed to traffic shall be protected by effective barricades on which shall be placed acceptable warning signs. Barricades

shall be located at the nearest intersecting public highway or street on each side of the blocked section.

All open trenches and other excavations shall have suitable barricades, signs, and lights to provide adequate protection to the public. Obstructions such as material piles and equipment shall be provided with similar warning signs and lights.

All barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. Material storage and conduct of the Work on or alongside public streets and highways shall cause the minimum obstruction and inconvenience to the traveling public.

All barricades, signs, lights and other protective devices shall be installed and maintained in conformity with applicable statutory requirements and, where within railroad and highway rights-of-way, as required by the authority having jurisdiction thereover.

FENCES:

All existing fences affected by the Work shall be maintained by CONTRACTOR until completion of the Work. Fences which interfere with construction operations shall not be relocated or dismantled until written permission is obtained from the owner of the fence, and the period the fence may be left relocated or dismantled has been agreed upon. Where fences must be maintained across the construction easement, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use.

On completion of the Work across any tract of land, CONTRACTOR shall restore all fences to their original or to a better condition and to their original location.

PROTECTION OF PUBLIC AND PRIVATE PROPERTY:

CONTRACTOR shall protect, shore, brace, support, and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by his construction operations. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, together with all sod and shrubs in yards and parkings, shall be restored to their original condition. All replacements shall be made with new materials.

CONTRACTOR shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or men to or from the Work or any part or site thereof, whether by him or his Subcontractors. CONTRACTOR shall make satisfactory and acceptable arrangements with the owner of, or the agency or authority having

jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.

TREE AND PLANT PROTECTION:

All trees and other vegetation which must be removed to perform the Work shall be removed and disposed of by CONTRACTOR; however, no trees or cultured plants shall be unnecessarily removed unless their removal is indicated on the drawings. All trees and plants not removed shall be protected against injury from construction operations.

Trees considered by ENGINEER to have any significant effect on construction operations are indicated on the drawings and those which are to be preserved are so indicated.

CONTRACTOR shall take extra measures to protect trees designated to be preserved, such as erecting barricades, trimming to prevent damage from construction equipment, and installing pipe and other Work by means of hand excavation or tunneling methods. Such trees shall not be endangered by stockpiling excavated material or storing equipment against the trunk.

When the injury or removal of trees designated to be preserved cannot be avoided, or when removal and replacement is indicated on the drawings, each tree injured beyond repair or removed shall be replaced with a similar tree of the nearest size possible.

All trimming, repair, and replacement of trees and plants shall be performed by qualified nurserymen or horticulturists.

SECURITY:

CONTRACTOR shall be responsible for protection of the site, and all work, materials, equipment and existing facilities thereon, against vandals and other unauthorized persons.

No claim shall be made against OWNER by reason of any act of an employee or trespasser, and CONTRACTOR shall make good all damage to OWNER's property resulting from his failure to provide security measures as specified.

Security measures shall be at least equal to those usually provided by OWNER to protect his existing facilities during normal operation, but shall also include such additional security fencing, barricades, lighting, watchman services and other measures as required to protect the site.

ACCESS ROADS:

CONTRACTOR under Contract shall establish and maintain temporary access roads to various parts of the site as required to complete the Project. Such roads shall be available for the use of all others performing work or furnishing services in connection with the Project.

PARKING:

CONTRACTOR under Contract shall provide and maintain suitable parking areas for the use of all construction workers and others performing work or furnishing services in connection with the Project as required to avoid any need for parking personal vehicles where they may interfere with public traffic, OWNER's operations or construction activities.

TEMPORARY DRAINAGE PROVISIONS:

CONTRACTOR shall provide for the drainage of stormwater and such water as may be applied or discharged on the site in performance of the Work. Drainage facilities shall be adequate to prevent damage to the Work, the site, and adjacent property.

Existing drainage channels and conduits shall be cleaned, enlarged or supplemented as necessary to carry all increased runoff attributable to CONTRACTOR's operations. Dikes shall be constructed as necessary to divert increased runoff from entering adjacent property (except in natural channels), to protect OWNER's facilities and the Work, and to direct water to drainage channels or conduits. Ponding shall be provided as necessary to prevent downstream flooding.

END OF SECTION 01500

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

DESCRIPTION OF REQUIREMENTS:

Provisions of this section apply to the procedural requirements for the actual closeout of the Work, not to administrative matters such as final payment or the changeover of insurance. Closeout requirements relate to both substantial and final completion of the Work; they also apply to individual portions of completed work as well as the total Work. Specific requirements contained in other sections have precedence over the general requirements contained in this section.

PROCEDURES AT SUBSTANTIAL COMPLETION:

Prerequisites: Comply with the General Conditions, Special Conditions and complete the following before requesting the ENGINEER's inspection of the work, or a designated portion of the Work, for certification of substantial completion.

Submit executed warranties, workmanship bonds, maintenance agreements, inspection certificates and similar required documentation for specific units of work, enabling OWNER's unrestricted occupancy and use.

Submit record drawing documentation, maintenance manuals, tools, spare parts, keys and similar operational items.

Complete final cleaning, and remove temporary facilities.

Inspection Procedures: Upon receipt of CONTRACTOR's request, ENGINEER will proceed with inspection or advise CONTRACTOR of prerequisites not fulfilled. Following initial inspection, ENGINEER will either prepare CERTIFICATE OF SUBSTANTIAL COMPLETION, or advise CONTRACTOR of work which must be performed prior to issuance of the CERTIFICATE OF SUBSTANTIAL COMPLETION. The ENGINEER will repeat the inspection when requested and assure that the Work has been substantially completed. Results of the completed inspection will form the initial "punch-list" for final acceptance.

PROCEDURES AT FINAL ACCEPTANCE:

Reinspection Procedure: The ENGINEER will reinspect the Work upon receipt of the CONTRACTOR's notice that, except for those items whose completion has been delayed due to circumstances that are acceptable to the ENGINEER, the Work has been completed, including punch-list items from earlier inspections. Upon completion of reinspection, the ENGINEER will either recommend final acceptance and final payment, or will advise the CONTRACTOR of work not completed or obligations not fulfilled as required for final acceptance. If necessary, this procedure will be repeated.

RECORD DOCUMENTATION:

Record Drawings: Maintain at the construction site a complete set of prints of the Contract Drawings and shop drawings for record mark-up purposes throughout the Contract Time. Mark-up these drawings during the course of the work to show both changes and the actual installation, in sufficient detail to form a complete record for the OWNER's purposes. Give particular attention to work which will be concealed and difficult to measure and record at a later date, and work which may require servicing or replacement during the life of the project. Record Drawings shall show all field changes of dimension and detail, station number of all service laterals, wyes, and tees measured from the nearest downstream manhole and the lengths of all service lines.

END OF SECTION 01700

SECTION 02200 - EARTHWORK

PART 1 - GENERAL:

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

DESCRIPTION OF WORK:

Extent of earthwork is indicated on drawings.

Preparation of subgrade for curb and gutter and pavements is included as part of this work.

Definition: "Excavation" consists of removal of material encountered to subgrade elevations indicated and subsequent disposal of materials removed.

QUALITY ASSURANCE:

Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction and NCDOT specs.

Testing and Inspection Service: Owner will engage soil testing and inspection service for quality control testing during earthwork operations.

SUBMITTALS:

Test Reports-Excavating: Submit following reports directly to Architect/Engineer from the testing services, with copy to Contractor:

Test reports on soil and embedment.

Field density test reports.

One optimum moisture-maximum density curve for each type of soil encountered.

JOB CONDITIONS:

Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

Do not interrupt existing utilities serving facilities occupied and used by Owner or others, during occupied hours, except when permitted in writing by Engineer, then only after acceptable temporary utility services have been provided.

Provide minimum of 48-hour notice to Engineer, and receive written notice to proceed before interrupting any utility.

Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

Use of Explosives: The use of explosives is not permitted.

Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights.

Operate warning lights as recommended by authorities having jurisdiction.

Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

PART 2 - PRODUCTS

SOIL MATERIALS:

Definitions:

Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification Groups GW, GP, GM, GC, SM, SW and SP.

Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups ML, MH, CL, CH, OL, SC, OH and PT.

Aggregate for Aggregate Base Course: Aggregate meeting the requirements of Section 520, Paragraph (a) of "Standard Specifications for Roads and Structures" as issued by NCDOT.

Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100% passing a 1-1/2" sieve and not more than 5% passing a No. 4 sieve.

Select Backfill: Job excavated or borrow material consisting of coarse sands, fine sands, with not more than 15% by weight passing the No. 200 sieve. This does not include clays, silts, organic soils or any materials not acceptable as fill material. Select backfill must receive prior approval from the Engineer before use.

Backfill and Fill Materials: Satisfactory soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter.

PART 3 - EXECUTION

EXCAVATION:

Substation Yard Excavation:

Excavation for the gravel substation yard shall conform to the lines, grades, cross sections, and dimensions indicated on the drawings and shall include the excavation of all unsuitable materials from the subgrade. Subgrade shall conform to proposed line, grade and cross-section. This operation shall include any reshaping and wetting or drying required to obtain proper compaction. All soft or otherwise unsuitable material shall be removed and replaced with suitable material.

Excavation is Unclassified, and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered.

Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be at Contractor's expense.

Undercut Excavation: When excavation has reached required subgrade elevations, provide a proof rolling of the prepared pavement subgrade with a heavy roller or loaded dump truck (+25 tons) in the presence of the Engineer's Representative. The proof rolling shall be covered by the wheels of the proof roller operating at a speed between 2-1/2 and 3-1/2 miles per hour.

Any areas that rut or pump excessively shall be scarified by the contractor allowed to dry. If the areas continue to rut or pump they shall be undercut and backfilled with select material as directed by the Engineer.

After undercut and backfill operations are complete, a final proofrolling of the undercut areas will be performed in the presence of the Engineer's Representative.

Stability of Excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.

Maintain sides and slopes of excavations in safe condition until completion of backfilling.

Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.

Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.

Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.

Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.

Material Storage: Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage. Locate and retain soil materials away from edge of excavations. Do not store within drip line of trees indicated to remain.

Dispose of excess soil material and waste materials as herein specified.

Excavation for Pavements: Cut surface under pavements to comply with cross-sections, elevations and grades as shown.

Cold Weather Protection: Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degree F (1 degree C).

COMPACTION:

General: Control soil compaction during construction providing minimum percentage of density specified for each area classification as indicated below.

Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density at optimum moisture content as determined by ASTM D 698.

Structures, Building Slabs, Steps, Pavements, Gravel Substation Yard: Compact top 12" of subgrade at 98% maximum density. Each layer of backfill or fill material below top 12" shall be compacted to 95% maximum density.

Lawn or Unpaved Areas: Compact top 6" of subgrade and each layer of backfill or fill material at 90% maximum density.

Walkways: Compact top 6" of subgrade and each layer of backfill or fill material at 95% maximum density.

Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.

Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

BACKFILL AND FILL:

General: Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below.

In excavations, use satisfactory excavated or borrow material.

Under grassed areas, use satisfactory excavated or borrow material.

Under walks and pavements, use subbase material, or satisfactory excavated or borrow material, or combination of both.

Backfill excavations as promptly as work permits, but not until completion of the following:

Inspection, testing, approval, and recording locations of underground utilities.
Removal of trash and debris.

Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.

When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.

Placement and Compaction: Place backfill and fill materials in layers not more than 8" in loose depth for material compacted by heavy compaction equipment, and not more than 4" in loose depth for material compacted by hand-operated tampers.

Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

Place backfill and fill materials evenly adjacent to structures, piping or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping or conduit to approximately same elevation in each lift.

GRADING:

General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.

Grade areas as shown on the Drawings to prevent ponding. Finish surfaces free from irregular surface changes, and as follows:

Lawn or Unpaved Areas: Finish areas to receive topsoil to within not more than 0.10' above or below required subgrade elevations.

Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 0.05' above or below required subgrade elevation.

Gravel Substation Yard & Pavements: Shape surface of areas under pavement to line, grade and cross-section, with finish surface not more than 1/2" above or below required subgrade elevation.

Patches in driveways and roadways shall be graded to depth required to match existing pavement or to provide minimum pavement specified.

Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.

PAVEMENT SUBBASE COURSE:

General: Subbase course consists of placing subbase material, in layers of specified thickness, over subgrade surface to support a pavement base course.

See other Division-2 sections for paving specifications.

Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

Shoulders: Place shoulders along edges of subbase course to prevent lateral movement. Construct shoulders of acceptable soil materials, placed in such quantity to compact to thickness of each subbase course layer. Compact and roll at least a 12" width of shoulder simultaneously with compacting and rolling of each layer of subbase course.

Placing: Place subbase course material on prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting subbase material during placement operations.

When a compacted subbase course is shown to be 6" thick or less, place material in a single layer. When shown to be more than 6" thick, place material in equal layers, except no single layer more than 6" or less than 3" in thickness when compacted.

FIELD QUALITY CONTROL:

Quality Control Testing During Construction: Allow testing service to inspect and approve subgrades and fill layers before further construction work is performed.

Perform field density tests in accordance with ASTM D 1556 (sand cone method) or ASTM D 2167 (rubber balloon method), as applicable.

Footing Subgrade: For each strata of soil on which footings will be placed, conduct at least one test to verify required design bearing capacities. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related tested strata, when acceptable to Architect/Engineer.

Paved Areas and Building Slab Subgrade: Make at least one field density test of subgrade for every 2000 sq. ft. of paved area or building slab, but in no case less than 3 tests. In each compacted fill layer, make one field density test for every 2000 sq. ft. of overlaying building slab or paved area, but in no case less than 3 tests.

Foundation Wall Backfill: Take at least 2 field density tests, at locations and elevations as directed.

If in opinion of Architect/Engineer, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, provide additional compaction and testing at no additional expense.

MAINTENANCE:

Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.

Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

DISPOSAL OF EXCESS AND WASTE MATERIALS:

Removal from Owner's Property: Remove waste materials, including excess or unacceptable excavated material, trash and debris, and dispose of it off Owner's property.

END OF SECTION 02200

SECTION 02220 - TRENCHING, BACKFILLING AND COMPACTION

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

DESCRIPTION OF WORK:

This section covers excavation and trenching work and shall include the necessary clearing, grubbing, and preparation of the site; removal and disposal of all debris; excavation and trenching as required; the handling, storage, transportation, and disposal of all excavated material; all necessary sheeting, shoring, and protection work; preparation of subgrades; pumping and dewatering as necessary or required; protection of adjacent property; backfilling; pipe embedment; and other appurtenant work.

RELATED WORK SPECIFIED ELSEWHERE:

Storm Sewer System - Section 02736

QUALITY ASSURANCE:

Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

Employ testing laboratory to perform soil testing and Inspection service for quality control testing during earthwork operations. The cost of testing and inspection shall be paid for out of the testing allowance as specified in Division-1.

SUBMITTALS:

Test Reports-Excavating: Submit following reports directly to Engineer from the testing services, with copy to Contractor:

Test reports on soil and embedment.

Field density test reports.

One optimum moisture-maximum density curve for each type of soil encountered.

JOB CONDITIONS:

Classification of Excavated Materials: No classification of excavated materials will be made. Excavation and trenching 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.

Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

Do not interrupt existing utilities serving facilities occupied and used by Owner or others, during occupied hours, except when permitted in writing by Engineer and then only after acceptable temporary utility services have been provided.

Provide minimum of 48-hour notice to Engineer, and receive written notice to proceed before interrupting any utility.

Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

Use of Explosives: The use of explosives is not permitted.

Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights.

Operate warning lights as recommended by authorities having jurisdiction.

Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

PART 2 - PRODUCTS

DEFINITIONS:

Satisfactory soil materials are defined as those complying with ASTM D 2487 soil classification groups GW, GP, GM, GC, SM, SW, and SP.

Unsatisfactory soil materials are defined as those complying with ASTM D 2487 soil classification groups ML, MH, CL, CH, SC, OL, OH and PT.

GENERAL MATERIALS:

Clean Sand: Washed or natural sand with less than 10 percent by weight passing the No. 200 sieve.

Filter Cloth: Spun synthetic fiber, 10 oz/sy, burst strength 500 psi, vertical water flow 265 gpm/sf, Trevira 1135, Mirafi or equal.

Granular Fill (Embedment and Stabilization Material): Granular fill or embedment material shall be crushed rock or gravel, shall be free from dust, clay, or trash, and shall be #57 stone as defined in ASTM C 33.

Aggregate Base Course Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, natural or crushed sand as specified in NC DOT Standard Specifications for Roads and Structures Section 520 Type A.

Fill Material (Backfill): All material deposited in trenches shall be free from rocks or stones larger than 2 inches, brush, stumps, logs, roots, debris, and organic or other objectionable materials, and shall be wetted or dried as required and thoroughly mixed to ensure uniform moisture content.

Select Backfill: Job excavation or borrow material consisting of coarse sands and fine sands with not more than 15% by weight passing the No. 200 sieve. This does not include clays, silts, organic soils or any materials not acceptable as fill material. Select backfill must receive prior approval from the ENGINEER before use.

Groundwater Barrier: Barrier material shall meet ASTM D2487 soil classification GC, SC, CL, or ML-CL and shall be compacted to 95 percent of maximum density. Material may be finely divided suitable job excavated material, free from stones, organic matter and debris.

PIPE EMBEDMENT:

Embedment materials both below and above the bottom of the pipe, classes of embedment to be used, and placement and compaction of embedment materials shall conform to the requirements shown on the drawings and to the following supplementary requirements.

Embedment materials shall contain no cinders or other material which may cause pipe corrosion.

Class B Bedding shall be used for all ABS Truss, PVC Truss pipelines and DIP sewer pipelines.

Class B bedding shall include granular embedment from 4" below the pipe to the springline and select backfill embedment at least 12" above the pipe as shown on the attached drawing.

Class C Bedding shall be used for all reinforced and nonreinforced concrete pipelines.

Class C bedding shall include granular fill from 4" below the pipe to 1/6 of the outside diameter of the pipe and backfill embedment to at least 12" above the top of the pipe.

Class D Bedding shall be used for all PVC (SDR 35) gravity sewer pipe.

Class D bedding shall include granular embedment from 4" below the pipe to the top of the pipe and at least 12" of select backfill embedment above that.

Class F Bedding shall be used for all ductile iron pipe and PVC waterlines.

Class F embedment shall include backfill material from the bottom of the pipe (and bell holes) to at least 12" above the pipe.

PART 3 - EXECUTION

GENERAL REQUIREMENTS:

Excavation shall provide adequate working space and clearances for the work to be performed therein and for installation and removal of concrete forms. In no case shall excavation faces be undercut for extended footings.

Subgrade surfaces shall be clean and free of loose material of any kind when concrete is placed thereon.

Except where exterior surfaces are specified to be dampproofed, monolithic concrete manholes and other concrete structures, or parts thereof, which do not have footings that extend beyond the outside face of exterior walls, may be placed directly against excavation faces without the use of outer forms, provided that such faces are stable and also provided that a layer of polyethylene

film is placed between the earth and the concrete.

Excavations for manholes and similar structures constructed of masonry units shall have such horizontal dimensions that not less than 6 inches clearance is provided for outside plastering. Backfilling and construction of fills and embankments during freezing weather shall not be done except by permission of the Engineer. No backfill, fill, or embankment materials shall be installed on frozen surfaces, nor shall frozen materials, snow or ice be placed in any backfill, fill or embankment.

DEWATERING:

Dewatering equipment shall be provided to remove and dispose of all surface and ground water entering excavations, trenches, or other parts of the work. Each excavation shall be kept dry during subgrade preparation and continually thereafter until the structure to be built, or the pipe to be installed therein, is completed to the extent that no damage from hydrostatic pressure, flotation, or other cause will result.

All excavations for concrete structures or trenches which extend down to or below ground water shall be dewatered by lowering and keeping the ground water level beneath such excavations 12 inches or more below the bottom of the excavation.

Surface water shall be diverted or otherwise prevented from entering excavated areas or trenches to the greatest extent practicable without causing damage to adjacent property.

The Contractor shall be responsible for the condition of any pipe or conduit which he may use for drainage purposes, and all such pipe or conduit shall be left clean and free of sediment.

SHEETING AND SHORING:

Except where banks are cut back on a stable slope, excavation for structures and trenches shall be sheeted, braced, and shored as necessary to prevent caving or sliding.

STABILIZATION:

Subgrades for concrete structures and trench bottoms 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 workmen.

Subgrades for concrete structures or trench bottoms which are otherwise solid, but which become mucky on top due to construction operations, shall be reinforced with crushed rock or gravel. The stabilizing material shall be spread and compacted to a depth of not more than 4 inches; if the

required depth exceeds 4 inches, the material shall be furnished and installed as specified for granular fills. Not more than 1/2 inch depth of mud or muck shall be allowed to remain on stabilized trench bottoms when the pipe bedding material is placed thereon. The finished elevation of stabilizing subgrades shall not be above subgrade elevations indicated on the drawings.

EARTH FILLS AND EMBANKMENTS:

To the maximum extent available, excess suitable material obtained from structure and trench excavations shall be used for construction of fills and embankments. Additional material shall be provided as required or obtained from the borrow pits where indicated on the drawings. After preparation of the fill or embankment site, the subgrade shall be leveled and rolled so that surface materials of the subgrade will be compact and well bonded with the first layer of the fill or embankment.

Fills and embankments shall be constructed in horizontal layers not exceeding 8 inches in uncompacted thickness. Material deposited in piles or windrows by excavating and hauling equipment shall be spread and leveled prior to compaction. Each layer shall be thoroughly compacted to 98 percent of the maximum density at optimum moisture content as determined by ASTM D 698. If the material fails to meet the density specified, compaction methods shall be altered.

Wherever a trench passes through a fill or embankment, the fill or embankment material shall be placed and compacted to an elevation 12 inches above the top of the pipe before the trench is excavated.

EXCAVATION FOR STRUCTURES:

Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10', and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction, and for inspection.

In excavation for footings and foundations, take care not to disturb bottom of excavation. Trim bottoms to required lines and grades to leave solid base to receive other work.

ROADWAY EXCAVATION:

Excavation for the roadways shall conform to the lines, grades, cross sections, and dimensions indicated on the drawings and shall include the excavation of all unsuitable material from the subgrade. The top 12" of subgrade shall be compacted to 98% maximum density. Each layer of backfill or fill material below top 12" shall be compacted to 95% maximum density as determined

by ASTM D 698. Subgrade shall conform to proposed line, grade and cross-section. This operation shall include any reshaping and wetting or drying required to obtain proper compaction. All soft or otherwise unsuitable material shall be removed and replaced with suitable material.

Limiting Trench Widths: Trenches shall be excavated to a width which will provide adequate working space and sidewall clearances for proper pipe installation, jointing, and embedment. However, the limiting trench widths from the bottom of the trench to an elevation one foot above the top of installed pipe, and the minimum permissible sidewall clearances between the installed pipe and each trench wall shall be as follows:

| <u>Nominal Pipe Size</u> (inches) | <u>Minimum Trench Width</u> (inches) | <u>Maximum Trench Width</u> (inches) |
|--|---|---|
| Less than 18 | Pipe O.D. Plus 18 | Pipe O.D. Plus 24 |
| 18 through 30 | Pipe O.D. Plus 24 | Pipe O.D. Plus 30 |
| 34 through 48 | Pipe O.D. Plus 24 | Pipe O.D. Plus 36 |

Stipulated minimum sidewall clearances are not minimum average clearances but are minimum clear distances which will be required.

Cutting trench banks on slopes to reduce earth load to prevent sliding and caving shall be used in areas where the increased trench width will not interfere with surface features or encroach on right-of-way limits. Slopes shall not extend lower than one foot above the top of the pipe.

Unauthorized Trench Widths: Where, for any reason, the width of the lower portion of the trench, as excavated at any point, exceeds the maximum permitted in the foregoing tables, either pipe of adequate strength, special pipe embedment, or arch concrete encasement, as required by loading conditions and with the concurrence of the Engineer, shall be furnished and installed by and at the expense of the Contractor.

Mechanical Excavation: The use of mechanical equipment will not be permitted in locations where its operation would cause damage to trees, buildings, culverts, or other existing property, utilities, or structures above or below ground. In all such locations, hand excavating methods shall be used.

Mechanical equipment used for trench excavation shall be of a type, design, and construction, and shall be so operated that the rough trench excavation bottom elevation can be controlled, that uniform trench widths and vertical sidewalls are obtained at least from an elevation one foot above the top of the installed pipe to the bottom of the trench, and that trench alignment is such that pipe when accurately laid to specified alignment will be centered in the trench with adequate clearance between the pipe and sidewalls of the trench, Undercutting the trench sidewall to obtain clearance will not be permitted.

Cutting Concrete and Asphalt Surface Construction: Cuts in concrete and asphalt pavements shall

be no larger than necessary to provide adequate working space for proper installation of pipe and appurtenances. Cutting shall be started with a concrete saw in a manner which will provide a clean groove at least 2 inches deep along each side of the trench and along the perimeter of cuts for structures.

Concrete and asphalt pavement over trenches excavated for pipelines shall be removed so that a shoulder not less than 6 inches in width at any point is left between the cut edge of the pavement and the top edge of the trench. Trench width at the bottom shall not be greater than at the top and no undercutting will be permitted. Pavement cuts shall be made to and between straight or accurately marked curved lines which, unless otherwise required, shall be parallel to the centerline of the trench. Pavement removed for connections to existing lines or structures shall not be of greater extent than necessary for the installation. Where the trench parallels the length of concrete walks and the trench location is all or partially under the walk, the entire walk shall be removed and replaced. Where the trench crosses drives, walks, curbs, or other surface construction, the surface construction shall be removed and replaced between existing joints or between saw cuts as specified for pavement.

Excavation Below Pipe Subgrade: Where required, pipe trenches shall be excavated below the underside of the pipe, to provide for the installation of granular embedment.

Artificial Foundations in Trenches: Whenever unsuitable or unstable soil conditions which cannot be corrected by dewatering are encountered, trenches shall be excavated below grade and the trench bottom shall be brought to grade with suitable stabilization material. The use of stabilization material (stone) shall be approved by the Engineer's Representative prior to installation.

Bell Holes: Bell holes shall provide adequate clearance for tools and methods used in installing pipe. No part of any bell or coupling shall be in contact with the trench bottom, trench walls, or granular embedment when the pipe is jointed.

PIPE EMBEDMENT:

Placement and Compaction: Granular embedment material shall be spread and the surface graded to provide a uniform and continuous support beneath the pipe at all points between bell holes or pipe joints. It will be permissible to slightly disturb the finished subgrade surface by withdrawal of pipe slings or other lifting tackle.

After each pipe has been graded, aligned, and placed in final position on the bedding material or trench bottom and shoved home, sufficient pipe embedment material shall be deposited and compacted under and around each side of the pipe and back of the bell or end thereof to hold the pipe in proper position and alignment during subsequent pipe jointing and embedment operations.

Embedment material shall be deposited and compacted uniformly and simultaneously on each side of the pipe to prevent lateral displacement.

Hand placed embedment shall be compacted to the top of the pipe in all areas where compacted backfill is specified.

Whenever crushed rock is used as embedment for 36 inch and larger pipe, the portion above the bottom of the pipe shall be vibrated with a mechanical probe type vibrator during placement to ensure that all spaces beneath the pipe are filled.

Ground Water Barrier: Continuity of embedment material shall be interrupted by low permeability ground water barriers to impede passage of water through the embedment. Ground water barriers for sewer lines shall be compacted soil around each manhole. Barriers for all other pipelines shall be compacted soil the full depth of granular material, the full trench width, approximately 4 feet long, and spaced not more than 400 feet apart.

TRENCH BACKFILL:

Compact top 12" of subgrade at 100% maximum density. Each layer of backfill or fill material below top 12" shall be compacted to 95% maximum density, in the following locations:

Where beneath pavements, surfacings, driveways, curbs, gutters, walks or other surface construction or structures.

Where in street, road, or highway shoulders.

Where beneath fills or embankments.

In established lawn areas.

In other areas the backfill shall be compacted to 95 percent or equal to existing.

Where the trench for one pipe passes beneath the trench for another pipe, backfill for the lower trench shall be compacted to the level of the bottom of the upper trench.

Job excavation material may be used for compacted backfill when the job excavated material is finely divided and free from debris, organic material, cinders or other corrosive material, and stones larger than 3 inches in greatest dimension. Masses of moist, stiff clay shall not be used. Each layer of material shall have the best practicable moisture content for satisfactory compaction. The material in each layer shall be wetted or dried as required and thoroughly mixed to ensure uniform moisture content and adequate compaction. Backfill materials shall be placed in uniform layers not exceeding 8 inches in uncompacted thickness. Increased layer thickness may be permitted for noncohesive material if the Contractor demonstrates to the satisfaction of the

Engineer that the specified compacted density will be obtained. The method of compaction and the equipment used shall be appropriate for the material to be compacted and shall not transmit damaging shocks to the pipe.

The top portion of backfill beneath established lawn areas shall be finished with not less than 4 inches of topsoil corresponding to, or better than, that underlying adjoining lawn areas.

STRUCTURE BACKFILL:

The quality and moisture content of materials for backfill around and outside of structures shall conform to the requirements for fill materials. Backfill materials shall be deposited in layers not to exceed 8 inches in uncompacted thickness and compacted to at least 98 percent of maximum density at optimum moisture content as determined by ASTM D 698. Compaction of structure backfill by rolling will be permitted provided the desired compaction is obtained and damage to the structure is prevented. Compaction of structure backfill by inundation with water will not be permitted. No backfill shall be deposited or compacted in water. Particular care shall be taken to compact structure backfill which will be beneath pipes, drives, roads, parking areas, walks, curbs, gutters, or other surface construction or structures. In addition, wherever a trench is to pass through structure backfill, the structure backfill shall be placed and compacted to an elevation not less than 12 inches above the top of pipe elevation before the trench is excavated. Compacted areas, in each case, shall be adequate to support the item to be constructed or placed thereon.

DRAINAGE MAINTENANCE:

Trenches across roadways, driveways, walks, or other trafficways adjacent to drainage ditches or water courses shall not be backfilled prior to completion of backfilling the trench on the upstream side of the trafficway, to prevent impounding water after the pipe has been laid. Bridges and other temporary structures required to maintain traffic across such unfilled trenches shall be constructed and maintained by the Contractor. Backfilling shall be done so that water will not accumulate in unfilled or partially filled trenches. All material deposited in roadway ditches or other water courses by the line of trench shall be removed immediately after backfilling is completed and the original section, grades, and contours of ditches or water courses shall be restored. Surface drainage shall not be obstructed longer than necessary.

DISPOSAL OF EXCESS EXCAVATED MATERIALS:

Except as otherwise permitted, all excess excavated materials shall be disposed of away from the site of the work.

Broken concrete and other debris resulting from pavement or sidewalk removal, excavated rock in excess of the amount permitted to be installed in trench backfill, debris encountered in excavation

work, and other similar waste materials shall be disposed of away from the site of the work.

For excavation in street rights-of-way, Contractor shall grade work area to within 0.1 foot \pm of proposed subgrade. For excavation in easements, excess excavation may be distributed within the easements, to a maximum depth of 6 inches above the original ground surface elevation at and across the trench and sloping uniformly each way.

All wasted material shall be carefully finished with a drag, blade machine, or other suitable tool to a smooth, uniform surface without obstructing drainage at any point. The disposal of waste and excess excavated materials, including hauling, handling, grading, and surfacing shall be a subsidiary obligation of the Contractor and no separate payment will be made therefore.

SETTLEMENT:

The Contractor shall be responsible for all settlement of backfill, fills, and embankments which may occur within the correction period stipulated in the General Conditions.

The Contractor shall make, or cause to be made, all repairs or replacements made necessary by settlement within 30 days after notice from the Engineer or Owner.

TESTS:

As stipulated in the quality control section, all tests required for preliminary review of materials shall be made by an acceptable independent testing laboratory at the expense of the Contractor. Two initial gradation tests shall be made for each type of embedment, fill, or backfill material and one additional gradation test shall be made for each additional 500 tons of each material. Moisture-density (Proctor) tests and relative density tests on the materials, and all in-place field density tests, shall be paid for out of the testing allowance.

END OF SECTION 02220

SECTION 02736 - STORM SEWER SYSTEM

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General Supplemental General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

Related Work Specified Elsewhere:

Excavation, Trenching and Erosion Control: See Division-2 sections.

Concrete: See Division-3 sections.

DESCRIPTION OF WORK:

The extent of storm sewer system work is shown on the drawings.

Storm sewer system work includes, but is not limited to, all of the following.

Storm sewer pipe.

Drop inlets, frames and gratings.

Curb inlets, frames and gratings.

Reinforced concrete and brick junction box.

Rip Rap

QUALITY ASSURANCE:

Code and Standards: Comply with requirements of the NC Department of Transportation and with requirements of applicable Division - 2 sections for excavation and backfilling required in connection with storm sewer system work.

SUBMITTALS:

Shop Drawings and Storm Sewer System: Submit shop drawings for the storm sewer system, including details of underground structures, metal accessories, fittings, and connections, and any variations from those details shown on the drawings.

PART 2 - PRODUCTS

CONDUIT MATERIALS:

Reinforced Concrete Pipe (RCP): Concrete Pipe shall be in accordance with ASTM C-76, Class III All pipe shall have tongue-and groove type joint. All pipe shall be stamped by supplier - "R.C.". Joint material shall be RAM-NEK Performed Plastic Gasket, Type I rope form sealing compound conforming to Federal Specifications SS-S-210A.

Polyvinyl Chloride (PVC): PVC storm sewer pipe and fittings shall be manufactured and tested in accordance with ASTM F949. PVC pipe shall be manufactured from 12454 cell class material per ASTM D1784. Pipe and fittings shall have a minimum pipe stiffness of 46 lbs/in/in when tested in accordance with ASTM D2412. Joints shall be integral bell-gasketed joint.

MASONRY MATERIALS:

Concrete Masonry Units (Manhole Block): ASTM C 139.

Manhole Drop Inlet and Catch Basin Brick: ASTM C 32, Grade MS.

Concrete Brick: ASTM C 55, Grade N1.

Masonry Mortar: ASTM C 270, Type M, approximately 1:1/4:2 Portland cement, lime, sand.

Concrete Block: ASTM C-90, Grade N 1.

For minor amounts of mortar, packaged materials complying with ASTM C 387, Type M, will be acceptable.

Plasticizing Agent - Omicron or equal. Use in accordance with manufacturer's instructions.

METAL ACCESSORIES:

General: All metal accessories for manholes, catch basins and drop inlets shall be gray cast iron, ASTM A 48, Class 30B. Frames, grates and covers shall be factory coated with an asphalt base paint. Install metal accessories as shown on the drawings and as follows:

Manhole frames and covers shall be V-1384 as manufactured by East Jordan Iron Works, or approved equal. Furnish covers with cast-in legend "Storm" or "Sanitary" as applicable on roadway face.

Catch basin frames and grates shall be V-4066-2 (NCDOT Type C) as manufactured by East Jordan Iron Works., or approved equal.

Drop inlet frames and grates shall be V-5660 as manufactured by East Jordan Iron Works, or approved equal.

Manhole steps shall be plastic coated steel bar as manufactured by MA Industries or cast iron as V-1999 manufactured by East Jordan Iron Works, or approved equal.

Rip Rap: Rip rap shall be accomplished in accordance with Section 868 of the N.C. State Highway Specifications for Roads and Structures. Rip rap shall be located and be of the class shown on plans.

Filter Cloth: Filter cloth shall be composed of strong rot proof synthetic fibers formed into a fabric of either the woven or nonwoven type. Either type of fabric shall be free of any treatment or coating which might significantly alter its physical properties after installation.

The filter cloth shall have a puncture strength to withstand a minimum force of 100 lbs., in accordance with ASTM D751. Filter cloth as manufactured by Contech, Carthage Mills, Inc., or approved equal will be acceptable.

Temporary Silt Fence: Temporary silt fence shall be accomplished in accordance with Section 1605 of the N.C. State Highway Specifications for Roads and structures and as shown on the plans.

PART 3 - EXECUTION

INSPECTION:

Contractor must examine the areas and conditions under which storm sewer system work is to be installed. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Engineer.

INSTALLATION OF CONDUIT (PIPE):

General:

Perform excavation, trenching and backfilling as specified in appropriate Division-2 Sections. Conduct backfill operations of open-cut trenches closely following laying, jointing and bedding of pipe, and after initial inspection and testing are completed.

Inspect conduit before installation to detect any apparent defects. Mark defective materials with white paint and promptly remove from the site.

Particular care shall be taken to prevent damage to pipe and fitting linings and coatings. Pipe shall be protected during handling against impact shocks and free fall.

Lay conduit beginning at the low point of a system, true to the grades and alignment indicated with unbroken continuity of invert. The line and invert grade of each pipe shall be checked from top line carried on batter boards not over 24' apart or by a laser and target.

Cross above or below other pipe a minimum of 6" unless otherwise directed by the Engineer.

Place bell ends of conduit or the groove end of concrete facing upstream.

Bell holes shall be excavated for each joint to assure bedding supports the barrel of the pipe and to facilitate making a perfect joint. Preparatory to making pipe joints, all surfaces of the portion of the pipe to be jointed or of the factory-made jointing materials shall be clean and dry.

Install gaskets in accordance with manufacturer's recommendations for the use of lubricants, cements, and other special installation requirements.

Cleaning Conduit: Clear the interior of conduit of dirt and other superfluous material as the work progresses.

Place plugs in the ends of uncompleted conduit at the end of the day or whenever work stops.

Flush lines between manholes if required to remove collected debris.

Interior Inspection: Inspect conduit to determine whether line displacement or other damage has occurred.

A light held in a manhole shall show a full circle of light when viewed from the adjoining end of the line.

Make inspections after lines between manholes, or manhole locations, have been installed and approximately two feet of backfill is in place and at completion of the project.

If the inspection indicates poor alignment, debris, displaced pipe, infiltration or other defects, take whatever steps are necessary to correct such defects to the satisfaction of the Engineer.

Connection to Existing Structures: Pipe connections to existing structures shall be made in such manner that the finished work will conform as nearly as practicable to the essential applicable requirements specified for new structures, including all necessary concrete work, cutting, and shaping.

UNDERGROUND STRUCTURES:

General: Manholes may be precast manhole sections or constructed with concrete masonry units (manhole block), manhole brick or concrete brick masonry as specified under Part 2 - Products unless otherwise noted.

Drop inlets or curb inlets may be constructed with concrete brick or manhole brick masonry as specified under Part 2 - Products. Construct all drainage structures with a grouted invert to channel flow through structure from inlet pipes to outlet pipe. Where pipes are skewed, the grouted channel shall form a smooth radius. Structures shall not be backfilled until inspected by the Engineer or his representative unless otherwise directed.

Construct all structures in accordance with all authorities having jurisdiction and as hereinafter specified.

Masonry Construction Manholes: At Contractor's option, use either manhole brick, concrete brick or concrete masonry (manhole block) units to construct masonry manholes.

Mix mortar with only enough water for workability. Re-tempering of mortar will not be permitted. Keep mortar mixing and conveying equipment clean. Do not deposit mortar upon, or permit contact with, the ground.

Lay masonry in mortar so as to form full bed with ends and side joints in one operation, and with full bed and vertical joints, not more than 3/8" wide on the inside. Protect fresh masonry from freezing and from too rapid drying.

Curb Inlet and Drop Inlets: Construct curb inlet or drop inlet to the sizes and shapes as shown on the drawings and as specified for masonry manholes.

Use concrete which will attain a 28-day compressive strength of not less than 3,000 psi.

Set cast iron frames and gratings to the elevations indicated.

Field revisions may be necessary for manholes and catch basins constructed on existing lines, as directed by Engineer.

Concrete Block retaining walls shall be constructed where existing concrete block walls must be removed for sidewalk or curb and gutter construction unless otherwise directed by the Engineer. Constructed shall be where located by Engineer according to detail for masonry manhole structures.

Installation of filter cloth shall be in accordance with the manufacturer's recommendations. Care shall be taken to insure that the cloth develops no rips, holes, deterioration, or damage during installation. During all periods of shipment and storage, the cloth shall be maintained, wrapped in a heavy duty protection covering to protect the fabric from direct sunlight ultraviolet rays, mud, dirt, dust and debris.

END OF SECTION 02736

SECTION 02910 - EROSION AND POLLUTION CONTROL

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

DESCRIPTION OF WORK:

The extent of the work required under this section is that required to minimize water, air, and noise pollution and soil erosion and siltation.

Temporary erosion control measures which may be necessary include, but are not limited to, temporary berms, dikes, dams, drainage ditches, silt basins, silt ditches, silt fences, rip rap, perimeter swales, slope drains, structures, vegetation, mulches, mats, netting, gravel or any other methods or devices that are necessary to control or restrict erosion. Temporary erosion control measures may include work outside the right-of-way or construction limits where such work is necessary as a result of construction such as borrow pit operations, haul roads, plant sites, equipment storage sites, and disposal of waste or debris. The Contractor shall be liable for all damages to public or private property caused by silting or slides originating in waste areas furnished by the Contractor.

Related Work Specified Elsewhere:

Fertilizing, Seeding and Mulching: Section 02920

QUALITY ASSURANCE:

Codes and Standards:

North Carolina Sedimentation Pollution Control Act of 1973 and the Rules and Regulations promulgated pursuant to the provisions of said act.

"Standard Specifications for Roads and Structures", North Carolina Department of Transportation (DOT).

In the event of conflict between the regulations listed above and the requirements of these specifications, the more restrictive requirement shall apply.

SANCTIONS:

Failure of the Contractor to fulfill any of the requirements of this section may result in the Owner ordering the stopping of construction operations in accordance with SUBARTICLE 13.8 of the General Conditions until such failure has been corrected. Such suspension of operations will not justify an extension of contract time nor additional compensation.

Failure on the part of the Contractor to perform the necessary measures to control erosion, siltations, and pollution will result in the Engineer notifying the Contractor to take such measures. In the event that the Contractor fails to perform such measures within 24 hours after receipt of such notice, the Owner may suspend the work as provided above, or may proceed to have such measures performed with other forces and equipment, or both. The cost of such work performed by other forces will be deducted from monies due the Contractor on his contract.

PART 2 - PRODUCTS

SILT FENCES:

Posts: Steel posts shall be 5' in height and be of the self-fastener angle steel type.

Posts shall be spaced at 8' max. when silt fence is backed with wire mesh, and 5' when no wire mesh is used or as required by the Engineer.

Woven Wire: Woven wire fencing shall conform to ASTM A116 for Class 3 galvanizing. Fabric shall be a minimum of 32" in width and shall have a minimum of 6 line wires with 12" stay spacing. The top and bottom wires shall be 10 gauge while the intermediate wires shall be 12-1/2 gauge. Wire fabric shall be fastened to posts with not less than #9 wire staples 1-1/2" long.

Fabric: Provide woven synthetic fiber designed specifically for silt fence conforming to NCDOT Standard Specifications for Roads and Structures Section 1056 Type 3 in Table 1056-1. Minimum roll width shall be 36".

DRAINAGE STONE:

NCDOT Class VI select material meeting the gradation requirements of standard size 57 in Table 1005-1 as described in Section 1005 and 1006.

RIP RAP:

Class B in accordance with NCDOT specifications.

FILTER CLOTH:

For use under rip rap provide geotextile which meets requirements of NCDOT Standard Specifications for Roads and Structures Section 1056 Type 2 in Table 1056-1.

MATTING FOR EROSION CONTROL:

Matting for erosion control shall be jute matting or excelsior matting. Other acceptable material manufactured especially for erosion control may be used when approved by the Engineer in writing before being used. Matting for erosion control shall not be dyed, bleached, or otherwise treated in a manner that will result in toxicity to vegetation.

TEMPORARY SEEDING:

Temporary seeding, when required, shall be performed in accordance with the recommendations contained in "Guide for Sediment Control on Construction Sites in North Carolina", published by the Soil Conservation Service and Section 02920 of these specifications.

PART 3 - EXECUTION

GENERAL:

The Contractor shall take whatever measures are necessary to minimize soil erosion and siltation, and water, air, and noise pollution caused by his operations. The Contractor shall also comply with the applicable regulations of all legally constituted authorities relating to pollution prevention and control. The Contractor shall keep himself fully informed of all such regulations which in any way affect the conduct of the work, and shall at all times observe and comply with all such regulations. In the event of conflict between such regulations and the requirements of the specifications, the more restrictive requirements shall apply.

EROSION AND SILTATION CONTROL:

The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent the eroding of soil and the silting of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces, or other property.

Prior to suspension of operations on the project or any portion thereof, the Contractor shall take all necessary measures to protect the construction area, including but not limited to borrow sources, soil type base course sources, and waste areas, from erosion during the period of suspension.

Provide diversion ditches and berms as necessary to prevent concentrated flow of water across disturbed areas.

Stockpile excavated material on the opposite side of the utility trenches from the watercourses to the extent that is possible.

In the event that stockpiles are placed on the watercourse side of the trench, provide silt fence or silt berms with stone filter outlets along the entire length of the stockpile that is on the watercourse side of the trench. Upon the completion of backfilling, the measures shall be removed and the site graded to its natural grade or as shown on plans.

Maintain natural buffer zones along all watercourses sufficient to retain all visible siltation within the first 25 percent of the buffer width.

Provide a settling basin with a gravel filter outlet for all water pumped from trenches or dewatering equipment. Pumping of that water directly into any stream, pond, or watercourse is prohibited.

Tamp, fertilize, seed and mulch the disturbed areas as soon as practicable after line is installed and, in all cases, no later than 14 days after completion of the line segment or work at a particular site.

When construction operations are suspended for more than 14 days, provide temporary seeding and mulching of all disturbed areas including those areas in which further construction is necessary.

Erosion control measures installed by the Contractor shall be acceptably maintained by the Contractor.

Silt fences shall be provided where shown on the drawings and/or as necessary to prevent erosion.

Catch basins and Drop Inlets shall be protected from silt by placing rock inlet sediment traps around the openings until vegetative cover is established.

Temporary rock check dams shall be constructed where shown on the drawings.

Seeding for erosion control shall be performed in accordance with Section 02920.

Stream Or Ditch Crossings shall be perform in accordance with details shown on plans. Complete crossing in one working day. Carefully stabilize disturbed slopes by tamping with equipment buckets and mechanical or hand tamping. Distribute topsoil evenly on slopes and tamp.

Where rip rap is required, carefully place at least one foot thick over filter cloth.

Fertilize, seed, and mulch each crossing's slopes as soon as practicable after completing the crossing and in no case more than two weeks after disturbance of the slopes.

WATER AND AIR POLLUTION:

The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent pollution of rivers, streams, and water impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage, and other harmful waste shall not be discharged into or alongside of rivers, streams, or impoundments, or into natural or manmade channels leading thereto.

The Contractor shall comply with all State or local air pollution regulations throughout the life of the project.

DUST CONTROL:

The Contractor shall control dust throughout the life of the project within the project area and at all other areas affected by the construction of the project, including, but not specifically limited to, unpaved secondary roads, haul roads, access roads, disposal sites, borrow and material sources, and production sites. Dust control shall not be considered effective where the amount of dust creates a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property.

NOISE CONTROL:

The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent excessive and unnecessary noise. The Contractor shall choose his methods so as to minimize the disturbance of area residents.

END OF SECTION 02910

SECTION 02920 - FERTILIZING, SEEDING AND MULCHING

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

DESCRIPTION OF WORK:

Permanent Seeding: Permanent seeding is required for all areas disturbed by construction, except for areas covered by structures, pavements, etc.

Temporary Seeding: Soil stabilization shall be achieved on any area of a site where land-disturbing activities have temporarily or permanently ceased according to the following schedule:

1. All perimeter dikes, swales, ditches, perimeter slopes and all slopes steeper than 3 horizontal to 1 vertical {3:1} shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 7 calendar days from the last land-disturbing activity.
2. All other disturbed areas shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 14 calendar days from the last land-disturbing activity.
3. As deemed necessary by the Engineer.

The following conditions and/or exemptions shall apply in meeting the stabilization requirements above:

1. Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable.
2. All slopes 50' in length or greater shall apply the ground cover within 7 days except when the slope is flatter than 4:1. Slopes less than 50' shall apply ground cover within 14 days except when slopes are steeper than 3:1, the 7 day-requirement applies.
3. Any sloped area flatter than 4:1 shall be exempt from the 7-day ground cover requirement.
4. Slopes 10' or less in length shall be exempt from the 7-day ground cover requirement except when the slope is steeper than 2:1.
5. Although stabilization is usually specified as ground cover, other methods, such as chemical stabilization, may be allowed on a case-by-case basis.

6. For portions of projects within one mile and draining to trout waters and High Quality Waters as classified by the Environmental Management Commission, stabilization with ground cover shall be achieved as soon as practicable but in any event on all areas of the site within 7 calendar days from the last land-disturbing act.
7. For portions of projects located in Outstanding Resource Waters watersheds as classified by the Environmental Management Commission, stabilization with ground cover shall be achieved as soon as practicable but in any event on all areas within 7 calendar days from the last land-disturbing act.
8. Portions of a site that are lower in elevation than adjacent discharge locations and are not expected to discharge during construction may be exempt from the temporary ground cover requirements if identified on the approved E&SC plan or added by the permitting authority.

QUALITY ASSURANCE:

Codes and Standards: In general, follow procedures and guides published by the Soil Conservation Service, United States Department of Agriculture.

PART 2 - PRODUCTS

FERTILIZER:

Provide commercial fertilizer conforming to statutory requirements and all rules and regulations adopted by the North Carolina Board of Agriculture.

LIMESTONE:

Provide agricultural limestone conforming to all statutory requirements and all rules and regulations adopted by the North Carolina Board of Agriculture.

SEED:

Provide seed conforming to all statutory requirements and all rules and regulations adopted by the North Carolina Board of Agriculture.

Provide seed in accordance with requirements shown below. Deliver to site in original containers, labeled to show that the requirements of the N.C. Seed Law are met.

Quality of seed shall conform to the following:

| <u>Common Name</u> | <u>Minimum Seed Purity</u> % | <u>Minimum Germination</u> % | <u>Maximum Weed Seed</u> % |
|--------------------|---------------------------------|---------------------------------|-------------------------------|
|--------------------|---------------------------------|---------------------------------|-------------------------------|

Grasses

| | | | |
|----------------------|----|----|------|
| Fescue Tall {KY.-31} | 98 | 90 | 1.00 |
| Common Bermudagrass | 99 | 90 | 0.1 |
| Centipede | 80 | 90 | 1.00 |
| Rye | 80 | 90 | 1.00 |

Seeding containing prohibited noxious weed seed shall not be accepted. Seed shall be in conformance with state seed law restrictions for restricted noxious weeds.

If seed of the accepted quality cannot be bought, secure prior approval before making changes or exceptions.

MULCH:

Mulch for erosion control shall consist of grain straw or other acceptable material, and shall have been approved by the Engineer before being used. All mulch shall be reasonably free from mature seedbearing stalks, roots, or bulblets of Johnson Grass, Nutgrass, Sandbur, Wild Garlic, Wild Onion, Bermuda Grass, Crotalaria, and Witchweed, and free of excessive amount of restricted noxious weeds as defined by the North Carolina Board of Agriculture at the time of use of the mulch. Also there shall be compliance with all applicable State and Federal domestic plant quarantines. Straw mulch that is matted or lumpy shall be loosened and separated before being used.

Material for holding mulch in place shall be asphalt or other approved binding material applied in accordance with this section.

JUTE MESH:

Use jute mesh on seeded areas where slope is steeper than 2 horizontal to one vertical {2:1 slope). Use woven jute yarn weighing approximately 90 lbs. per 100 sq. yds. and having 3/4" openings.

PART 3 - EXECUTION

GENERAL:

Follow procedures set forth in the publication "Guide for Sediment Control on Construction Sites in North Carolina" by the United States Department of Agriculture, Soil Conservation Service, and as specified herein.

Scarify soil to a depth of three {3} inches and work into a satisfactory seed bed by discing, use of cultipackers, harrows, drags and other approved means.

Preparation outlined above shall not be done when the soil is frozen, wet or otherwise in an unfavorable condition.

Begin and complete seeding operations as outlined below as soon as possible after final grading is completed, but in no event later than 30 days after completion of final grading.

Seeding and mulching operations shall not begin until electrical service has been installed within the project, unless directed by the Engineer.

Distribute lime and fertilizer, uniformly over seed bed and harrow, rake, or otherwise work same into seed bed.

Distribute seed uniformly over seed bed. Cover seed lightly after seeding.

No lime, fertilizer, or seed shall be applied during a strong wind, when soil is wet or otherwise unworkable. Should rain follow seeding before rolling is begun, the bed shall not be rolled.

PERMANENT SEEDING:

Application of Lime, Fertilizer and Seed:

Apply lime at the rate of 2 tons per acre.

Apply fertilizer at a rate and analysis which will provide the following amounts of nutrients:

Nitrogen: 100 pounds per acre
Potash: 200 pounds per acre
Phosphorous: 200 pounds per acre

Apply 600 pounds per acre of 20% superphosphate or equivalent in addition to that listed above or use an analysis which will provide the additional phosphorous.

Provide permanent seeding in accordance with the following schedule:

{January 1 - March 31}

| | |
|---------------------------------|----------------------|
| Common Bermuda grass {unhulled} | - 20 pounds per acre |
| Rye {grain} | - 25 pounds per acre |

{April 1 - July 31}

| | |
|-------------------------------|----------------------|
| Common Bermuda grass {hulled} | - 15 pounds per acre |
| Weeping Lovegrass | - 5 pounds per acre |
| Centipede | - 8 pounds per acre |

{August 1 - December 31}

| | |
|---------------------------------|----------------------|
| Common Bermuda grass {unhulled} | - 20 pounds per acre |
| Tall Fescue | - 60 pounds per acre |
| Rye {grain} | - 25 pounds per acre |

Seed Bed Protection:

| | |
|--------------|--------------------------------|
| Straw Mulch | - 2 tons per acre {visual} |
| Asphalt Tack | - 0.03 gallons per square yard |

TEMPORARY SEEDING:

Seed in accordance with Soil Conservation Service recommendations with regard to seed type, rate of application, fertilizer, etc.

APPLICATION OF MULCH:

Apply mulch immediately after permanent seeding at a uniform rate sufficient to achieve approximately 80% coverage of ground surface. Care must be taken to prevent the mulch from being applied too thickly and smothering the seedlings. Mulch for temporary seeding should be applied based upon the recommendations of the Soil Conservation Service for the particular type of seed to be used.

Mulch Anchoring:

On ground slopes less than 4%, anchor mulch with a straight blade disk or anchoring tool. Press mulch into soil about three inches. Operate equipment across slopes.

On ground slopes greater than 4%, apply asphalt with suitable applicator at a rate of not less than 150 gallons per ton of mulch.

Peg and twine anchoring may be used on steep slopes. Drive 8" wood stakes every 3 to 4 feet in all directions. Stretch in a crisscross and square in all directions. Secure twine around pegs and drive pegs flush with surface.

REPAIR AND MAINTENANCE:

Maintain the grass on the area for a period of 90 days after the grass growth appears. Reseed bare areas and repair all eroded areas during that period.

Repairs: Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be over 60% damaged, reestablish following original lime, fertilizer and seeding recommendations.

All areas which do not exhibit satisfactory ground cover within 45 days of seed application shall be replanted.

END OF SECTION 02920

SECTION 03305 - CONCRETE

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division - 1 Specification Sections apply to work of this section.

DESCRIPTION OF WORK:

Concrete work includes, but is not specifically limited to, concrete piers, pipe encasement, concrete curbs and gutters, concrete drives, walks and other concrete items required in the project.

RELATED ITEMS SPECIFIED ELSEWHERE:

Storm Sewer System: Section 02736

QUALITY ASSURANCE:

Codes and Standards: AC1 301 "Specifications for Structural Concrete for Buildings"; AC1 347 "Recommended Practice for Concrete Formwork", AC1 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete"; comply with applicable provisions except as otherwise indicated.

Workmanship: The Contractor is responsible for correction of concrete work which does not conform to the specified requirements, including strength, tolerances and finishes. Correct deficient concrete as directed by the Engineer.

Concrete Testing Service: Employ a testing laboratory acceptable to the Engineer to perform material evaluation tests and to design concrete mixes at Contractor's expense.

Certificates of material properties and compliance with specified requirements may be submitted in lieu of testing. Certificates of compliance must be signed by the materials producer and the Contractor.

PART 2 - PRODUCTS

CONCRETE MATERIALS:

Portland Cement: ASTM C150, Type 1, unless otherwise acceptable to the Engineer.

Aggregates: ASTM C33, except local aggregates of proven durability may be used when acceptable to the Engineer.

Water: Clean, potable.

Design strength: 4000 psi for sidewalks curb and gutter, drives, etc.; 3,000 PSI with 3/8" aggregate for masonry fill; 2500 psi for pipe blocking and encasement.

No admixtures containing calcium chloride may be used. Use Pozzolith by Master Builders, Plastiment or Plasticrete by Silka and Chemstrong A, R, or W by Castle Chemical Company or approved equal. Retarders and accelerators shall be used only as directed by the Engineer.

Air-Entraining Admixture: ASTM C260. Only use admixtures having neutralized vensol resins. Use MB-VR by Master Builders, SIK AER by Sika Chemical Company, or CASTLE VR by Castle Chemical Company, or approved equal.

Use air-entraining admixture in all concrete, providing not less than 4% nor more than 6% entrained air.

Water-Reducing Admixture: ASTM C494, Type A, D, and E. Only use admixtures which have been tested and accepted in mix designs, unless otherwise acceptable.

Mortar: Mortar used for sewer structures shall conform to ASTM Specification C-144 as to aggregate and strength. Mortar shall be prepared from cement in perfect condition and shall be prepared in box for that purpose. No mortar that has stood beyond 45 minutes shall be used. Proportion by volume for different kinds of work shall be:

Brick Masonry 1 part cement to 2 parts sand
Jointing 1 part cement to 1 part sand

Concrete: Concrete shall be only plant-mixed or transit-mixed concrete conforming to ASTM C-94 for Ready-Mix Concrete.

FORM MATERIALS:

Provide form materials with sufficient stability to withstand pressure of placed concrete without bow or deflection.

Exposed Concrete Surfaces: Acceptable panel-type to provide continuous, straight, smooth, as-cast surfaces. Use largest practical sizes to minimize form joints.

Unexposed Concrete Surfaces: Suitable material to suit project conditions.

CURING COMPOUND:

Liquid membrane forming curing compound shall comply with ASTM C300, Type I Class A, minimum 22% solids.

REINFORCING MATERIALS:

Reinforcing Bars: ASTM A615, Grade 40

Welded Wire Fabric: ASTM A185

JOINT MATERIALS:

Self-Expanding Cork Joint Filler: Provide resilient and non-extruding type premolded cork units complying with ASTM D1752, Type III.

Water - Stop: PVC meeting Corps of Engineers CRD-C572 with center bulb.

PART 3 - EXECUTION

FORMING AND PLACING CONCRETE:

Ready-Mixed Concrete: ASTM C94. Furnish delivery tickets for each load showing amount of each material in the batch, time batched, date, job.

Formwork: Construct so that concrete members and structures are of correct size, shape, alignment, elevation and position, complying with ACI 347. Provide 3/4" chamfer on all exposed corners.

Provide openings in formwork to accommodate work of other trades. Accurately place and securely support items built into forms.

Clean and adjust forms prior to concrete placement. Apply form release agents or wet forms, as required. Retighten forms during and after concrete placement if required to eliminate mortar leaks.

Reinforcement: Position, support and secure reinforcement against displacement. Locate and support with metal chairs, runners, bolsters, spacers and hangers, as required. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

Install welded wire fabric in as long lengths as practicable, lapping at least one mesh.

Joints: Provide construction, expansion, weakened-plane (contraction), isolation, and control joints as indicated or required. Locate construction joints so as to not impair the strength and appearance of the structure. Place isolation and control joints in slabs-on-ground to stabilize differential settlement and random cracking.

Provide expansion and weakened-plane (contraction) joints where shown or required. Construct weakened-plane joints for a depth equal to at least 1/4 concrete thickness, either tooled, or with inserts unless otherwise shown. Tool edges of joints where slabs, walks, drives, curbs and gutters, etc. are constructed or replaced.

Place construction joints at the end of pours and at locations where placement operations are stopped for more than 1/2 hour, except where such pours terminate at expansion joints. Construct joints as shown or, if not shown, use standard metal keyway sections.

Provide premolded joint filler for expansion joints abutting curbs, manholes, and other fixed objects. Locate at 20' o.c. for pavement lanes unless otherwise specified.

Concrete Placement: Comply with ACI 304, placing concrete in a continuous operation within planned joints or sections. Do not begin placement until work of other trades affecting concrete is completed.

Consolidate placed concrete using mechanical vibrating equipment with hand rodding and tamping, so that concrete is worked around reinforcement and other embedded items and into all parts of forms.

Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placement and curing.

In cold weather comply with ACI 306.

In hot weather comply with ACI 305.

CONCRETE FINISHES:

Exposed-to-view Surfaces: Provide a smooth rubbed finish for exposed formed concrete surfaces and surfaces that are to be covered with a coating or covering material applied directly to concrete. Remove fins and projects, patch defective areas with cement grout, and rub smooth.

Slab Trowel Finish: Apply trowel finish to interior monolithic slab surfaces that are exposed-to-view or are to be covered with resilient covering, paint or other thinfilm coating. Consolidate concrete surface by finish troweling, free of trowel marks, uniform in texture and appearance.

Curing: Begin initial curing as soon as free water has disappeared from exposed surfaces. Where possible, keep continuously moist for not less than 72 hours. Continue curing by use of moisture-retaining cover or membrane-forming curing compound. Apply curing compound according to manufacturer's instructions and Federal Specification TT-C-00800. Cure formed surfaces by moist curing until forms are removed. Provide protections as required to prevent damage to exposed concrete surfaces.

Drives, Walks, Curbs and gutter Finishing: After striking-off and consolidating, smooth the concrete surface by screeding and floating. Work edges of slabs, gutters, and other formed joints with an edging tool to a ½" radius. After floating and when excess moisture or surface sheen has disappeared, complete surface finishing as follows:

Broom finish by drawing a fine-hair broom perpendicular to line of traffic, as acceptable to the ENGINEER.

END OF SECTION 03305

Vendor Name: _____

GREENVILLE UTILITIES COMMISSION

PROPOSAL FORM HUDSONS SUBSTATION SITE WORK

The undersigned bidder hereby declares that it has carefully examined the enclosed detailed specifications for furnishing GUC with the below listed item(s). The undersigned bidder further agrees, if this proposal is accepted within thirty (60) days from the date of the opening, to furnish any or all of the item(s) upon the quoted price.

| ITEM NO. | DESCRIPTION | DELIVERY TIME (DAYS) | PRICE |
|----------|---|----------------------|------------|
| I | Site Construction | | \$ |
| II | Soils and Materials Testing Allowance | N.A. | \$ |
| III | TOTAL BASE BID | | \$ |
| | Complete and Check All Math: It is the responsibility of the Bidder to extend unit prices and supply a total for all items. | | |
| | Unit Prices Undercut Excavation w/ Off-site Disposal and Select Borrow Excavation | | \$_____/CY |
| | BID SCHEDULE NO. 1 – Delivery Schedule Calendar Days The Contractor shall achieve Substantial Completion of the entire Work not later than the number of Calendar Days as indicated from the date of commencement as fixed in a Notice to Proceed issued by the Owner. The time to achieve Substantial Completion shall be extended for the period of any reasonable delay due exclusively to causes beyond the control and without fault of the Bidder, including acts of God, fires, floods, strikes, and delays in transportation. | ____ Days | |

Method of Award: GUC will award this bid as a total bid.

Complete and Check All Math: It is the responsibility of the Bidder to extend bid prices and supply a total for all items. It is certified that this proposal is made in good faith and without collusion or connection with any other person bidding on the same above listed items. It is also certified that this proposal is made in good faith and without collusion or connection with any GUC employee(s).

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It is certified that this proposal is made in good faith and without collusion or connection with any other person bidding on the same above listed items. It is also certified that this proposal is made in good faith and without collusion or connection with any GUC employee(s).

Certified check or cash for \$_____ or bid bond for \$_____ attached.

Firm Name _____ Phone (____) _____

Address _____

City _____ State _____ Zip Code _____

Fax (____) _____ E-Mail _____

Authorized Official _____ Title _____
Typed Name

Signature Date _____

Three (3) copies of your proposal should be received no later than September 19, 2024 at 10:00 AM (EDST).

NO BIDS CONSIDERED UNLESS SUBMITTED ON THIS FORM(S)

(RETURN ONLY THIS FORM(S) AND EXCEPTION, E-VERIFY)

Letter of Compliance to E-Verify for Greenville Utilities Commission

1. I have submitted a bid for contract or desire to enter into a contract with the Greenville Utilities Commission;
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 twenty-five (25) 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 twenty-five (25) employees in the State of North Carolina.
Specify subcontractor: _____

_____ (Company Name)

By: _____ (Typed Name)

_____ (Authorized Signatory)

_____ (Title)

_____ (Date)

Special Instructions to Bidders

**City of Greenville/Greenville Utilities Commission
Minority and/or Women Business Enterprise (M/WBE) Program**

**GUC
Construction Guidelines and Affidavits
\$100,000 and above**

These instructions shall be included with each bid solicitation.

**City of Greenville/Greenville Utilities Commission
Minority and/or Women Business Enterprise Program**

\$100,000 and Construction Guidelines for M/WBE Participants

Policy Statement

It is the policy of the City of Greenville and Greenville Utilities Commission to provide minorities and women equal opportunity for participating in all aspects of the City’s and Utilities’ contracting and procurement programs, including but not limited to, construction projects, supplies and materials purchases, and professional and personal service contracts.

Goals and Good Faith Efforts

Bidders responding to this solicitation shall comply with the M/WBE program by making Good Faith Efforts to achieve the following aspiration goals for participation.

| | GUC | |
|---|-----|-----|
| | MBE | WBE |
| Construction This Goal includes Construction Manager at Risk | 7% | 4% |

Bidders shall submit M/WBE information with their bids on the forms provided. This information will be subject to verification by GUC prior to contract award. **As of July 1, 2009, contractors, subcontractors, suppliers, service providers, or M/WBE members of joint ventures intended to satisfy GUC M/WBE goals shall be certified by the NC Office of Historically Underutilized Businesses (NC HUB) only.** Firms qualifying as “WBE” for GUC’s goals must be designated as a “women-owned business” by the HUB Office. Firms qualifying as “MBE” for GUC’s goals must be certified in one of the other categories (i.e.: Black, Hispanic, Asian American, American Indian, Disabled, or Socially and Economically Disadvantaged). Those firms who are certified as both a “WBE” and “MBE” may only satisfy the “MBE” requirement. A complete database of NC HUB certified firms may be found at <http://www.doa.nc.gov/hun/>. An internal database of firms who have expressed interest to do business with the City and GUC is available at www.greenvillencmwbe.org. However, the HUB status of these firms must be verified by the HUB database. GUC shall accept NCDOT certified firms on federally funded projects only. Please note: A contractor may utilize any firm desired. However, for participation purposes, all M/WBE vendors who wish to do business as a minority, or a female must be certified by NC HUB.

The Bidder shall make good faith efforts to encourage participation of M/WBEs prior to submission of bids in order to be considered as a responsive bidder. Bidders are cautioned that even though their submittal indicates they will meet the M/WBE goal, they should document their good faith efforts and be prepared to submit this information, if requested.

The M/WBE's listed by the Contractor on the **Identification of Minority/Women Business Participation** which are determined by the GUC to be certified shall perform the work and supply the materials for which they are listed unless the Contractors receive prior authorization

from the GUC to perform the work with other forces or to obtain materials from other sources. If a contractor is proposing to perform all elements of the work with his own forces, he must be prepared to document evidence satisfactory to the owner of similar government contracts where he has self-performed.

The Contractor shall enter into and supply copies of fully executed subcontracts with each M/WBE or supply signed Letter(s) of Intent to the Project Manager after award of contract and prior to Notice to Proceed. Any amendments to subcontracts shall be submitted to the Project Manager prior to execution.

Instructions

The Bidders Shall Provide with the bid the following documentation:

- Identification of Minority/Women Business Participation
(if participation is zero, please mark zero – Blank forms will be considered nonresponsive)
- Affidavit A (if subcontracting)

OR

- Identification of Minority/Women Business Participation
(if participation is zero, please mark zero – Blank forms will be considered nonresponsive)
- Affidavit B (if self-performing; must attest that bidder does not customarily subcontract work on this type of project – includes supplies and materials)

Within 72 hours or 3 business days after notification of being the apparent low bidder who is subcontracting anything must provide the following information:

- Affidavit C (if aspirational goals are met or are exceeded)

OR

- Affidavit D (if aspirational goals are not met)

After award of contract and prior to issuance of notice to proceed:

- Letter(s) of Intent or Executed Contracts

****With each pay request, the prime contractors will submit the Proof of Payment Certification, listing payments made to M/WBE subcontractors.**

*****If a change is needed in M/WBE Participation, submit a Request to Change M/WBE Participation Form. Good Faith Efforts to substitute with another M/WBE contractor must be demonstrated.**

Minimum Compliance Requirements:

All written statements, affidavits, or intentions made by the Bidder shall become a part of the agreement between the Contractor and the GUC for performance of contracts. Failure to comply with any of these statements, affidavits or intentions or with the minority business guidelines shall constitute a breach of the contract. A finding by the GUC that any information submitted (either prior to award of the contract or during the performance of the contract) is inaccurate, false, or incomplete, shall also constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. It shall be solely at the option of the GUC whether to terminate the contract for breach or not. In determining whether a contractor has made Good Faith Efforts, the GUC will evaluate all efforts made by the Contractor and will determine compliance regarding quantity, intensity, and results of these efforts.

Greenville Utilities Commission AFFIDAVIT A – Listing of Good Faith Efforts

County of _____

Affidavit of _____

(Name of Bidder)

I have made a good faith effort to comply under the following areas checked:

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

- 1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government-maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- 2 – (10 pts)** Made the construction plans, specifications and requirements available for review for review by prospective minority businesses or providing these documents to them at least 10 days before the bids are due.
- 3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- 4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- 5 – (10 pts)** Attended Prebid meetings scheduled by the public owner.
- 6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- 7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- 8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder’s suppliers in order to help minority businesses in establishing credit.

9 – (20 pts) Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.

10 – (20 pts) Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the identification of Minority/Women Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d). Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority/women business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My Commission expires _____

Greenville Utilities Commission - AFFIDAVIT B - Intent to Perform Contract with Own Workforce

County of _____

Affidavit of _____
(Name of Bidder)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type of project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20_____

Notary Public _____

My commission expires _____

Greenville Utilities Commission – AFFIDAVIT C – Portion of the Work to be Performed by M/WBE Firms

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)

If the portion of the work to be executed by M/WBE businesses as defined in GS143-128.2(g) and the COG/GUC M/WBE Plan sec. III is equal to or greater than 11% of the bidder’s total contract price, then the bidder must complete this affidavit. This affidavit shall be provided by the apparent lowest responsible, responsive bidder within **72 hours** after notification.

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

(Project Name)

Project ID# _____ Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises and a minimum of _____% of the total dollar amount of the contract with women business enterprises. Minority/women businesses will be employed a construction subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following firms listed below.

| Name and Phone Number | *M/WBE Category | Work Description | Dollar Value |
|-----------------------|-----------------|------------------|--------------|
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*M/WBE categories: Black, African American (**B**), Hispanic, Latino (**L**), Asian American (**A**), American Indian (**I**), Female (**F**), Socially and Economically Disadvantaged (**S**), Disabled (**D**)

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with M/WBE Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public _____

My commission expires _____

Greenville Utilities Commission – AFFIDAVIT D – Good Faith Efforts

County of _____

(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder)

If the goal of 11% participation by minority/women business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

_____ (Project Name)

Project ID# _____ Amount of Bid \$ _____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises and a minimum of _____% of the total dollar amount of the contract with women business enterprises. Minority/women businesses will be employed a construction subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following firms listed below.

| Name and Phone Number | *M/WBE Category | Work Description | Dollar Value |
|-----------------------|-----------------|------------------|--------------|
| | | | |
| | | | |
| | | | |
| | | | |

*M/WBE categories: Black, African American (**B**), Hispanic, Latino (**L**), Asian American (**A**), American Indian (**I**), Female (**F**), Socially and Economically Disadvantaged (**S**), Disabled (**D**)

Examples of documentation 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 firm 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 firm is not considered the lowest responsible, responsive sub-bidder, copies of quotes received from all firms submitting quotes for that 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 due to lack of qualification.
- 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 rejection of the bid and award to the next lowest responsible and responsive bidder

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with M/WBE Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20_____

Notary Public _____

My commission expires _____

**LETTER OF INTENT
M/WBE Subcontractor Performance**

Please submit this form or executed subcontracts with M/WBE firms after award of contract and prior to issuance of notice to proceed.

PROJECT: _____
(Project Name)

TO: _____
(Name of Prime Bidder/Architect)

The undersigned intends to perform work in connection with the above project as a:

____ Minority Business Enterprise ____ Women Business Enterprise

The M/WBE status of the undersigned is certified by the NC Office of Historically Underutilized Businesses (required). ____ Yes ____ No

The Undersigned is prepared to perform the following described work or provide materials or services in connection with the above project at the following dollar amount:

| Work/Materials/Service Provided | Dollar Amount of Contract | Projected Start Date | Projected End Date |
|--|----------------------------------|-----------------------------|---------------------------|
| | | | |
| | | | |

(Date)

(Address)

(Name & Phone No. of M/WBE Firm)

(Name & Title of Authorized Representative of M/WBE)

(Signature of Authorized Representative of M/WBE)

REQUEST TO CHANGE M/WBE PARTICIPATION

Submit changes only if notified as apparent lowest bidder, continuing through project completion)

Project: _____

Bidder or Prime Contractor: _____

Name & Title of Authorized Representative: _____

Address: _____ **Phone #:** _____

_____ **Email Address:** _____

Total Contract Amount (including approved change orders or amendments): \$ _____

Name of Subcontractor: _____

Good or service provided: _____

Proposed Action:

- _____ Replace subcontractor
- _____ Perform work with own forces

For the above actions, you must provide one of the following reasons (Please check applicable reason):

_____ The listed MBE/WBE, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract.

_____ The listed MBE/WBE is bankrupt or insolvent.

_____ The listed MBW/WBE fails or refuses to perform his/her subcontract or furnish the listed materials.

_____ The work performed by the listed subcontractor is unsatisfactory according to industry standards and is not in accordance with the plans and specifications; or the subcontractor is substantially delaying or disrupting the progress of the work.

Proof of Payment Certification
M/WBE Contractors, Suppliers, Service Providers

Project Name: _____ Pay Application No. _____

Prime Contractor: _____ Purchase Order No. _____

Current Contract Amount (including change orders): \$ _____

Requested Payment Amount for this Period: \$ _____

Is this the final payment? Yes No

| Firm Name | *M/WBE Category | Total Amount Paid from this Pay Request | Total Contract Amount (including changes) | Total Amount Remaining |
|-----------|-----------------|---|---|------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

*M/WBE categories: Black, African American (**B**), Hispanic, Latino (**L**), Asian American (**A**), American Indian (**I**), Female (**F**), Socially and Economically Disadvantaged (**S**), Disabled (**D**)

Date: _____

Certified By: _____
Name

Title

Signature

BID BOND

KNOW ALL MEN BY THESE PRESENT, THAT WE _____

as Principal, and _____
as Surety, who is duly licensed to act as Surety in North Carolina, are held and firmly bound unto the Greenville Utilities Commission, Greenville, NC, as Obligee, in the penal sum of _____
_____ DOLLARS (\$ _____) (5% Bid Bond),
lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, administrators, successors and assigns, jointly and severally, firmly by these present.

SIGNED, Sealed and dated this _____ day of _____, 2024.

WHEREAS, the said Principal is herewith submitting a Proposal for

HUDSON SUBSTATION SITE WORK

and the Principal desires to file this Bid Bond in Lieu of making the cash deposit as required by the bidding documents contained herein;

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION is such that if the principal shall be awarded the Purchase Order for which the bid is submitted and shall accept the Purchase Order within ten (10) days after the award of same to the principal, then this obligation shall be null and void; but if the principal fails to so accept such purchase order as required by the bidding documents contained herein, the Surety shall, upon demand, forthwith pay to the Obligee the amount set forth in the first paragraph hereof, and upon failure to forthwith make such payment, the Surety shall pay the Obligee an amount equal to double the amount of this Bid Bond as set forth in the first paragraph hereof. Power of Attorney from the surety to is Attorney-in-Fact is attached hereto.

Principal

By _____(SEAL)

Corporate Surety

By _____(SEAL)

PERFORMANCE BOND/PAYMENT BOND

Date of Execution: _____

Name of Principal: _____

(Contractor) _____

Name of Surety: _____

Name of Contracting
Body: _____

Amount of Bond: _____

Project: _____

KNOW ALL THESE MEN BY THESE PRESENT, That We, the Principal and Surety above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these present.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal entered into a certain Contract with the Contracting Body, identified as shown above and hereto attached.

NOW, THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term of said Contract and any extensions there of that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any guaranty required under the Contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under the several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed, and these present duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in five (5) counterparts.

Witness:

CONTRACTOR:

(Proprietorship or Partnership)

(Trade or Corporate Name)

ATTEST:

By: _____

By: _____

Title: _____
(Corporate Secretary or
Assistant Secretary Only)

Title: _____

(CORPORATE SEAL)

Witness:

SURETY COMPANY:

Countersigned:

By: _____

Title: _____
(Attorney-in-Fact)

N.C. Licensed Resident Agent

(Name and Address – Surety Agent)

(SURETY SEAL)

Surety Company Name and N.C.
Regional or Branch Office Address

SECTION III

TERMS AND CONDITIONS FOR SERVICES, CONSTRUCTION OR THE PURCHASE OF APPARATUS, SUPPLIES, MATERIALS, LABOR AND EQUIPMENT

These Terms and Conditions, made and entered into on this the ___ day of _____, by and between GREENVILLE UTILITIES COMMISSION OF THE CITY OF GREENVILLE, PITT COUNTY, NORTH CAROLINA, with one of its principal offices and places of business at 401 S. Greene Street, Post Office Box 1847, Greenville, Pitt County, North Carolina 27835-1847, hereinafter referred to as "GUC" and _____, a _____ organized and existing under and by virtue of the laws of the State of _____, with one of its principal offices and places of business at _____, hereinafter referred to as "PROVIDER";

1.0 TAXES

No taxes shall be included in any bid prices. GUC is exempt from Federal Excise Tax. GUC is not exempt from North Carolina state sales and use tax or, if applicable, Pitt County sales and use tax. Such taxes shall be shown as a separate item on the invoice.

2.0 INVOICES

It is understood and agreed that orders will be shipped at the established contract prices and quantities in effect on dates orders are placed. Invoicing at variance with this provision may subject the contract to cancellation. Applicable North Carolina sales tax shall be invoiced as a separate line item. All invoices must bear the GUC purchase order number. Mail all invoices to Greenville Utilities Commission, Finance Department, P. O. Box 1847, Greenville, NC 27835-1847.

3.0 PAYMENT TERMS

Payments for equipment, materials, or supplies will be made after the receipt and acceptance of the equipment, materials, supplies or services and after submission of a proper invoice. GUC's normal payment policy is thirty (30) days. GUC will not be responsible for any goods delivered without a purchase order having been issued. Payment will be made in U. S. currency only.

4.0 QUANTITIES

Quantities specified are only estimates of GUC's requirements. GUC reserves the right to purchase more or less than the stated quantities at prices indicated in the submitted Proposal Form based on our actual needs.

5.0 AFFIRMATIVE ACTION

The Provider will take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of the handicapped, and concerning the treatment of all employees, without discrimination by reason of race, color, religion, sex, national origin, or physical handicap.

6.0 CONDITION AND PACKAGING

Unless otherwise indicated in the bid, it is understood and agreed that any item offered or shipped shall be new and in first class condition, that all containers shall be new and suitable for storage or shipment, and that prices include standard commercial packaging.

7.0 SAMPLES

Samples of items, if required, must be furnished free of expense to GUC, and if not destroyed, will, upon request, be returned at the Provider's expense. Request for the return of samples must be made at the bid opening, otherwise, the samples will become GUC's property. Each individual sample must be labeled with Provider's name.

8.0 SPECIFICATIONS

Any deviation from specifications must be clearly pointed out, otherwise, it will be considered that items offered are in strict compliance with specifications, and the Provider will be held responsible. Deviations must be explained in detail. **The Provider shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.**

9.0 INFORMATION AND DESCRIPTIVE LITERATURE

Providers are to furnish all information requested. Further, as may be specified elsewhere, each Provider must submit with its proposal: cuts, sketches, descriptive literature, and/or complete specifications covering the products offered. Reference to literature submitted with a previous bid does not satisfy this provision. Bids which do not comply with these requirements will be subject to rejection.

10.0 AWARD OF CONTRACT

As directed by statute, qualified bids will be evaluated and acceptance made of the lowest responsible, responsive bid most advantageous to GUC as determined upon consideration of such factors as prices offered, the quality of the article(s) offered, the general reputation and performance capabilities of the Provider, substantial conformity with the specifications and other conditions set forth in the bid, the suitability of the article(s) for the intended use, the related services needed, the date(s) of delivery and performance, and such other factors deemed by GUC to be pertinent or peculiar to the purchase in question.

Acceptance of the order includes acceptance of all terms, conditions, prices, delivery instructions, and specifications as shown on this set of Terms and Conditions and in this order or attached to and made a part of this order.

The conditions of this order cannot be modified except by written amendment in the form of "Amended Purchase Order," which has been approved by GUC's Procurement Manager.

In the event of a Provider's failure to deliver or perform as specified, GUC reserves the right to cancel the order or any part thereof, without prejudice to GUC's other rights. The Provider agrees that GUC may return part of or all of any shipment at Provider's expense. GUC may charge the Provider with all reasonable expenses resulting from such failure to deliver or perform.

11.0 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 Greenville, 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.

12.0 GOVERNMENT RESTRICTIONS

In the event any Governmental restrictions may be imposed which would necessitate alteration of the material, quality, workmanship, or performance of the items offered on this bid prior to their delivery, it shall be the responsibility of the successful Provider to notify the GUC Procurement Manager, at once, indicating in its letter the specific regulation which required such alterations. GUC reserves the right to accept any such alterations, including any price adjustments occasioned thereby, or, in the sole discretion of GUC, to cancel the contract.

13.0 INSURANCE

13.1 Coverage – During the term of the contract, the Provider at its sole cost and expense shall provide commercial insurance of such type and with the following coverage and limits:

13.1.1 Workers' Compensation – The Provider shall provide and maintain Workers' Compensation Insurance, as required by the laws of North Carolina, as well as employer's liability coverage with minimum limits of \$1,000,000 each accident, covering all Provider's employees who are engaged in any work under the contract. If any work is sublet, the Provider shall require the subcontractor to provide the same coverage for any of its employees engaged in any work under the contract.

13.1.2 General Liability – Commercial Liability Coverage written on an “occurrence” basis in the minimum amount of \$1,000,000 per occurrence.

13.1.3 Automobile – Automobile Liability Insurance, to include coverage for all owned, hired, and non-owned vehicles used in connection with the contract with a minimum combined single limit of \$1,000,000 per accident.

13.2 Requirements - Providing and maintaining adequate insurance coverage is a material obligation of the Provider. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized to do business in North Carolina by the Commissioner of Insurance. The Provider shall at all times comply with the terms of such insurance policies and all requirements of the insurer under any of such insurance policies, except as they may conflict with existing North Carolina laws or this contract. The limits of coverage under each insurance policy maintained by the Provider shall not be interpreted as limiting the Provider’s liability and obligations under the contract. It is agreed that the coverage as stated shall not be canceled or changed until thirty (30) days after written notice of such termination or alteration has been sent by registered mail to GUC’s Procurement Manager.

14.0 PATENTS AND COPYRIGHTS

The Provider shall hold and save GUC, its officers, agents, and employees, harmless from liability of any kind, including costs and expenses, including reasonable attorney fees, on account of any copyrighted articles or any patented or unpatented invention, device or appliance manufactured or used in the performance of this contract.

15.0 PATENT AND COPYRIGHT INDEMNITY

The Provider will defend or settle, at its own expense, any action brought against GUC to the extent that it is based on a claim that the product(s) provided pursuant to this agreement infringe any U.S. copyright or patent; and will pay those costs, damages, and attorney fees finally awarded against GUC in any such action attributable to any such claim, but such defense, settlements, and payments are conditioned on the following: (1) that Provider shall be notified promptly in writing by GUC of any such claim; (2) that Provider shall have sole control of the defense of any action on such claim and of all negotiations for its settlement or compromise; (3) that GUC shall cooperate with Provider in a reasonable way to facilitate the settlement of defense of such claim; (4) that such claim does not arise from GUC modifications not authorized by the Provider or from the use of combination of products provided by the Provider with products provided by GUC or by others; and (5) should such product(s) become, or in the Provider’s opinion likely to become, the subject of such claim of infringement, then GUC shall permit Provider, at Provider’s option and expense, either to procure for GUC the right to continue using the product(s), or replace or modify the same so that it becomes non-infringing and performs in a substantially similar manner to the original product.

16.0 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 Provider’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 Provider may be grounds for rejection of the Provider's proposal. The Provider 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.

17.0 CONFIDENTIAL INFORMATION

Except as provided by statute and rule of law, GUC will keep trade secrets which the Provider does not wish disclosed confidential. Each page shall be identified in boldface at the top and bottom as "CONFIDENTIAL" by the Provider. Cost information shall not be deemed confidential. The determination of whether a matter is confidential will be determined by North Carolina law.

18.0 ASSIGNMENT

No assignment of the Provider's obligations or the Provider's right to receive payment hereunder shall be permitted without the express written consent of GUC, provided however, upon written request approved by the GUC Procurement Manager, solely as a convenience to the Provider, GUC may:

- Forward the Provider's payment check directly to any person or entity designated by the Provider, and
- Include any person or entity designated by Provider as a joint payee on the Provider's payment check.
- In no event shall such approval and action obligate GUC to anyone other than the Provider, and the Provider shall remain responsible for fulfillment of all contract obligations.

19.0 ACCESS TO PERSON AND RECORDS

GUC shall have reasonable access to persons and records of Provider as a result of all contracts entered into by GUC.

20.0 INSPECTION AT BIDDER'S SITE

GUC reserves the right to inspect, at a reasonable time, the item, plant, or other facilities of a prospective Provider prior to contract award and during the contract term as necessary for GUC's determination that such item, plant, or other facilities conform with the specifications/requirements and are adequate and suitable for the proper and effective performance of the contract. Provider may limit GUC's access to restricted areas.

21.0 AVAILABILITY OF FUNDS

Any and all payments of compensation of this specific transaction and any continuation or any renewal or extension are dependent upon and subject to the allocation of GUC funds for the purpose set forth in this Agreement.

22.0 GOVERNING LAWS

All contracts, transactions, agreements, etc., are made under and shall be governed by and construed in accordance with the laws of the State of North Carolina.

23.0 ADMINISTRATIVE CODE

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

24.0 EXECUTION

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

25.0 CLARIFICATIONS/INTERPRETATIONS

Any and all questions regarding these Terms and Conditions must be addressed to the GUC Procurement 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 Provider and the GUC Procurement Manager.**

26.0 SITUS

The place of all contracts, transactions, agreements, their situs and forum, shall be North Carolina, where all matters, whether in contract or tort, relating to the validity, construction, interpretation, and enforcement shall be determined.

27.0 TERMINATION OF AGREEMENT

GUC or Provider may terminate this Agreement for just cause at any time. Provider will be paid for all time and expenses incurred as of the termination date. Termination for just cause by either party shall be by certified letter and shall be effective thirty (30) days after signed and acknowledged receipt of said letter. Just cause shall be based on reasonable grounds, and there must be a fair and honest cause or reason for such action. The causes for termination, include, but are not limited to: (1) Provider's persistent failure to perform in accordance with the Terms and Conditions, (2) Provider's disregard of laws and regulations related to this transaction, and/or (3) Provider's substantial violation of the provisions of the Terms and Conditions.

28.0 DELIVERY

Shipments will be made only upon releases from a purchase order issued by GUC in accordance with GUC's current needs.

Time is of the essence with respect to all deliveries under this Agreement. Delivery of all equipment, materials, or supplies shall be made Free on Board (FOB) GUC Warehouse, 701 Utility Way, Greenville, North Carolina 27834, unless otherwise specified. The agreed price for such equipment, materials, or supplies shall include all costs of delivery and ownership, and risks of loss shall not be transferred from Provider to GUC until express written acceptance of delivery and inspection by GUC. Delivery hours are between 8:00 AM and 4:30 PM Monday-Friday only. **GUC's purchase order number is to be shown on the packing slip**

or any related documents. GUC reserves the right to refuse or return any delivery with no purchase order number or which is damaged. GUC will not be charged a restocking fee for any delivery which is refused or returned.

29.0 INDEMNITY PROVISION

Provider agrees to indemnify and save GREENVILLE UTILITIES COMMISSION of the City of Greenville, Pitt County, North Carolina, and the City of Greenville, North Carolina, its co-owners, joint venturers, agents, employees, and insurance carriers harmless from any and all losses, claims, actions, costs, expenses including reasonable attorney fees, judgments, subrogations, or other damages resulting from injury to any person (including injury resulting in death), or damage (including loss or destruction) to property of whatsoever nature of any person arising out of or incident to the performance of the terms of this Contract by Provider, including, but not limited to, Provider's employees, agents, subcontractors, and others designated by Provider to perform work or services in, about, or attendant to, the work and services under the terms of this Contract. Provider shall not be held responsible for any losses, expenses, claims, subrogations, actions, costs, judgments, or other damages, directly, solely, and proximately caused by the negligence of Greenville Utilities Commission of the City of Greenville, Pitt County, North Carolina. Insurance covering this indemnity agreement by the Provider in favor of Greenville Utilities Commission of the City of Greenville, Pitt County, North Carolina, and the City of Greenville, North Carolina, shall be provided by Provider.

30.0 FORCE MAJEURE

Neither party shall be considered in default in the performance of its obligations hereunder to the extent that the performance of any such obligation is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party. In any such event of force majeure, the parties shall advise each other of such event, and the parties shall negotiate an equitable adjustment to their respective obligations under this Agreement.

31.0 WARRANTY(IES)

The Provider hereby includes all warranties, whether expressed or implied, including, but not limited to, the Implied Warranty of Merchantability and the Implied Warranty of Fitness for a Particular Purpose.

32.0 INTEGRATED CONTRACT

These Terms and Conditions, Instructions to Bidders, Specifications, and the selected Provider'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.

33.0 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.

34.0 E-VERIFY

E-Verify - I understand that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25 et seq. I am aware of and in compliance with the requirements of E-Verify and Article 2 of Chapter 64 of the North Carolina General Statutes. To the best of my knowledge, any subcontractors employed by me as a part of this contract are in compliance with the requirements of E-Verify and Article 2 of Chapter 64 of the North Carolina General Statutes.

35.0 IRAN DIVESTMENT ACT CERTIFICATION

By acceptance of this purchase order, Vendor/Contractor certifies that, as of the date of the purchase order or contract, it is not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. § 143-6A-4. In compliance with the requirements of the Iran Divestment Act and N.C.G.S. § 143C-6A-5(b), Vendor/Contractor shall not utilize in the performance of the contract any subcontractor that is identified on the Final Divestment List.

36.0 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).

37.0 SAFETY STATEMENTS

Safety Culture Commitment Statement:

At Greenville Utilities, we are committed to a culture of safety that prioritizes the well-being of our employees, contractors, and the communities we serve.

We believe that everyone deserves to work in a safe environment, and we are dedicated to fostering a culture where **safety is a core value, not just a priority.**

Here's what that means to us:

- **Employee and Contractor Safety:** We are committed to providing a safe work environment for all employees and contractors. We will invest in safety training, resources, and equipment to prevent accidents and injuries.
- **Open Communication:** We encourage open and honest communication about safety concerns. We believe everyone has a right and responsibility to speak up about unsafe work practices and potential hazards.
- **Continuous Improvement:** We are committed to continuous improvement in safety performance. We will learn from incidents and near misses, and we will actively seek ways to improve our safety processes and procedures.
- **Accountability:** We hold ourselves and our contractors accountable for safe work practices. This includes providing clear safety expectations, enforcing safety rules, and recognizing safe behavior.
- **Collaboration:** We believe in working collaboratively with employees, contractors, and regulatory agencies to achieve the highest level of safety.

Our commitment to safety extends beyond our employees. We work closely with our contractors to ensure they share our safety values. We expect them to implement robust safety programs, train their workers thoroughly, and adhere to all safety regulations.

We are confident that by working together, we can create a culture of safety where everyone goes home safe and healthy every day.

This commitment statement is a public declaration of our unwavering dedication to safety. We will continue to strive for zero incidents while promoting a positive safety culture that prioritizes the well-being of everyone involved in our utility operations.

Safety Management System Commitment Statement:

At Greenville Utilities, we are unwavering in our commitment to delivering safe and reliable utility service through a robust Safety Management System (SMS). This system forms the foundation of our safety culture, ensuring the well-being of our employees, contractors, and the communities we serve.

Our SMS commitment emphasizes:

- **Zero Incidents:** We believe all incidents are preventable. We strive for zero incidents by proactively managing risks and continuously improving our safety practices.
- **Empowered Workforce:** We foster a culture where safety is everyone's responsibility. This includes providing comprehensive safety training for both employees and contractors, empowering them to identify and report hazards.
- **Data-Driven Decisions:** We utilize data from inspections, incident investigations, and performance metrics to make informed decisions for risk mitigation and continuous improvement of our SMS.
- **Leadership Engagement:** Our leadership team actively demonstrates a commitment to safety by participating in safety reviews, audits, and promoting safety as a core value.
- **Contractor Collaboration:** We extend our safety commitment to our contractors. We require contractors working on our system to adhere to SMS principles, participate in safety briefings, and maintain strong safety programs within their own organizations.
- **Transparent Communication:** We believe in open communication about safety. We encourage employees and contractors to report concerns without fear of reprisal. We also maintain transparent communication with stakeholders about SMS performance.

This SMS commitment is a continuous journey, not a destination. We are dedicated to regularly reviewing and updating our system to reflect best practices and emerging technologies. Through continuous improvement and a commitment to a positive safety culture, we aim to remain an industry leader in safe and reliable utility service.

38.0 NOTICES

Notices to the Parties should be sent to the names and addresses specified below:

Cleve Haddock, Lifetime CLGPO
Procurement Manager
Greenville Utilities Commission
P.O. Box 1847
Greenville, NC 27835-1847

Vendor Specified on Page 1 of Section III when awarded.

GREENVILLE UTILITIES COMMISSION

By: _____
Anthony C. Cannon

Title: General Manager/CEO
(Authorized Signatory)

Date: _____

Attest: _____

Name (Print): Amy Wade

Title: Executive Secretary

Date: _____

(OFFICIAL SEAL)

COMPANY NAME:

By: _____

Name (Print): _____

Title: _____
(Authorized Signatory)

Date: _____

Attest: _____

Name (Print): _____

Title: Corporate Secretary

Date: _____

(CORP. SEAL)

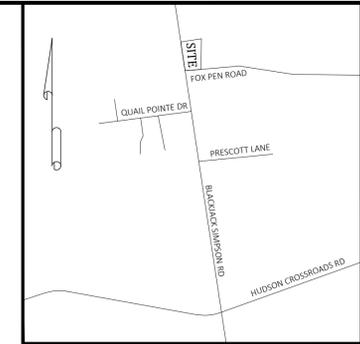
APPROVED AS TO FORM AND LEGAL CONTENT:

By: _____
Phillip R. Dixon

Title: General Counsel

Date: _____

Appendix A: Map Drawings



Vicinity Map
SCALE: 1" = 1000'

Site Data

| | |
|---|--------------------------------|
| TOTAL ACREAGE IN SITE: | 2 ± AC |
| DISTURBED ACREAGE: | 3 ± AC |
| CURRENT ZONING: | RA (RURAL AGRICULTURE) |
| TAX PARCEL NUMBER: | 84677 |
| TOTAL NUMBER OF PARKING SPACES REQUIRED: | NONE REQUIRED |
| TOTAL SQ. FEET OF EXIST. IMPERVIOUS AREA: | 0 SF |
| TOTAL SQ. FEET OF PROP. IMPERVIOUS AREA: | 40,357 SF |
| REFERENCES: | D.B. 3684, PG. 466 |
| ADDRESS: | FOX PEN ROAD, GREENVILLE 27858 |

General Notes:

- NC DOT DRIVEWAY APPROVAL PERMIT IS REQUIRED.
- CONTACT NORTH CAROLINA ONE-CALL CENTER, INC. (NC ONE-CALL) AT 811 TO HAVE ALL UNDERGROUND UTILITIES LOCATED PRIOR TO EXCAVATING OR TRENCHING.
- PORTIONS OF THIS PROPERTY ARE LOCATED IN A FLOOD ZONE X (AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN), ZONE X SHADED (AREA OF 0.2% ANNUAL CHANCE FLOOD) AND ZONE AE (AREA DETERMINED TO BE INSIDE THE 1% ANNUAL CHANCE FLOOD) AS SHOWN ON THE FEMA FLOOD INSURANCE RATE MAP NUMBER 3720560400K, EFFECTIVE JULY 7, 2014.
- PAVEMENT AND GRAVEL SECTIONS ARE AS INDICATED ON PLAN SHEET C4.0.
- CONTRACTOR SHALL STOCKPILE TOPSOIL FOR USE IN LANDSCAPE AREAS.
- THIS PROJECT DISTURBS MORE THAN 1 ACRE. EROSION CONTROL PLAN APPROVAL IS REQUIRED.
- A REDUCED PRESSURE PRINCIPAL BACKFLOW DEVICE IS REQUIRED ON THE DOMESTIC WATER SERVICE.

Sheet Index

| # | Title |
|------|-----------------------------------|
| C1.0 | Site Plan |
| C2.0 | Demolition & Erosion Control Plan |
| C2.1 | Erosion Control - Notes |
| C3.0 | Grading Plan |
| C4.0 | Details |
| REF | Survey (1 sheet) |

Engineer

Ark Consulting Group, PLLC
925 Conference Drive - Suite A
Greenville, NC 27858
(252) 558-0888

Contact: Bryan Fagundus, PE
bryan@arkconsultinggroup.com

Owner / Developer

Greenville Utilities Commission
P.O. Box 1847, Greenville, NC 27835-1847
3355 NC Highway 43, Greenville, NC 27834
(252) 551-3388

Contact: John L. Powell, PE
Powelljl@guc.com

Bufferyard Notes:

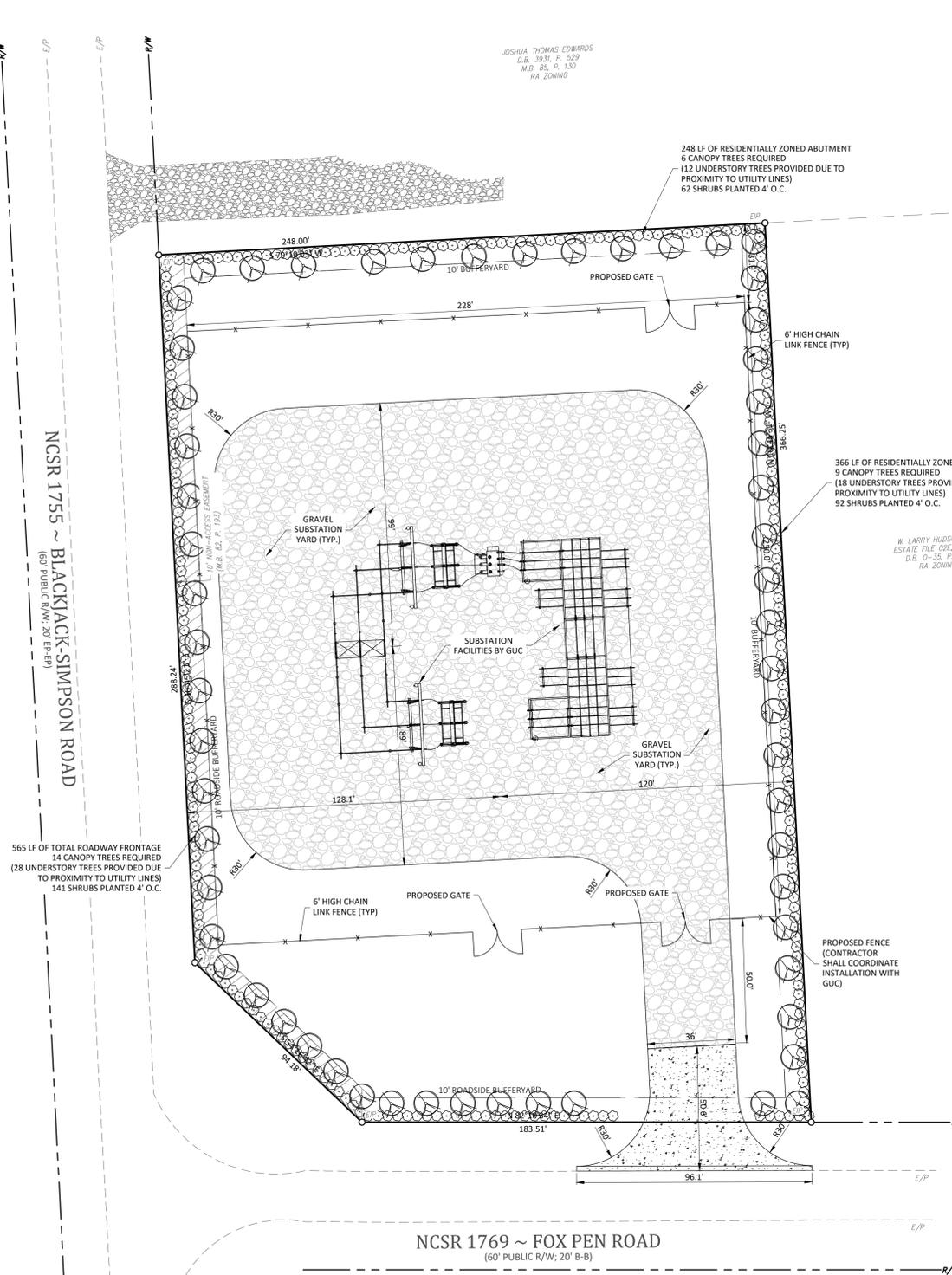
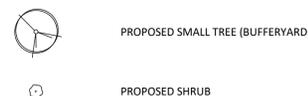
- SITE DATA:
 - REQUIRED ROADSIDE BUFFERYARD VEGETATION:
565 LF OF ROADSIDE FRONTAGE:
14 LARGE TREES (28 UNDERSTORY TREES PROVIDED DUE TO PROXIMITY TO UTILITY LINES)
141 SHRUBS REQUIRED (141 PROVIDED)
 - 248 LF OF RESIDENTIALLY ZONED PROPERTY ABUTMENT:
6 CANOPY TREES (12 UNDERSTORY TREES PROVIDED DUE TO PROXIMITY TO UTILITY LINES)
62 SHRUBS REQUIRED (62 PROVIDED)
 - 366 LF OF RESIDENTIALLY ZONED PROPERTY ABUTMENT:
9 CANOPY TREES (18 UNDERSTORY TREES PROVIDED DUE TO PROXIMITY TO UTILITY LINES)
92 SHRUBS REQUIRED (92 PROVIDED)

2. NOTES:

- ROADSIDE BUFFER YARDS SHALL CONTAIN LARGE TREES WHICH SHALL BE SPECIES WHICH CAN BE EXPECTED TO ATTAIN A MINIMUM HEIGHT OF 40 FEET AND HAVE A CROWN WIDTH OF 30 FEET OR GREATER AT MATURITY.
- REQUIRED BUFFER YARDS SHALL ALSO CONTAIN SHRUBS PLANTED 4 FEET ON CENTER WHICH ARE OF A SPECIES THAT CAN BE EXPECTED TO REACH A MINIMUM HEIGHT OF 36 INCHES AND A MINIMUM SPREAD OF 30 INCHES WITHIN 3 YEARS OF PLANTING.
- ALL TREES AND SHRUBS SHOULD BE PLANTED WITHIN A LANDSCAPING BED CONSISTING OF NATURAL MULCH WITH A MINIMUM DEPTH OF 3 INCHES TO IMPROVE GROWTH AND PERFORMANCE OVER TIME. ALL PORTIONS OF THE ROADSIDE BUFFER YARD NOT PLANTED WITH TREES OR SHRUBS OR COVERED BY A WALL OR OTHER BARRIER SHALL BE PLANTED WITH GRASS, GROUND COVER, OR NATURAL MULCH OF A MINIMUM DEPTH OF 3 INCHES.
- THE FOLLOWING VEGETATION MATERIALS, AS LISTED BY COMMON NAME, SHALL CONSTITUTE NOT MORE THAN TWENTY-FIVE (25) PERCENT OF THE TOTAL REQUIREMENT FOR THE SPECIFIC CATEGORY:

| | |
|------------------------------|-----------------------|
| 1. LARGE TREE CATEGORY: | RIVER BIRCH |
| 2. SMALL TREE CATEGORY: | ARISTOCRAT PEAR |
| | BRADFORD PEAR |
| | CAPITOL PEAR |
| | CLEVELAND SELECT PEAR |
| 3. EVERGREEN SHRUB CATEGORY: | RED TIP PHOTINA |

Vegetation Legend:



NCSR 1769 ~ FOX PEN ROAD
(60' PUBLIC R/W; 20' B-B)

NCSR 1755 ~ BLACKJACK-SIMPSON ROAD
(60' PUBLIC R/W; 20' EP-EP)



| # | DATE | DESCRIPTION |
|------------|------|-------------|
| REVISIONS: | | |



SITE PLAN
HUDSON'S SUBSTATION
FOX PEN ROAD
Pitt County, North Carolina 27858

NC License: P1-139

ARK CONSULTING GROUP PLLC
ENGINEERS & PLANNERS

925-A Conference Drive
Greenville, NC 27858
(252) 558-0888
www.arkconsultinggroup.com

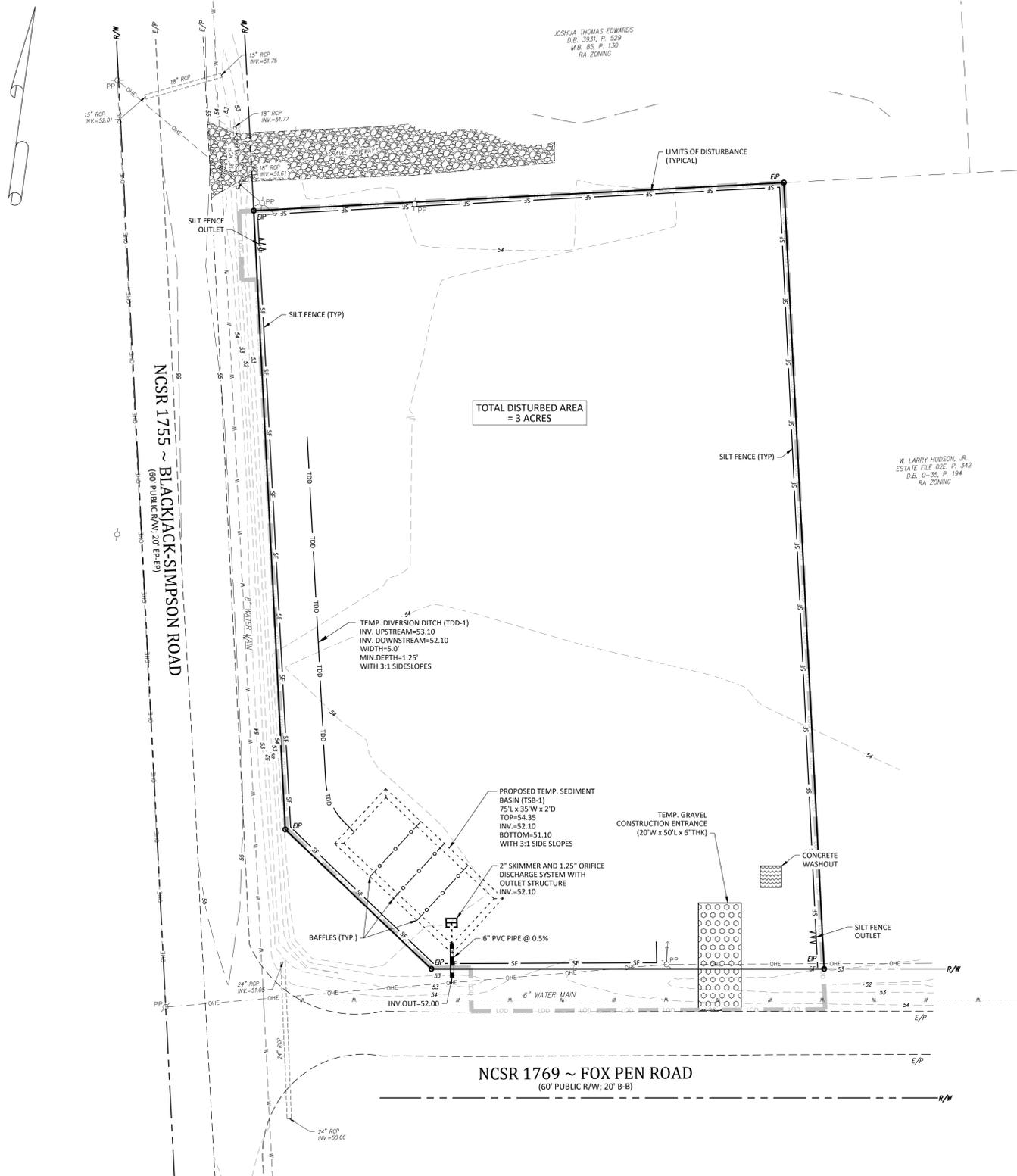
7/9/2024

| | |
|------------------|---------|
| Project Manager: | BCF |
| Drawn By: | NPF/TGN |
| Checked By: | BCF |
| Project Number: | 23123 |
| Drawing Number: | D-1483 |

C1.0

Date: July 9, 2024





Demolition Notes:

1. CONTRACTOR SHALL CONTACT NORTH CAROLINA ONE-CALL CENTER (NC 811) BY DIALING 811 OR 1-800-632-4949 AT LEAST 72 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY OR DIGGING AND HAVE ALL UNDERGROUND UTILITIES LOCATED PRIOR TO EXCAVATING OR TRENCHING.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK.
3. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND/OR ENGINEER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES IN THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
4. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE AND DO NOT INCLUDE MECHANICAL, ELECTRICAL AND MISCELLANEOUS STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THE DEMOLITION WORK FOR THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
5. ALL DEMOLITION WASTE AND DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
6. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR GETS WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
7. ASBESTOS OR HAZARDOUS MATERIALS, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
8. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS, AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
9. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL, AND OSHA REGULATIONS WHEN OPERATING DEMOLITION EQUIPMENT AROUND UTILITIES.
10. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH THE NCDOT STANDARDS, AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH THE LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT, AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
11. CONTRACTOR SHALL PROTECT AT ALL TIMES ADJACENT STRUCTURES AND ITEMS FROM DAMAGE DUE TO DEMOLITION OR CONSTRUCTION ACTIVITIES.
12. CONTRACTOR SHALL REMOVE EXISTING VEGETATION AND IMPROVEMENTS WITHIN LIMITS OF DISTURBANCE UNLESS NOTED OTHERWISE.
13. TREES OUTSIDE OF CONSTRUCTION LIMITS OR TREES NOT INDICATED TO BE REMOVED SHALL BE PROTECTED.

Erosion Control Provisions

1. NO PERSON MAY INITIATE A LAND DISTURBING ACTIVITY BEFORE NOTIFYING THE NCEQ OF THE DATE THAT THE LAND DISTURBING ACTIVITY WILL BEGIN.
2. SEED OR OTHERWISE PROVIDE GROUND COVER DEVICES OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION FOR ALL EXPOSED SLOPES WITHIN 7 DAYS OF COMPLETION OF ANY PHASE OF GRADING ON PERIMETER AREAS AND SLOPES STEEPER THAN 3:1. ALL OTHER AREAS SHALL BE STABILIZED WITHIN 14 DAYS.
3. CONTRACTOR SHALL INSPECT AND MAINTAIN AS NEEDED ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER EACH MAJOR STORM EVENT. FAILURE TO KEEP ALL EROSION CONTROL DEVICES IN PROPER WORKING ORDER MAY RESULT IN A STOP WORK ORDER OR CIVIL PENALTIES UP TO \$5,000.00 PER DAY OF VIOLATION.
4. THE STATE EROSION CONTROL INSPECTOR RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES SHOULD THE PLAN OR ITS IMPLEMENTATION PROVE TO BE INADEQUATE.
5. EROSION CONTROL MEASURES SHALL BE MAINTAINED AND INSPECTED AS PER THE DETAIL SHEETS SHOWN.
6. PLEASE BE ADVISED OF THE RULES TO PROTECT AND MAINTAIN EXISTING BUFFERS ALONG WATERCOURSES IN THE NEUSE AND TAR/PAMLICO RIVER BASINS. THESE RULES ARE ENFORCED BY THE DIVISION OF WATER QUALITY (DWQ). DIRECT ANY QUESTIONS ABOUT THE APPLICABILITY OF THESE RULES TO YOUR PROJECT TO THE REGIONAL WATER QUALITY SUPERVISOR, WASHINGTON REGIONAL OFFICE AT (252) 946-6481.
7. ACCEPTANCE AND APPROVAL OF THIS PLAN IS CONDITIONED UPON YOUR COMPLIANCE WITH FEDERAL AND STATE WATER QUALITY LAWS, REGULATION AND RULES. IN ADDITION LOCAL CITY AND COUNTY ORDINANCES OR RULES MAY ALSO APPLY TO THIS LAND DISTURBING ACTIVITY. APPROVAL BY THE COUNTY DOES NOT SUPERSEDE ANY OTHER PERMIT OR APPROVAL.
8. LAND DISTURBING ACTIVITY BEYOND THAT REQUIRED TO INSTALL APPROPRIATE EROSION CONTROL MAY NOT PROCEED UNTIL EROSION CONTROL MEASURES ARE INSPECTED AND APPROVED BY THE STATE.
9. INSTALL ROCK INLET SEDIMENT TRAPS AROUND ANY AND ALL CATCH BASINS, DROP INLETS, AND YARD INLETS.
10. PROVIDE 20' X 50' X 6" STONE CONSTRUCTION ENTRANCES AS SHOWN ON PLAN.

Construction Sequence:

CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE EROSION CONTROL OFFICER PRIOR TO INITIATING ANY LAND DISTURBING ACTIVITY.

1. INSTALL EROSION CONTROL MEASURES
2. STRIP AND STOCKPILE TOPSOIL
3. SITE GRADING
4. PLACEMENT OF STONE BASE
5. PLACEMENT OF CONCRETE & PAVEMENT
6. SUBSTATION CONSTRUCTION
7. INSTALL PAVEMENT MARKINGS / SIGNAGE
8. LANDSCAPING, SEEDING & MULCHING

- NOTE:
- MAINTAIN EROSION CONTROL MEASURES UNTIL VEGETATION IS ESTABLISHED (>80% COVERAGE)
 - REMOVE ALL EROSION CONTROL MEASURES AND VEGETATE / STABILIZE LOCATION OF PREVIOUS EROSION CONTROL MEASURES.

| # | DATE | DESCRIPTION |
|------------|------|-------------|
| REVISIONS: | | |

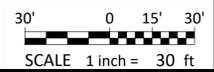


EROSION CONTROL PLAN
HUDSON'S SUBSTATION
 FOX PEN ROAD
 Pitt County, North Carolina 27858

NC License: P-1129
ARK CONSULTING GROUP PLLC
 ENGINEERS & PLANNERS
 825-A Commerce Drive
 Raleigh, NC 27608
 (252) 558-0888
 www.arkconsultinggroup.com

| | |
|------------------|---------|
| Project Manager: | BCF |
| Drawn By: | NPF/TGN |
| Checked By: | BCF |
| Project Number: | 23123 |
| Drawing Number: | D-1483 |

C2.0
 Date: July 2, 2024



GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

| Site Area Description | Stabilize within this many calendar days after ceasing land disturbance | Timeframe variations |
|--|---|---|
| (a) Perimeter dikes, swales, ditches, and perimeter slopes | 7 | None |
| (b) High Quality Water (HQW) Zones | 7 | None |
| (c) Slopes steeper than 3:1 | 7 | If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed. |
| (d) Slopes 3:1 to 4:1 | 14 | -7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed |
| (e) Areas with slopes flatter than 4:1 | 14 | -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope |

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

| Temporary Stabilization | Permanent Stabilization |
|--|---|
| <ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed Appropriately applied straw or other mulch plastic sheeting | <ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt, or retaining walls Rolled erosion control products with grass seed |

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the initiation of Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

ON-SITE CONCRETE WASHOUT STRUCTURE WITH LINER

CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the inspection record.

| Inspect | Frequency (during normal business hours) | Inspection records must include: |
|--|--|---|
| (1) Rain gauge maintained in good working order | Daily | Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division. |
| (2) E&S Measures | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | 1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needed for the measures, 6. Description, evidence, and date of corrective actions taken. |
| (3) Stormwater discharge outfalls (SDOs) | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | 1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken. |
| (4) Perimeter of site | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases. |
| (5) Streams or wetlands onsite or offsite (where accessible) | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item 2)(a) of this permit. |
| (6) Ground stabilization measures | After each phase of grading | 1. The phase of grading (installation of perimeter E&S measures, clearing and grubbing, installation of storm drainage facilities, completion of all land disturbing activity, construction or redevelopment, permanent ground cover), 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible. |

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structure that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- The E&S plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&S plan authority has approved these items.
- The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item 2)(c) and (d) of this permit.
- Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems.
- Vegetated, upland areas of the sites are a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in item (c) above.
- Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- Sediment removed from the dewatering treatment devices described in item (c) above is disposed of in a manner that does not cause deposition of sediment into water of the United States.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&S Plan Documentation

The approved E&S plan as well as any approved deviation shall be kept on the site. The approved E&S plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&S plan shall be kept on site and available for inspection at all times during normal business hours.

| Item to Document | Documentation Requirements |
|---|---|
| (a) Each E&S Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S Plan. | Initial and date each E&S Measure on a copy of the approved E&S Plan or complete, date and sign an inspection report that lists each E&S measure shown on the approved E&S Plan. This documentation is required upon the initial installation of the E&S measures or if the E&S measures are modified after initial installation. |
| (b) A phase of grading has been completed. | Initial and date a copy of the approved E&S plan or complete, date and sign an inspection report to indicate completion of the construction phase. |
| (c) Ground cover is located and installed in accordance with the approved E&S Plan. | Initial and date a copy of the approved E&S plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications. |
| (d) The maintenance and repair requirements for all E&S Measures have been performed. | Complete, date and sign an inspection report. |
| (e) Corrective actions have been taken to E&S measures. | Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate the completion of the corrective action. |

2. Additional Documentation

In addition to the E&S plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- This General Permit as well as the Certificate of Coverage, after it is received.
- Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NIO and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- Anticipated bypasses and unanticipated bypasses.
- Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

| Occurrence | Reporting Timeframes (After Discovery) and Other Requirements |
|--|--|
| (a) Visible sediment deposition in a stream or wetland | - Within 24 hours , an oral or electronic notification. - Within 7 calendar days , a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. - If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions. |
| (b) Oil spills and release of hazardous substances per Item 1)(b)-(c) above | - Within 24 hours , an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release. |
| (c) Anticipated bypasses [40 CFR 122.41(m)(3)] | - A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass. |
| (d) Unanticipated bypasses [40 CFR 122.41(m)(3)] | - Within 24 hours , an oral or electronic notification. - Within 7 calendar days , a report that includes an evaluation of the quality and effect of the bypass. |
| (e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(f)(7)] | - Within 24 hours , an oral or electronic notification. - Within 7 calendar days , a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(f)(6)]. - Division staff may waive the requirement for a written report on a case-by-case basis. |

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

DESCRIPTION

DATE

REVISIONS:

Greenville Utilities

EROSION CONTROL NOTES

HUDSON'S SUBSTATION

FOX PEN ROAD

Pitt County, North Carolina 27858

NC License: P-1129

ARK CONSULTING GROUP PLLC
ENGINEERS & PLANNERS

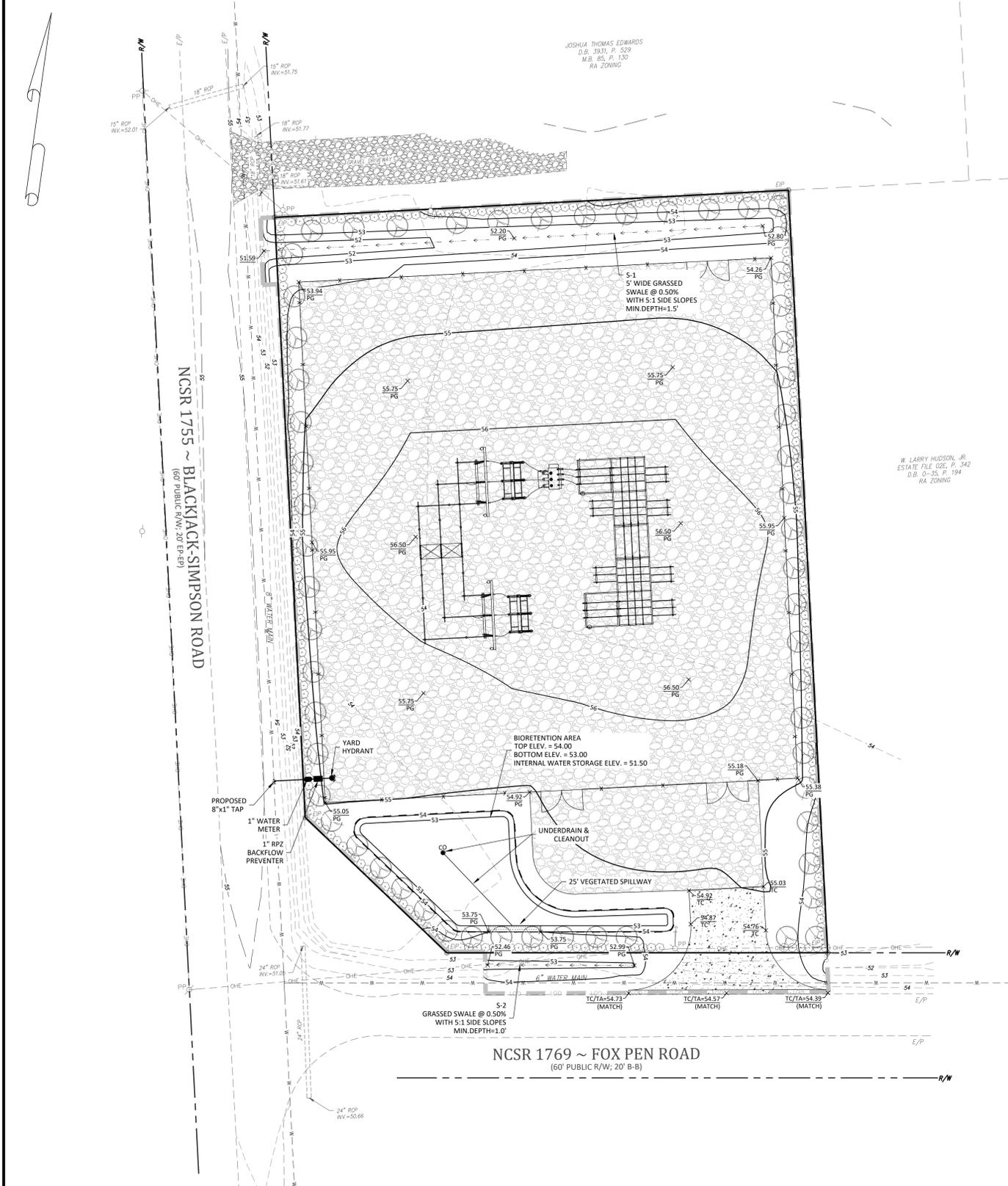
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Professional Engineer
WYNN C. FAGUINDO
1/12/2024

Project Manager: BCF
Drawn By: NPF/TGN
Checked By: BCF
Project Number: 23123
Drawing Number: D-1483

C2.1

Date: July 2, 2024

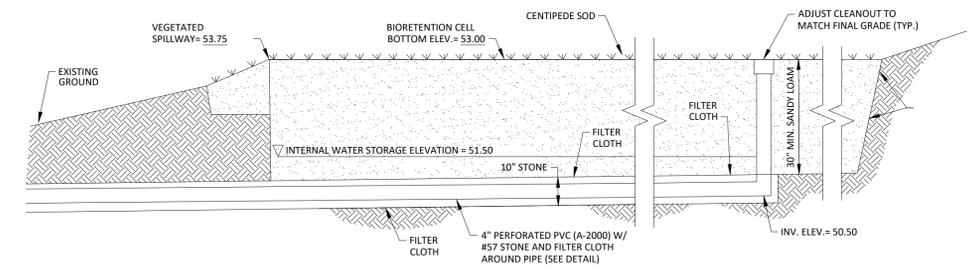


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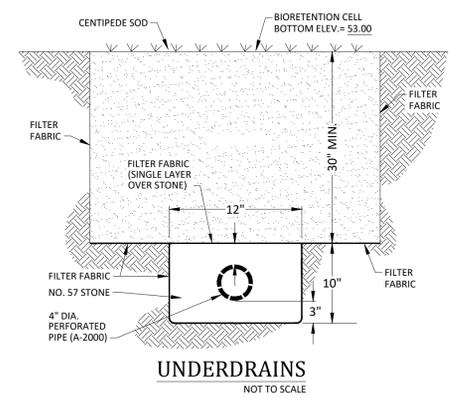
1. ALL AREAS WITHIN LIMITS OF DISTURBANCE SHALL BE CLEARED AND GRUBBED.
2. TREES OUTSIDE OF CONSTRUCTION LIMITS OR TREES NOT INDICATED TO BE REMOVED SHALL BE PROTECTED.
3. CONTRACTOR TO GRADE ALL AREAS WITHIN THE LIMITS OF DISTURBANCE FROM BUILDING TO PROPERTY LINES AND TO EDGE OF PAVEMENT ON STREET SIDES, INCLUDING ROW.
4. TOP SOIL SHALL BE STRIPPED FROM ALL CUT AND FILL AREAS, STOCKPILED AND REDISTRIBUTED OVER GRADED AREAS. PROVIDE EROSION AND SEDIMENTATION CONTROLS AROUND STOCKPILES DURING CONSTRUCTION.
5. TILL SOIL TO A DEPTH OF 4" MINIMUM.
6. REMOVE ALL ROCKS LARGER THAN 1" MEASURED IN LARGEST DIRECTION.
7. GRADE ALL AREAS TO MAINTAIN POSITIVE SLOPE.
8. ALL GRADED AREAS TO RECEIVE SEED OR SOD, TOP SOIL, STRAW AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
9. INSTALL TEMPORARY TURF REINFORCEMENT MATTING ON ALL SLOPES STEEPER THAN 3:1. MATTING SHALL BE CONTECH LANDLOK C2 OR EQUAL.
10. ALL STRUCTURAL AND PAVEMENT SUB-GRADES SHALL BE COMPACTED TO 98% OF ASTM D698 TO A DEPTH OF 24" AND TO 95% OF ASTM D698 BELOW 24" DEPTHS. ALL OTHER NON-STRUCTURAL AREAS SHALL BE COMPACTED TO 90% OF ASTM D698.
11. ALL STRUCTURAL AND PAVEMENT SUB-GRADE COMPACTIONS SHALL BE INTERMEDIATELY TESTED AND APPROVED BY THE GEOTECHNICAL ENGINEER. ALL SUB-GRADES SHALL BE THOROUGHLY PROOF-ROLLED TO IDENTIFY SMALL LOCALIZED AREAS OF UNSUITABLE SOILS. ALL UNSUITABLE SOILS SHALL BE UNDERCUT, REPLACED WITH STRUCTURAL FILL, AND COMPACTED AS DESCRIBED ABOVE.

Permanent Seeding Schedule

| SEED BED PREPARATION | |
|---------------------------------|--------------------------------|
| LIME | - 2 TONS PER ACRE |
| FERTILIZER (10-20-20) | - 500 POUNDS PER ACRE |
| SEEDING MIXTURE: | |
| (JANUARY 1 - MARCH 31) | |
| COMMON BERMUDA GRASS (UNHULLED) | - 20 POUNDS PER ACRE |
| RYE (GRAIN) | - 25 POUNDS PER ACRE |
| (APRIL 1 - JULY 31) | |
| COMMON BERMUDA GRASS (HULLED) | - 15 POUNDS PER ACRE |
| WEeping LOVEGRASS | - 5 POUNDS PER ACRE |
| CENTPEDE | - 8 POUNDS PER ACRE |
| (AUGUST 1 - DECEMBER 31) | |
| COMMON BERMUDA GRASS (UNHULLED) | - 20 POUNDS PER ACRE |
| TALL FESCUE | - 60 POUNDS PER ACRE |
| RYE (GRAIN) | - 25 POUNDS PER ACRE |
| SEED BED PROTECTION: | |
| STRAW MULCH | - 2 TONS PER ACRE (VISUAL) |
| ASPHALT TACK | - 0.03 GALLONS PER SQUARE YARD |

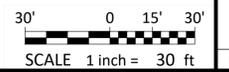


BIORETENTION CELL CROSS SECTIONS
NOT TO SCALE



UNDERDRAINS
NOT TO SCALE

1. THE BIO-RETENTION CELL MEDIA SHALL COME FROM A BORROW PIT SUITABLE FOR BIORETENTION CELL MEDIA. IF THE MEDIA SHALL BE A HOMOGENOUS SOIL MIX OF 75-85 PERCENT BY VOLUME MEDIUM TO COARSE WASHED SAND (ASTM C33, ASHTO M6/M80, ASTM C330, ASHTO M195), 8 TO 15 PERCENT FINES (SILT AND CLAY), AND 5 TO 15 PERCENT ORGANIC MATTER (SUCH AS PEAT MOSS OR PINE BARK FINES) SHALL BE USED. SOIL MEDIA SHOULD BE SENT TO NC DEPARTMENT OF AGRICULTURE (NCDA) LABS TO BE ANALYZED. THE P-INDEX FOR BIORETENTION SOIL MEDIA SHALL NOT EXCEED 50 AND PERMEABILITY SHALL BE BETWEEN 1-6 INCHES PER HOUR.
2. IF INSITU MATERIAL IS TO BE USED AND BIORETENTION AREA IS BEING USED AS A TEMP. SEDIMENT BASIN: BOTTOM OF SEDIMENT BASIN MUST BE 1 FOOT ABOVE TOP OF BIORETENTION AREA.
3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEST REPORTS FOR BIORETENTION MEDIA TO PITT COUNTY AND ENGINEER TO SHOW COMPLIANCE WITH THE REQUIREMENTS OF NOTE 1 ABOVE.
4. BIORETENTION SOIL MIX PLACEMENT AND COMPACTION SHALL NOT OCCUR WHEN THE BIORETENTION SOIL MIX IS EXCESSIVELY WET NOR FOLLOWING 1/2" OR MORE OF PRECIPITATION WITHIN 48 HOURS PRIOR TO PLACEMENT. EXCESSIVELY WET IS DEFINED AT OR ABOVE 22% SOIL MOISTURE BY DSMMS00 PRECISION DIGITAL SOIL MOISTURE METER WITH PROBE (OR EQUIVALENT). MATERIAL SHALL NOT CONTAIN VISIBLE FREE WATER. BIORETENTION SOIL MIX TO BE PLACED LOOSELY FROM A HEIGHT NO HIGHER THAN 6 FEET, UNLESS OTHERWISE APPROVED BY THE ENGINEER (I.E., DO NOT DUMP MATERIAL DIRECTLY FROM TRUCK INTO CELL). COMPACT BIORETENTION SOIL MIX USING NON-MECHANICAL COMPACTION METHODS (E.G., BOOT PACKING, HAND TAMPING, OR WATER CONSOLIDATION) TO 83% (± 2%) OF THE MAXIMUM DRY DENSITY PER MODIFIED PROCTOR TEST (ASTM D1557)



REVISIONS:

| # | DATE | DESCRIPTION |
|---|------|-------------|
| | | |

GRADING, DRAINAGE & SITE UTILITY PLAN

HUDSON'S SUBSTATION

FOX PEN ROAD
Pitt County, North Carolina 27858

NC License: PA-1139

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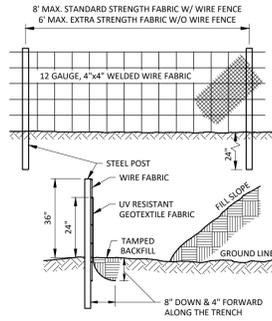
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|------------------|---------|
| Project Manager: | BCF |
| Drawn By: | NPF/TGN |
| Checked By: | BCF |
| Project Number: | 23123 |
| Drawing Number: | D-1483 |

C3.0

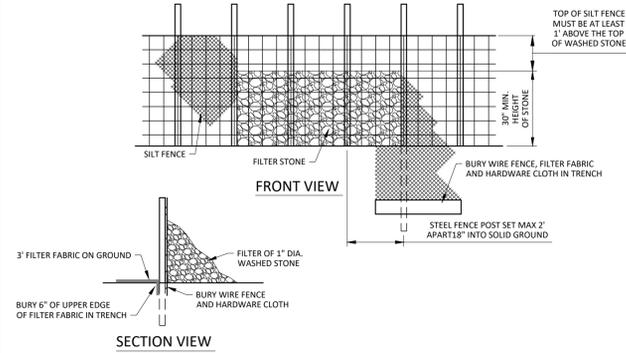
Date: July 2, 2024



- NOTES:
- INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
 - SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DISCOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
 - REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.
 - REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

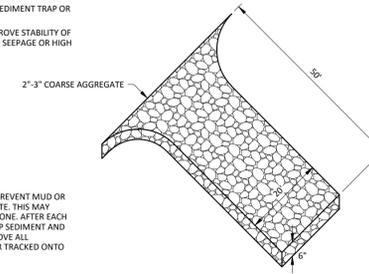


TEMPORARY SILT FENCE
NOT TO SCALE



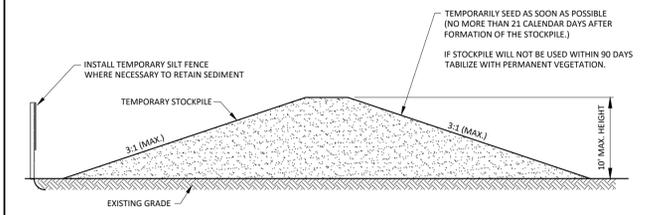
SILT FENCE OUTLET
NOT TO SCALE

- NOTES:
- CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
 - PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
 - PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
 - USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

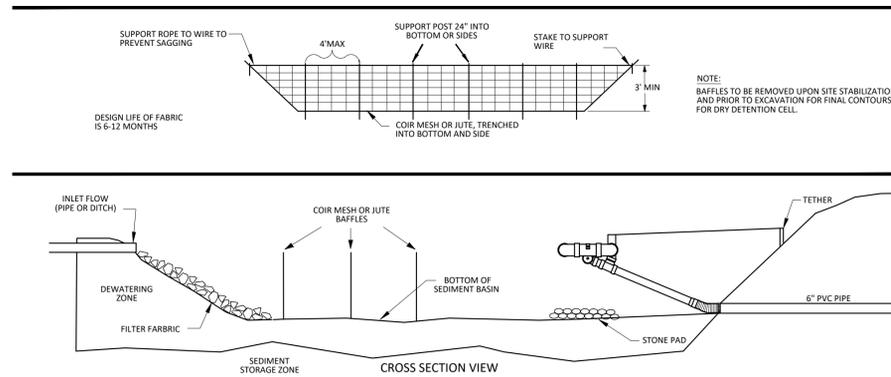
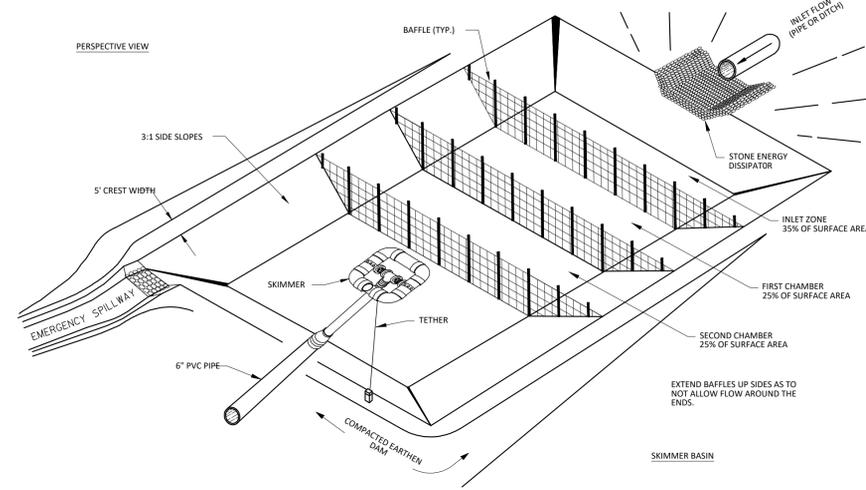


- NOTE:
- MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

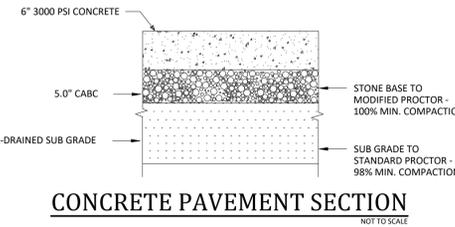
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NOT TO SCALE



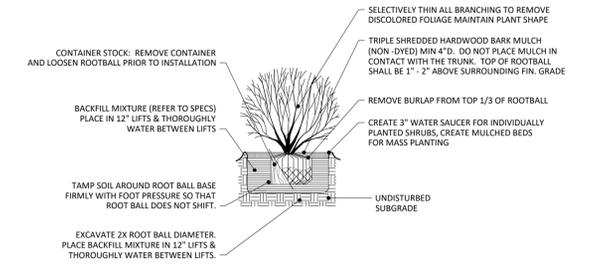
TEMPORARY STOCKPILE
NOT TO SCALE



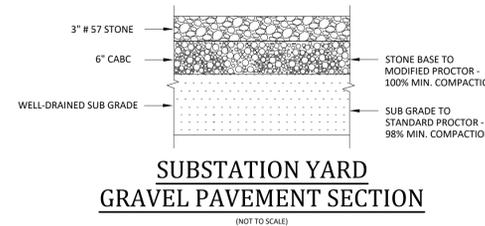
SKIMMER SEDIMENT BASIN
NOT TO SCALE



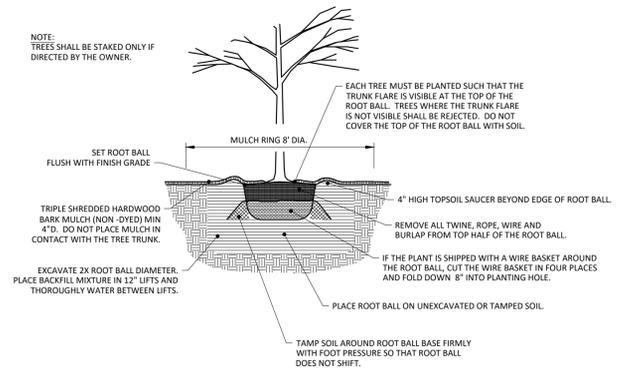
CONCRETE PAVEMENT SECTION
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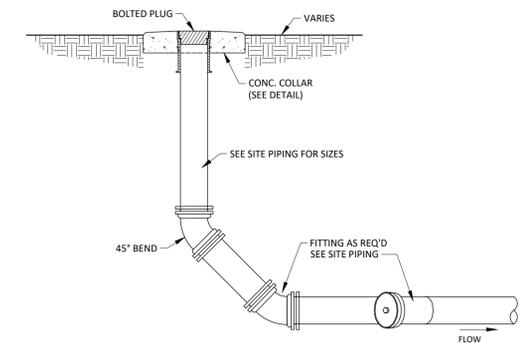
SHRUB PLANTING
NOT TO SCALE



SUBSTATION YARD GRAVEL PAVEMENT SECTION
NOT TO SCALE



LARGE AND SMALL TREE PLANTING
NOT TO SCALE



EXTERIOR CLEAN-OUT DETAIL
NOT TO SCALE

DESCRIPTION

DATE

REVISIONS:



HUDSON'S SUBSTATION
FOX PEN ROAD
Pitt County, North Carolina 27858

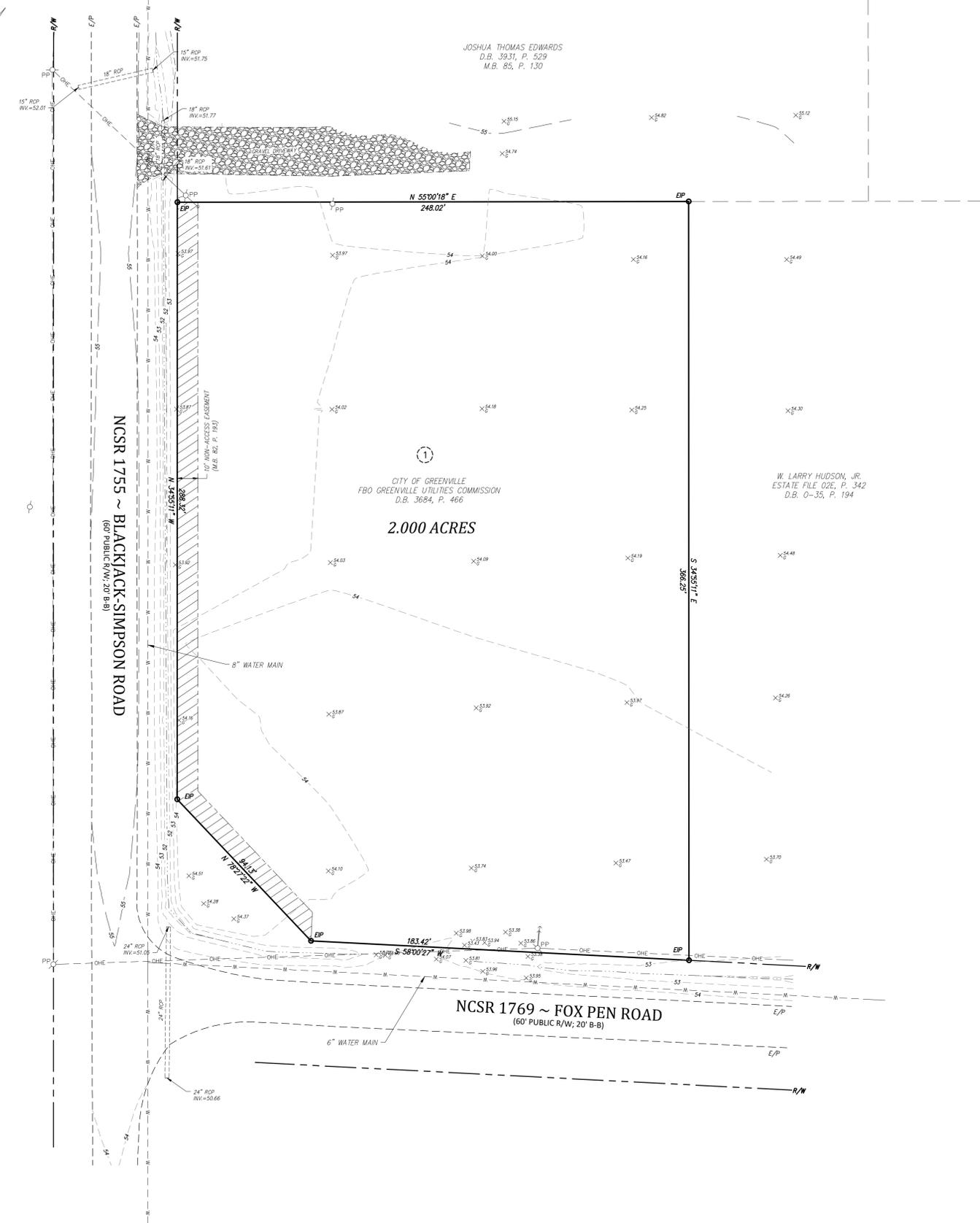
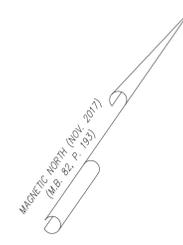
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Professional Engineer
BRYAN C. FAGUNDI
31970
7/2/2024

Project Manager: BCF
Drawn By: NPF/TGN
Checked By: BCF
Project Number: 23123
Drawing Number: D-1483

C4.0

Date: July 2, 2024



Vicinity Map
SCALE: 1" = 1000'

Notes:

1. ALL DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN FEET & DECIMALS THEREOF, UNLESS NOTED OTHERWISE.
2. ELEVATIONS ARE RELATIVE TO NAVD 1988.

References:

D.B. 1046, P. 414
D.B. 0-35, P. 194
D.B. 7-34, P. 667
M.B. 82, P. 193
PITT COUNTY REGISTRY

Legend

- EIP EXISTING IRON PIPE
- EMN EXISTING MAGNETIC NAIL
- R/W RIGHT OF WAY
- C/L CENTERLINE
- P/L PROPERTY LINE
- NF NOW OR FORMERLY
- P/P POWER POLE
- O/H OVERHEAD
- MAJOR CONTOUR LINE
- MINOR CONTOUR LINE
- RIGHT OF WAY
- SUBJECT PROPERTY
- ADJOINER
- DITCH C/L
- OHE OVERHEAD POWER LINE
- × SPOT ELEVATION

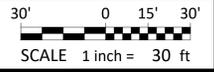
SURVEYOR'S CERTIFICATION

I, J. DANZLER WITHERS, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL FIELD SURVEY PERFORMED UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK 3684, PAGE 468 AND OTHER SOURCES REFERENCED HEREON); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS SUCH AND WERE PLOTTED FROM INFORMATION AS REFERENCED HEREON; THAT THE RATIO OF PRECISION FOR TRADITIONAL SURVEY METHOD IS 1:18,740; THAT THE GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS WERE MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE GPS SURVEY:

CLASS OF SURVEY: CLASS A
POSITIONAL ACCURACY: 0.10'
TYPE OF GPS FIELD PROCEDURE: NETWORK RTK
DATE(S) OF SURVEY: 1/25/24, 1/29/24, 1/31/24
DATUM/ EPOCH: NAVD83(2011)
PUBLISHED FIELD CONTROL MONUMENTS USED: NO MONUMENTS WERE RECOVERED, BRIGGS AND EDWARDS MONUMENTS WITHIN 2000' OF SITE UNABLE TO BE RECOVERED.
GEOID MODEL: GROUND
COMBINED GRID FACTOR: 1.0027496
UNITS: U.S. SURVEY FEET

AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56-1600).

WITNESS MY ORIGINAL SIGNATURE AND SEAL THIS 5TH DAY OF APRIL, 2024.
SIGNED: *J. Danzler Withers*
N.C. LICENSE NO. L-5508



| # | DATE | DESCRIPTION |
|---|------|-------------|
| | | |

BOUNDARY & TOPOGRAPHIC SURVEY
HUDSON CROSSROAD SUBSTATION
INTERSECTION OF BLACK JACK-SIMPSON ROAD & FOX PEN ROAD
GRIMESLAND TOWNSHIP, PITT COUNTY, NORTH CAROLINA

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| | |
|------------------|--------|
| Project Manager: | JDW |
| Drawn By: | BMP |
| Checked By: | JDW |
| Project Number: | 23123 |
| Drawing Number: | D-1464 |

GREENVILLE UTILITIES COMMISSION
QUESTIONS AND ANSWERS FOR 24-48
RFB FOR HUDSON SUBSTATION SITE WORK
9/10/2024 at 3:00PM

1. Will there be a pre bid meeting for this proposed project?

No pre-bid meeting is scheduled at this time.

GREENVILLE UTILITIES COMMISSION
QUESTIONS AND ANSWERS FOR 24-48
RFB FOR HUDSON SUBSTATION SITE WORK
9/10/2024 at 3:00PM

1. We are working on the bid for the fencing for the Hudson Substation Sitework project and cannot find the 6' tall chain link specifications or details?

The fence has been previously constructed. There is no need to quote any fence work in this proposal.