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**ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH**

**BID DOCUMENTS**

**NOVEMBER 2022**

**PREPARED FOR  
THE CITY OF PORT WENTWORTH**

**2018-191**

## TABLE OF CONTENTS

1. ADVERTISEMENT FOR BIDS
2. INSTRUCTIONS TO BIDDERS
3. BID FORM
4. STATEMENT OF BIDDERS QUALIFICATIONS
5. SURETY REQUIREMENTS
6. BID BOND
7. CONTRACT AGREEMENT
8. OATH OF SUCCESSFUL BIDDER
9. CONTRACT PERFORMANCE BOND
10. PAYMENT BOND
11. ILLEGAL IMMIGRATION REFORM AND ENFORCEMENT ACT OF 2011
12. EJCDC STANDARD GENERAL CONDITIONS
13. SUPPLEMENTARY CONDITIONS
14. TECHNICAL SPECIFICATIONS

### SECTION

- |                  |   |
|------------------|---|
| a. SECTION 01150 | MEASUREMENT AND PAYMENT                       |
| b. SECTION 02100 | CLEARING AND GRUBBING                         |
| c. SECTION 02210 | SITE GRADING                                  |
| d. SECTION 02220 | DEMOLITION                                    |
| e. SECTION 02221 | TRENCH EXCAVATION, BACKFILL AND<br>COMPACTION |
| f. SECTION 02520 | STORM DRAINAGE AND APPURTENANCES              |
| g. SECTION 02540 | EROSION CONTROL                               |
| h. SECTION 02550 | WATER DISTRIBUTION SYSTEM                     |
| i. SECTION 02611 | BASE AND PAVING                               |
| j. SECTION 02821 | GRASSING                                      |
| k. SECTION 03300 | GENERAL CONCRETE                              |

ADVERTISEMENT FOR BIDS  
ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH

Sealed bids will be received by The City of Port Wentworth at 305 South Coastal Highway 21 Port Wentworth, Georgia 31407 until 2:00 local time on December 6, 2022, at which time and place they will be publicly opened and read. No submitted bid may be withdrawn after the scheduled closing time for receipt of bids for a period of sixty (60) days.

The work to be done consists of road improvements for Antrim Road, Block 3 including the removal and replacement of approximately 475 linear feet of asphalt, base material, drainage repair and 8 inch water main improvements.

Bids for the complete work in one or more general contracts shall be made on the bid form provided and shall contain prices in words and figures for the work bid. All bids shall be accompanied by a Bid Bond drawn in favor of The City of Port Wentworth, in the amount of at least five percent (5%) of the lump sum bid for the complete work; such Bid Bond representing that the Bidder, if awarded the contract will promptly enter into a contract and furnish Performance Bond and Payment Bond as provided by law and approved by the Attorney for The City of Port Wentworth. Each bond shall be equal to one hundred percent (100%) of the contract amount. The Bid Bond shall be forfeited to The City of Port Wentworth as liquidated damages if the Bidder fails to execute the contract and provide Performance and Payment Bonds within ten (10) days after being notified that he has been awarded the contract.

Drawings and Specifications are open to public inspection at the office of The City of Port Wentworth and at the offices of T. R. Long Engineering, P.C.

Copies of the plans and specifications must be obtained from T. R. Long Engineering, 114 North Commerce Street, Hinesville, Georgia, 31313, upon receipt of \$150.00. Such fees represent reproduction cost and are non-refundable. Bidders must purchase a Bid Packet to be a registered bidder. Only bids from registered bidders will be opened.

The Owner reserves the right to reject any or all bids and to waive informalities.

## **INSTRUCTIONS TO BIDDERS**

1. **INTENTION**: It is intended that the Project Documents shall cover the complete work to which they relate.
2. **DEFINITION**: Where the following words, or the pronouns used instead occur herein, they shall have the following meaning:

"Owner" shall mean **The City of Port Wentworth** party of the first part to the "Contract Agreement" or its authorized and legal representative.

"Engineer" shall mean **T. R. Long Engineering, P.C** of 114 North Commerce Street, Hinesville, GA, 31313 acting for the Owner or other representative of such party.

"Contractor" shall mean the party of the second part to the following agreement, or the legal authorized representatives of such party.

**WORK TO BE DONE**: The work to be done consists of furnishing all materials, labor and equipment for construction of **ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3 for the CITY OF PORT WENTWORTH** complete with appurtenances, all as set forth in the Bid, as specified herein, and as shown on the Drawings.

3. **MATERIALS AND WORK BY THE OWNER**: The Owner will neither furnish materials nor perform labor for construction of work under this contract, unless otherwise stipulated elsewhere in the Project Documents.
4. **SITE EXAMINATION**: The Bidder is expected and requested to examine the location of the work, and to inform himself fully as to the structural and mechanical conditions; the conformation of the ground; the character, quality, and quantity of the materials to be encountered; the character of equipment and facilities needed to execute the work; the general and local conditions; and all other matters which can in any way affect the work to be done under the contract.

A sub-surface investigation has not been made on any portion of the work. Rock quantities shown in the Bid are estimated based on results of similar work in the area. The prospective bidder must form his own opinion of the character of the sub-surface materials to be encountered in excavating for and the construction of the various facilities.

5. **BIDS**: All Bids must be made upon the Bid forms provided and shall be for materials and work called for in the specifications and shown for each item in the Bid. The total amount bid for the work in the Bid shall be given in words and figures in the spaces provided. Bid forms shall not be detached from these Specifications. All blank spaces in the bid form shall be filled in with black ink in words and figures. The Certification must be completed and executed when submitted.
  - A. **Unit Price Items**: The itemized quantities given in the Bid for unit price work shall be considered by the Contractor as the quantities required to complete the work. Should the actual quantities required in the construction of the work be greater or less than the quantities shown in the items, an amount equal to the difference in quantities at the unit prices bid for the item will be added to or deducted from the contract price.
  - B. **Lump Sum Price**: Where itemized prices are not given in the Bid, the Contractor shall consider the lump sum prices bid for the work shown on the Drawings and/or specified to be sufficient for completion of his Contract.
  - C. **Total Amount Bid**: The correct total amount bid is defined as the correct sum total of the amount bid for the items in the Bid. The correct amount bid for each unit price item is defined as the product of the quantity listed in the Bid for the item, multiplied by the unit price bid.

- D. The bids must be enclosed in a sealed envelope addressed to The City of Port Wentworth and marked **“Roadway Improvements for Antrim Road, Block 3 for “The City of Port Wentworth”**. Bids may be submitted intact in this book or may be submitted detached from the book. The sealed bid must contain items listed below if any item is missing the bid may be considered irregular and bid may not be considered.

1. Completed Proposal Form and Schedule of Items.
2. Completed and executed surety documents.
3. Executed Surety Requirement Form.
4. Completed Statement of Bidder's Qualifications with References.
5. Completed Corporate Certificate Form
6. Completed Illegal Immigration Reform Affidavit for contractor.

6. RECEIPT AND OPENING OF BIDS: Bids must be filed with the Owner at or before the hour specified in the advertisement, and Bids filed after the specified time will not be considered. Bids sent by mail must be mailed with sufficient time allowed for the bid to reach the Owner prior to the opening of bids.

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within sixty (60) days after the actual date of the opening thereof.

Conditional bids shall not be considered.

Bidders are requested to be present at the opening of Bids, which will be in public.

7. BID SECURITY: Each Bid must be accompanied by a certified check or by a Bid Bond in an amount equal to not less than five percent (5%) of the amount of the Bid, to guarantee that the Successful Bidder will, within ten (10) days from the date of the notice of award of contract, enter into an Agreement with the Owner, and execute to the Owner a Performance Bond and Payment Bond, each equal to 100% of the contract amount, the agreement and bonds to be in the form set forth in this Book. If for any reason whatsoever the Bidder withdraws from the competition after the Bid opening time, or refuses to execute the required agreement and bonds, if his Bid is accepted, the Owner may retain the amount of the certified check, or proceed on the Bid Bond. The surety on the Performance Bond and the Payment Bond shall be a surety company authorized to do business in the State of Georgia and shall be countersigned by an agent residing in the State of Georgia. The bonds and surety thereon shall be subject to approval by the Attorney for the Owner.
8. RIGHT TO REJECT BIDS: The Owner reserves the right to reject all bids, and to waive informalities. No bids will be received after the Bid opening time. Unauthorized conditions, limitation, and provisions attached to the Bid, except as provided herein, will render it informal and cause its rejection. Unbalanced bids will be subject to rejection. Any Bidder may withdraw his bid, either personally or by telegraphic or written request, at any time prior to the Bid opening time.
9. TELEGRAPHIC MODIFICATION: Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the Owner prior to the closing time, and provided further, the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. The telegraphic communication should not reveal the bid price but should provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two days from the closing time, no consideration will be given to the telegraphic modification.

10. DETERMINATION OF LOW BID: The contract will be awarded, if it is awarded, to the low, responsible, responsive bidder. The Owner will decide which is the low, responsible, responsive bidder. Responsiveness shall be defined by (a) the completeness and regularity of Bid Form, (b) a bid form without exclusions or special conditions, and (c) a bid form having no substitute bids for any items except as allowed under these Specifications. Responsibility will be based on whether the Bidder involved (a) maintains permanent place of business; (b) has adequate equipment to do the work properly and within the time limit established; (c) has suitable financial status to meet obligations incident to the work; and (d) has appropriate technical experience.
  - A. The Bidder is requested to list prices of at least two manufacturers for each item of major equipment if listed on the Bid form. Use lowest price for base bid. If the make of any item listed in the base bid column does not meet specifications, the next lowest priced make listed for that item which does meet specifications will be used in determining the lowest bid price. If all of the listed makes of the item failed to meet specifications, the bid will be rejected on the grounds that it is nonresponsive.
  - B. The Owner has the right to apply any or all "Deductions or Additions" (if any), listed in the proposal by the Engineer, for the purpose of making an award.
11. RETURN OF BID SECURITY: Owner will, within ten (10) days following the Bid opening, return the Bid security of all Bidders, except the Security posted by the three lowest Bidders; upon the award and execution of the contract, the remaining Bid securities will be promptly returned.
12. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS: If any person contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of -the Drawings, Construction Specifications and other documents, and as to the scope of any part of the work, he must submit to the Engineer a written request for an interpretation thereof The person submitting the request will be responsible for its prompt delivery in ample time for an interpretation to be issued before the Bid opening date. Interpretations of the Project Documents will be made only by Addendum; a copy of each Addendum will be mailed or delivered to each person receiving a set of the Project Documents. The Engineer will not be responsible for other interpretations of the Project Documents.
13. COMPLETE WORK REQUIRED: The Construction Specifications, Drawings and all other documents are essential parts of the contract; requirements occurring in one are as binding as though occurring in all. Documents are intended to be cooperative, and to describe and provide for a complete work. In case of discrepancies on the Drawings, figured dimensions shall govern. In case of omissions from the Construction Specifications as to items of equipment, and materials or quantities therefore, the Drawings shall govern. It shall be the responsibility of the Bidder to call to the attention of the Engineer obvious omissions of those magnitudes which would affect the strength, adequacy, function, completeness (and cost of any part of the work, and in ample time for amendment by Addendum prior to the Bid opening date).
14. SUBCONTRACTS: The Bidder's attention is directed to the General Conditions concerning subcontracts. The Bidder is specifically advised that any person, firm or other party to whom it is proposed to award a subcontract under this contract.
  - A. Must be acceptable to the Owner. Approval will not be given until the Contractor submits to the Owner a written statement concerning the proposed award to the subcontractor, which statement shall contain such as the Owner may require.
  - B. Must provide insurance equal to that of the bidding contractor. Approval of the proposed subcontract award cannot be given by the Owner unless and until the proposed subcontractor has submitted the Certification and or other evidence showing that it has fully complied with any reporting requirements to which it is or was subject.

Although the bidder is not required to attach such Certifications by proposed subcontractors to his bid, the bidder is here advised of this requirement so that appropriate action can be taken to prevent subsequent delay in subcontract awards.

15. DRAWINGS: The character, location, and essential details of the work are shown upon a set of Drawings, entitled:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH

The Drawings and Specifications shall form a part of the contract for the work. The Drawings shall be supplemented by working drawings as necessary. All authorized alterations affecting the requirement and information given on the Drawings shall be in writing.

16. EXTRA WORK ITEMS IN BID: The Bid contains certain unit price items entitled "Optional Item". In each of those items, the estimated quantity is based upon the average amount of extra work encountered in a typical job. The stated quantities are not guaranteed to be required or not to be required, but are included in the Bid in order to determine, in advance of construction, the actual low bidder. No work described by those items will be approved for payment without advance authorization by the Engineer.
17. NOTICE OF SPECIAL CONDITIONS: Attention is particularly called to those parts of the Contract Documents and Specifications which deal with the following:
- A. Inspection and testing of material
  - B. Insurance requirements

18. POWER OF ATTORNEY: Attorneys-in-fact who sign Bid Bonds or Contract Bonds must file with each bond a certified and effectively dated copy of their Power of Attorney.

19. AUTHORITY TO SIGN: If a Bid is made by an individual, his name and Post Office address must be shown. If made by a firm, or partnership, the name and Post Office address of each member of the firm or partnership must be shown. If made by a Corporation, the person, or persons, signing the Bid must show the name of the State under the laws of which the Corporation is chartered and his or their, authority for signing same, and the names, titles and addresses of the President Secretary and Treasurer, and the Corporate Authority for doing business in this state.

20. WORKING DRAWINGS: Working drawings for any structure shall consist of such detailed plans as may be required for the prosecution of the work but not included in the plans. All necessary working drawings shall be furnished by the Contractor. They shall include shop details, erection plans, masonry layout diagrams, and bending diagrams for reinforcing steel, approval of which by the Engineer must be obtained before any work involving these plans may be performed. Plans for false-work, centering and form work may also be required and such cases shall be likewise subject to approval by the Engineer.

It is expressly understood, however, that approval by the Engineer of the Contractor's working drawings does not relieve the Contractor of any responsibility for accuracy of dimensions and details. The Contractor shall be responsible for agreement and conformity of his working drawings with the Drawings and Specifications.

The contract price shall include the cost of furnishing all working drawings and the Contractor will be allowed no extra compensation for such drawings.

21. COOPERATION OF CONTRACTOR: The Contractor will be supplied with five (5) copies of the Drawings and Specifications. The Contractor shall have available on the work, at all times, one (1) copy of each of said Drawings and Specifications. He shall give the work the constant attention

necessary to facilitate the progress thereof and shall cooperate with the Engineer and with other contractors in every way possible. The Contractor shall at all times have a Superintendent, satisfactory to the Engineer, capable of acting as his agent on the work, who shall receive instructions from the Engineer or his authorized representatives. The superintendent shall have full authority to execute the orders or directions of the Engineer without delay and to promptly supply such materials, tools, plant equipment and labor as may be required.

22. CONSTRUCTION STAKES: Subsidiary lines and grades shall be laid out by the Contractor from the controlling lines and bench marks furnished by the Engineer or from measurements shown on the Drawings. All lines and grades shall be subject to checking by the Engineer, but this checking shall in no way relieve the Contractor from responsibility for their correctness.

The Contractor shall provide such stakes, materials, and such labor and assistance as the Engineer may require in laying out work, establishing bench marks and checking and measuring the work.

23. AUTHORITY AND DUTIES OF INSPECTOR: Inspectors shall be authorized to inspect all work done and materials furnished, including preparation, fabrication and manufacture of the materials to be used. The Inspector shall not be authorized to alter or waive any requirements of the Specifications. He shall call the attention of the Contractor to any failure of the work or materials to conform to the Specifications and Contract. He may reject materials or suspend the work until any questions at issue can be referred to and decided by the Engineer.

The presence of the Inspector shall in no way lessen the responsibility of the Contractor. The Contractor in no way relieves himself of responsibility for adequacy of the work by following the directives of the Inspector.

24. INSPECTION: The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether or not the work performed and materials used are in accordance with the requirements and intent of the Specifications and Contract. No work shall be done or materials used without suitable supervision or inspection by the Engineer or his representative. Failure to reject any defective work or materials shall not in any way prevent later rejection when such defect is discovered, or obligate the Owner to final acceptance.

All materials furnished and work done when not in accordance with the Specifications and Contract will be rejected and shall immediately be removed and other work done and materials furnished in accordance therewith. If the Contractor fails to remove the work and materials as above ordered, within forty-eight (48) hours, then the Engineer shall have the right and authority to stop the Contractor and his work at once and to supply men and material at the cost and expense of the Contractor to remove said work and materials.

25. DEFECTIVE WORK AND MATERIALS: The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his Contract and defective work shall be made good, notwithstanding that such work and materials have been previously inspected by the Engineer and accepted or estimated for payment. The failure of the Engineer to condemn improper materials or workmanship shall not be considered as a waiver of any defect which may be discovered later, or as preventing the Owner at any time subsequently from recovering damages for work actually defective. All work shall be guaranteed against defects in workmanship or materials for a period of one year after final acceptance.

26. CORRECTIONS: Should any portions of the Drawings and Specifications be obscure or in dispute, they shall be referred to the Engineer and he shall decide as to the true meaning and intent. He shall also have the right to correct any errors or omissions at any time when such corrections are necessary for the proper fulfillment of said Drawings and Specification.

27. DISAGREEMENT: Should any disagreement or difference arise as to the estimated quantities or classifications or as to the meaning of the Drawings or Specifications, on any point concerning the



character, acceptability and nature of the several kinds of work, any materials and construction thereof, the decisions of the Engineer shall be final and conclusive and binding upon all parties to the Contract.

28. WEATHER: During unseasonable weather, all work must stop when the Engineer so directs and all work must be suitably protected.
29. RIGHT OF WAY: The necessary land for the construction of the work will be furnished by the Owner. The Contractor is directed to the Owner for right-of-way actually acquired. The Owner will provide no right-of-way over other property. The contractor shall take every possible precaution to inconvenience as little as possible the owners and tenants of adjacent property. Public highways shall not be obstructed in such a way as to cut off traffic. The Contractor shall, at his own expense, repair any damage or injury to either public or private property during the progress of the work. Wholesale cutting of trees on the right-of-way will not be permitted except as necessary for construction.
30. CONSTRUCTION SCHEDULE: A construction schedule showing the work in the order proposed by the Contractor and the time required to complete each phase will be required and shall be submitted to the Engineer for approval. Approval of the construction schedule is required prior to receipt of the notice to proceed. This schedule shall include the dates for beginning and completion of all phases of the work. If, in the opinion of the Engineer, the Contractor falls behind in his schedule or will not be able to complete the project in the time limits, he may require the Contractor to revise his schedule and put additional equipment on the job as so ordered.
31. ORDER OF WORK: The order or sequence of the work shall be as provided herein or as approved by the Engineer, which approval shall in no way affect the responsibility of the Contractor.
32. COMPETENT LABOR: The Contractor shall employ only competent and skilled personnel on the work. The Contractor shall at all times have a Superintendent satisfactory to the Engineer, capable of acting as the Contractor's agent on the work and who shall receive instructions from the Engineer or his authorized representative. The Superintendent shall have full authority to execute the orders and directions of the Engineer without delay, and to promptly supply the materials, tools, plant equipment, and labor as may be required. The Contractor shall upon demand by the Engineer, immediately remove that Superintendent, Foreman, and Workman whom the Engineer may consider to be incompetent or undesirable, or both.
33. LAWS AND REGULATIONS: The Contractor shall keep himself fully informed of all laws, ordinances, and regulations of State and County in any manner affecting those engaged or employed in the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. If any discrepancy or inconsistency should be discovered in this Contract, or in the Drawings or Specifications herein referred to, in relation to any such law, ordinance, regulation, order or decree, he shall forthwith report the same in writing to the Owner. He shall at all times himself observe and comply with all such existing and future laws, ordinances and regulations, and shall protect and indemnify the Owner and its agents against any claims or liability arising from or based on the violation of any such law, ordinance, regulation, order of decree, whether by himself or by his employees.
34. PROTECTIVE WORKS: The Contractor shall furnish and install all necessary temporary works for the protection of the work, including barricades, warning signs, and lights at night.
35. SAFETY AND OSHA REGULATIONS: The performance of work under this Contract shall comply with safety regulations prescribed by the Owner, those of the National Occupational Safety and Health Act of 1970. (PL 91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-054), and the requirements of the State where project is located. Each bidder shall satisfy himself as to the character and extent of such regulations.

36. SANITARY REGULATIONS: Necessary sanitary conveniences for the use of the laborers on the work shall be erected and maintained by the Contractor in such a manner and at such points as shall be approved by the Engineer. Their use shall be strictly enforced.
37. STORAGE FACILITIES: Should the Contractor so desire, he may build storage facilities or other structures for housing men, tools, machinery and supplies, but they will be permitted only at approved places, and their surroundings shall be maintained at all times in a sanitary and satisfactory manner. On or before the completion of the work, all such structures shall be removed, together with all rubbish and trash, at the expense of the Contractor.
38. WATER SUPPLY: The water for the Contractor's use shall be supplied by the Contractor. The Contractor shall make his own arrangements for obtaining a water supply for his construction operations.
39. ELECTRIC POWER: The Contractor shall make his own arrangements for electrical power supply for his construction operations.
40. SOIL EROSION: The Contractor shall be required to take the necessary steps to minimize siltation and soil erosion during construction.
41. ACCESS ROADS: Streets, roads and drives used by the Contractor for access to and from the site of his work shall be protected from damage in connection with construction work. Any such damage done shall be repaired immediately and left in good condition at the end of the construction period.
42. PROGRESS PAYMENT: On or before the 15th day of each calendar month the Owner shall make progress payments to the Contractor on the basis of a duly certified and approved estimate of work performed during the preceding calendar month by the Contractor, including materials delivered to the site and undelivered specifically manufactured equipment, less retainage as per Paragraph 19 of the General Conditions which is to be retained by the Owner until all work has been performed strictly in accordance with the Contract Documents and until such work has been accepted by the Owner. Progress payment requests from the Contractor shall be submitted to the Engineer for approval on or before the 1st day of each calendar month.
43. ALLOWABLE TIME FOR COMPLETION: The time allowed for completion on all work to be done under this contract shall begin after notification by the Engineer to proceed with the work. Such notification will be issued upon completion of the contract arrangements, and in accordance with approved construction schedule, arranged to be within the contract time for completion. The time allowed for completion of the work is for 120 calendar days.
44. LIQUIDATED DAMAGES: The Contractor shall pay to the Owner as liquidated damages the sum of **FOUR HUNDRED (\$400.00)** dollars for each calendar day that he shall be in default of completing the work in his Contract within the time limit named therein.
45. SALES TAX AND/OR USE TAX: Bidders shall include in amounts bid in the Bid an allowance for payment of state Sales Tax and/or Use Tax on 0 taxable materials specified to be furnished by the Contractor and incorporated into the work under this Contract.
46. CONTRACTOR'S LOCAL OFFICE: The Contractor shall maintain a local office with a telephone in the general area of the work, and will be required to have a responsible representative on call at all times.
47. MUTUAL RESPONSIBILITY OF CONTRACTORS: If, through acts of neglect of the part of the Contractor, any other Contractor or any subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or subcontractor by agreement of arbitration if such other Contractor or subcontractor shall assert any claims against the Owner, on account of

any damage alleged to have been so sustained, the Owner shall notify the Contractor who shall indemnify and save harmless the Owner against such claim.

48. EMERGENCY WORK: The Contractor shall at all times (nights, weekends or holidays) have a responsible man available to act in case of emergency repairs who the Owner may contact. Upon notification of emergency work necessary, the Contractor's representative shall immediately take steps to make such repairs.
49. INSURANCE REQUIREMENTS: The Contractor's attention is directed to requirements for insurance coverage as set forth in the General Conditions.
50. FLOOD HAZARD INSURANCE: The Contractor will be required to acquire and maintain during the life of the contract any flood insurance made available under the National Flood Insurance Act of 1968, as amended. The insurance shall be in an amount at least equal to the contract amount costs, excluding cost of uninsurable improvements, or to the maximum limit of coverage made available under the National Flood Insurance Act of 1968, as amended, whichever is less.
51. BUILDING PERMITS AND BUSINESS LICENSE: The Contractor shall be required to obtain applicable Building Permits and Business Licenses as required by Chatham County, Georgia.
52. PAVEMENT MARKINGS: All pavement markings will be completed in accordance with the "Standard Specifications for Construction of Roads and Bridges; as published by The Georgia Department of Transportation. All paint will be in accordance with section 652-High Build Standard and wet weather paint traffic stripe.

CHATHAM COUNTY, GEORGIA

**BID FORM**

TO: CITY OF PORT WENTWORTH  
305 SOUTH COASTAL HIGHWAY  
PORT WENTWORTH, GEORGIA 31407

Gentlemen:

In compliance with your Notice To Contractors, the undersigned, hereinafter termed the Bidder, proposes to enter into a Contract with **The City of Port Wentworth** to provide the necessary machinery, tools, apparatus, and other means of construction, and all materials and labor specified in the Contract, necessary to complete the work in the manner therein specified within the time specified, as therein set forth, for:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH

The Bidder has carefully examined and fully understands the Contract, Plans and Specifications, and other Contractual Documents hereto attached, and has made a personal examination of the Site of the proposed Work, and has satisfied himself as to the actual conditions and requirements of the Work, and hereby proposes and agrees that if his bid is accepted, he will contract with the City of Port Wentworth in full conformance with the Contract Documents.

It is the intent of this Bid to include all items of construction and all Work indicated on the Drawings and called for in the Specifications.

In accordance with the foregoing, the undersigned proposes to furnish and construct the items listed in the attached Schedule of Items for the unit prices stated.

The Bidder agrees that the cost of any work performed, materials furnished, services provided or expenses incurred, which are not specifically delineated in the Contract Documents but which are incidental to the scope, intent, and completion of the Contract, shall be deemed to have been included in the prices bid for the various items scheduled.

The bidder further proposes and agrees hereby to promptly commence the Work with adequate force and equipment within ten (10) calendar days from receipt of Notice to Proceed, and to complete the Work within 120 calendar days.

The Bidder declares that he understands that the quantities shown for unit price items, are approximate only, are valid only upon written authorization of the County Engineer, and are subject to either increase or decrease and that should the quantities of any items of work be increased, the Bidder proposes to do the additional at the unit prices stated herein; and should the quantities be decreased, the Bidder also understands that payment will be made on the basis of actual quantities at the unit price bid and will make no claim for anticipated profits for any decrease in quantities, and that actual quantities will be determined upon completion of the work, at which time adjustment will be made to the Contract amount by direct increase or decrease.

Attached hereto is an executed Bid Bond or certified check on the (Bank) \_\_\_\_\_ of (City, State) \_\_\_\_\_ for \_\_\_\_\_ Dollars. (\$ \_\_\_\_\_) (Five Percent of Amount of Bid).

If this Bid shall be accepted by the City of Port Wentworth and the undersigned shall fail to execute a satisfactory contract in the form of said proposed Contract, and give satisfactory Performance and Payment Bonds, or furnish satisfactory proof of carriage of the insurance required, within fifteen days from the date of Notice of Award of the Contract, then the City of Port Wentworth may at its option, determine that the undersigned abandoned the Contract and thereupon this Bid shall be null and void, and the sum stipulated in that attached Bid Bond or certificate check shall be forfeited to the City of Port Wentworth as liquidated damages.

Bidder acknowledges receipt of the following addenda:

Addendum No.	Date Received
_____	_____
_____	_____

Bidder further declares that the full name and resident address of all persons and parties interested in the foregoing bid as principals are as follows:

---

By (Signature) \_\_\_\_\_  
Printed Name \_\_\_\_\_  
Title \_\_\_\_\_

Signed, sealed, and dated this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

Bidder: \_\_\_\_\_ (Seal)  
(Company Name)

Bidder Mailing Address:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone # \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

SCHEDULE OF ITEMS  
ROADWAY IMPROVEMENTS FOR ANTRIM STREET BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH

Item	Description	Quantity	Units	Unit Price	Item Price
1	Excavation and Disposal of Unsuitable Material	1137	CY		
2	Clearing, Grubbing, and Demolition	1	SUM		
3	24" Structural Fill Material	803	CY		
4	8" Graded Aggregate Base	1250	SY		
5	10" Graded Aggregate Base	34	SY		
6	Geotextile Fabric Mirafi RS580I or Approved Equivalent	1250	SY		
7	Geotextile Fabric Tensar TX160 or Approved Equivalent	1250	SY		
8	2.0" Asphaltic Concrete 12.5mm Superpave	145	TONS		
9	3.0" Asphaltic Concrete 19.0mm Superpave	7	TONS		
10	5.0" Asphaltic Concrete 25.0mm Superpave	11	TONS		
11	Remove and Replace Curb & Gutter	350	LF		
12	Remove and Replace 6" Concrete Driveways	60	SY		
13	Remove and Replace Brick Pavers	79	SF		
14	6" Temporary GAB Driveway	50	SY		
15	Regrade Ditch	125	LF		
16	Connect to Existing Storm Structure (Core)	2	EA		
17	Sewer Manhole Repair & Raise to Grade	3	EA		
18	Structure Relocation ( Mailboxes, Signage, Etc)	1	SUM		
19	3' Flume Replacement	8	LF		
20	15" RCP Pipe	96	LF		
21	18" RCP Pipe	110	LF		
22	15" Flared End Section	1	EA		
23	18" Flared End Section	1	EA		
24	18" Safety Flared End Section	2	EA		

25	Rebuild / Replace Catch Basins	3	EA		
26	6" Sock Drain w/#57 Stone & Fabric	770	LF		
27	8" PVC Water Main	460	LF		
28	2" PVC Water Main	20	LF		
29	1" Water Service Tubing	400	LF		
30	Disconnect, Plug 6" connection and Abandon 2" Line	1	EA		
31	Connect to Existing 8" Water Main	1	EA		
32	Connect to Existing 2" Water Main	1	EA		
33	Water Service Connections	10	EA		
34	8" Gate Valve w/MH	1	EA		
35	2" Gate Valve w/Valve Box	1	EA		
36	Ductile Iron Fittings	0.75	TONS		
37	Fire Hydrant Assembly	1	EA		
38	Connect Existing Fire Hydrant	1	EA		
39	24" Stop Bar White	2	EA		
40	5" Double Yellow Striping	400	LF		
41	Construction Exit	1	EA		
42	Inlet Sediment Trap (Sd2-F)	4	EA		
43	Inlet Sediment Trap (Sd2-P)	2	EA		
44	Silt Fence (Sd1-NS)	200	LF		
45	Haybale Checkdams (Cd-Hb)	2	EA		
46	Temporary Grassing (Ds2)	0.15	AC		
47	Permanent Grassing (Ds3)	0.15	AC		
48	Mulching (Ds1)	0.15	AC		
49	Traffic Control	1	SUM		
50	Mobilization 3% Max	1	SUM		
<b>GRAND TOTAL</b>					
<b>GRAND TOTAL IN WORDS</b>					

**STATEMENT OF BIDDER'S QUALIFICATIONS**

To accompany bid submitted for construction of CITY OF PORT WENTWORTH, **ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3** for the CITY OF PORT WENTWORTH.

Full legal name of Bidder: \_\_\_\_\_

Business Address: \_\_\_\_\_

Business Phone Number: \_\_\_\_\_

Bidder is a (check one) Corporation \_\_\_ Partnership \_\_\_ Individual Proprietorship \_\_\_

Other \_\_\_ (Specify) \_\_\_\_\_

Year Organized: \_\_\_\_\_ Year Incorporated: \_\_\_\_\_

If Bidder is a partnership, list all names of all partners: \_\_\_\_\_

\_\_\_\_\_

How many years have you been in the contracting business under the present firm name?

\_\_\_\_\_

Credit available for this contract: \$ \_\_\_\_\_

Contracts now in hand, Gross Amount: \$ \_\_\_\_\_

Have you ever refused to sign a contract at your original bid? \_\_\_\_\_

Have you ever defaulted on a contract? \_\_\_\_\_

Remarks: \_\_\_\_\_

(The above statements must be subscribed and sworn to before a Notary Public)

Sworn to and subscribed before me,

Date: \_\_\_\_\_

This \_\_\_\_\_ day of \_\_\_\_\_, 2022.

Firm Name: \_\_\_\_\_

\_\_\_\_\_

By: \_\_\_\_\_

(Notary Public)

Title: \_\_\_\_\_



## REFERENCES:

Provide references for work completed, minimum of six, three within the last 12 months of similar size and nature. References will afford the owner opportunity to judge as to capabilities and performance of the contractor.

Provide name, brief description, address, phone number and contact person for each project listed. Failure to complete this section in its entirety will be grounds for rejection.

CITY OF PORT WENTWORTH, GEORGIA

**CORPORATE CERTIFICATE**

I, \_\_\_\_\_, certify that I am the Secretary of the Corporation named as Contractor in the foregoing bid; that \_\_\_\_\_, who signed said bid in behalf of the Contractor, was then (Title) \_\_\_\_\_ of said Corporation; that said bid was duly signed for and in behalf of said Corporation by authority of its Board of Directors, and is within the scope of its corporate powers, that said Corporations organized under the laws of the State of \_\_\_\_\_.

This \_\_\_\_\_ day of \_\_\_\_\_, 2022.

\_\_\_\_\_  
Signature (SEAL)

CITY OF PORT WENTWORTH, GEORGIA

**SURETY REQUIREMENTS**

A Bid Bond for five percent (5%) of the amount of the bid is required to be submitted with each bid.

A Performance Bond for one hundred percent (100%) of the bid will be required of the successful bidder.

The Bidder certifies that he/she has examined all documents contained in this bid package, and is familiar with all aspects of the Bid and understands fully all that is required of the successful bidder. The Bidder further certifies that his/her bid shall not be withdrawn for ninety (90) days from the date on which the bid is publicly opened and read.

The Bidder agrees, if awarded this bid, he/she will:

- A. Furnish, upon receipt of an authorized City of Port Wentworth Purchase Order or Notice of Award, all items indicated thereon as specified in this bid proposal for the bid amount, or;
- B. Enter a contract with City of Port Wentworth to do and/or furnish everything necessary to provide the service and/or accomplish the work as stated and/or specified in this bid proposal for the bid amount, and;
- C. Furnish, if required, a Performance Bond, and acknowledges the right of the City of Port Wentworth to require a Performance Bond of a specific kind and origin, and;
- D. Forfeit the amount of the Bid Bond as liquidated damages if he/she fails to enter a contract with the City of Port Wentworth as stated in (B) above, within ten (10) days of the date on which he/she is awarded the bid, and/or;
- E. Forfeit the amount of the Performance Bond as liquidated damages if he/she fails to execute and fulfill the terms of the contract entered. The amount of forfeiture shall be:
  - 1. The difference between his/her bid and the next lowest, responsible bid that has not expired or been withdrawn, or;
  - 2. The difference between his/her bid and the amount of the lowest, responsible bid received as a result of re-bidding, including all costs related to re-bidding.

COMPANY \_\_\_\_\_

DATE \_\_\_\_\_

SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

TELEPHONE NUMBER \_\_\_\_\_

CITY OF PORT WENTWORTH, GEORGIA

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, THAT WE \_\_\_\_\_ (hereinafter called the Principal) and \_\_\_\_\_ (hereinafter called the Surety), a Corporation chartered and existing under the laws of the State of Georgia with its principal offices in the City of \_\_\_\_\_ and authorized to do business in the State of Georgia, are held and firmly bound unto CITY OF PORT WENTWORTH, GEORGIA in the full and just sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) good and lawful money of the United States of America, to be paid upon demand of CITY OF PORT WENTWORTH, GEORGIA, to which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, and assigns jointly and severally and firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted, CHATHAM COUNTY, GEORGIA, a Bid for furnishing materials, labor and equipment for:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH

WHEREAS, the Principal desires to file this Bond in accordance with law in lieu of a certified Bidder's check otherwise required to accompany this Bid.

NOW, THEREFORE, the conditions of this obligation are such that if the Bid be accepted, the Principal shall within ten (10) days after receipt of notification of the acceptance, execute a Contract in accordance with the Bid and upon the terms, conditions, and prices set forth in the form and manner required by CITY OF PORT WENTWORTH, GEORGIA, and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to CITY OF PORT WENTWORTH, GEORGIA, each in an amount of 100% of the total contract price, in form and with security satisfactory to said CITY OF PORT WENTWORTH, GEORGIA, and otherwise, to be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to CITY OF PORT WENTWORTH, GEORGIA, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

\_\_\_\_\_  
Surety (SEAL)

\_\_\_\_\_  
Principal (SEAL)

BY: \_\_\_\_\_

BY: \_\_\_\_\_

OCCUPATIONAL TAX CERTIFICATE - Vendors/Contractors whose Business is located within the unincorporated area of CHATHAM COUNTY, GEORGIA, or within any of the incorporated areas of the CITY OF PORT WENTWORTH, GEORGIA are to submit a copy of the appropriate Business License.

CURRENT OCCUPATIONAL TAX CERTIFICATE NUMBER \_\_\_\_\_

CITY NUMBER \_\_\_\_\_

COUNTY NUMBER \_\_\_\_\_

OTHER \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

PRINTED NAME \_\_\_\_\_

CITY OF PORT WENTWORTH, GEORGIA

**OATH OF SUCCESSFUL BIDDER**

Personally appeared before the undersigned officer duly authorized by law to administer oaths and \_\_\_\_\_ who, after being first duly sworn, depose and say that they are all the officers, agents, persons, or employees who have acted for or represented (Company Name) \_\_\_\_\_ in bidding or procuring a Contract with CITY OF PORT WENTWORTH, GEORGIA on the following project:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH

and that said \_\_\_\_\_ has not by (himself, themselves) or through any persons, officers, agents, or employees prevented or attempted to prevent by any means whatsoever competition in such bidding; or by any means whatsoever prevented or endeavored to prevent anyone from making a bid therefore, or induces or attempted to induce another to withdraw a bid for said work.

BY: \_\_\_\_\_  
Signature of Successful Bidder

\_\_\_\_\_  
Name - Printed

\_\_\_\_\_  
Title

Sworn to and subscribed before me this  
\_\_\_\_\_ Day of \_\_\_\_\_, 2022.

\_\_\_\_\_  
Notary Public

SEAL

**CONTRACT AGREEMENT**

THIS AGREEMENT made and entered into as of the (Date) \_\_\_\_\_, 2022, by and between CITY OF PORT WENTWORTH, GEORGIA, (Party of the First Part, Hereinafter called the County) and \_\_\_\_\_ (Contractor Name) (Party of the Second Part, Hereinafter called the Contractor).

WITNESSETH: That the said Contractor has agreed, and by these presents does agree with the said County, for and in consideration of \_\_\_\_\_ (\$\_\_\_\_\_) and other good and valuable consideration, and under the penalty expressed in Bonds hereto attached, to furnish all equipment, tools, materials skill, and labor of every description necessary to carry out and complete in good, firm, and substantial, and workmanlike manner, the Work specified, in strict conformity with the Drawings and the Specifications hereinafter set forth, which Drawings and Specifications together with the base bid proposal made by the Contractor, General Conditions, Special Provisions, Detailed Specifications, and this Agreement, shall all form essential parts of this Contract. The Work covered by this Contract includes all Work indicated on Plans and Specifications and listed in the Bid entitled:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH

The Contractor shall commence the Work with adequate force and equipment within (10) ten days from receipt of Notice to Proceed from the City of Port Wentworth, and shall complete the Work within 120 calendar days.

The Contractor hereby assumes the entire responsibility and liability for any and all injury to or death of any and all persons, including the Contractor's agents, servants, and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this Contract or the prosecution of Work hereunder, whether caused by the Contractor or the Contractor's agents, servants, or employees, or by any of the Contractor's subcontractors or suppliers.

This Contract, executed in triplicate, constitutes the full agreement between the parties, and the Contractor shall not sublet, assign, transfer, pledge, convey, sell or otherwise dispose of the whole or any part of this Contract or his right, title, or interest therein to any person, firm or corporation without the previous consent of the Chatham County in writing.

**CONTRACT AGREEMENT**

IN WITNESS WHEREOF, the Parties hereto, acting through their duly authorized agents, have signed and sealed this agreement.

Executed this \_\_\_\_ day of \_\_\_\_\_, 2022.

CITY OF PORT WENTWORTH, GEORGIA

ATTEST: \_\_\_\_\_  
(SEAL) Administrator, City of Port Wentworth

BY: \_\_\_\_\_  
Mayor, Chatham County

**CONTRACTOR**

ATTEST: \_\_\_\_\_  
(SEAL)

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

TITLE: \_\_\_\_\_

**APPROVED AS TO FORM:**

BY: \_\_\_\_\_  
Attorney  
City of Port Wentworth, Georgia



**CONTRACT PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, THAT WE \_\_\_\_\_  
(hereinafter called the Principal) and \_\_\_\_\_  
(hereinafter called the Surety) are held and firmly bound unto CITY OF PORT WENTWORTH, GEORGIA  
(hereinafter known as the Owner), for the use of said oblige and all persons doing work or furnishing skill,  
tools, machinery, supplies, or material under or for the purpose of the Contract hereinafter referred to, in  
the full and just sum of \_\_\_\_\_ (\$ \_\_\_\_\_)  
lawful money of the United States of America, to be paid to said Owner, its successors, and assigns to  
which payment well and truly to made we bind ourselves, our heirs, executors, administrators, successors,  
and assigns, jointly and severely, firmly by these presents.

WHEREAS, the above bound Principal has entered into a contract or contracts with the said OWNER,  
bearing date of \_\_\_\_\_, 2022, for furnishing material, labor and equipment for:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH

WHEREAS, it was one of the conditions of the award by said Owner pursuant to which said Contract was  
entered into, that these presents shall be executed.

NOW THEREFORE, the conditions of this obligation are such that if the above bound Principal shall in all  
respects fully comply with the terms and conditions of said Contract and his obligation thereunder, including  
the Specifications and Bid, therein referred to and made a part thereof, and such alterations as may be  
made in said Specifications as therein provided for, and including one-year guarantee period from date of  
final acceptance, and shall indemnify and save harmless the Owner against and from all costs, expenses,  
damages, injury or loss, to which the said Owner may be subjected by reason of any wrongdoing,  
misconduct, want of care or skill, negligence, or default, including patent infringement, on part of said  
Principal, his agents, or employees, in the execution or performance of said Contract, and shall promptly  
pay all just claims for damages or injury to property and for all work done, or skills, tools, and machinery,  
supplies, labor, and materials furnished and debts incurred by said Principal in our about the construction  
or improvement contracted for this obligation to be void; otherwise, in full force and effect.

And the said Surety to this Bond, for value received, hereby stipulates and agrees that no change,  
extensions of time, alterations, or additions to the terms of the Contract or to the Work to be performed  
thereunder or the Specifications accompanying same shall in any wise affect its obligation on this bond,  
and it does hereby waive notice of any such change, extension of time, alterations, or additions to the terms  
of the Contract or to the Work or the Specifications.

**CONTRACT PERFORMANCE BOND**

This Bond shall be for the use of all persons doing Work or furnishing skill, tools, machinery, or materials under or for the purpose of this Contract, in accordance with the provisions of the Official Code of the State of Georgia, as amended, and is intended to be and shall be construed to be a bond in compliance with the requirements thereof.

The life of this Bond extends through the life of the Contract including the sixty-day maintenance period, and until one year after the final acceptance of the Work by the Owner.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed in triplicate, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**CONTRACTOR**

\_\_\_\_\_  
(Company Name)

Attest: \_\_\_\_\_  
(Seal)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

**SURETY**

\_\_\_\_\_  
(Company Name)

Attest: \_\_\_\_\_  
(Seal)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

BY: \_\_\_\_\_  
(Local Agent's Signature)

\_\_\_\_\_  
(Name - Printed or Typed)

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Address)

Executed in Triplicate

**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS, THAT WE \_\_\_\_\_  
(hereinafter called the Principal) and \_\_\_\_\_  
(hereinafter called the Surety) are held and firmly bound unto CITY OF PORT WENTWORTH, GEORGIA  
(hereinafter known as the Owner), in the full sum of \_\_\_\_\_ (\$ \_\_\_\_\_  
\_\_\_\_\_) for the use and protection of said Owner and all subcontractors and all persons supplying  
labor, materials, and machinery, and equipment for the performance of the Work provided for in the contract  
hereinafter referred to, for the payment of which well and truly to be made we bind ourselves, our heirs,  
executors, administrators, successors, and assigns, jointly and severally by these presents.

WHEREAS, the above bound Principal has entered into a Contract or Contracts with the said OWNER,  
bearing date of \_\_\_\_\_, 2022, for furnishing material, labor and equipment for:

ROADWAY IMPROVEMENTS FOR ANTRIM ROAD, BLOCK 3  
FOR  
THE CITY OF PORT WENTWORTH

WHEREAS, it was one of the conditions of the award by the City of Port Wentworth pursuant to which said  
Contract was entered into, that these presents shall be executed.

NOW, THEREFORE, the conditions of this obligation are such that if the above bound Principal shall  
promptly pay all subcontractors and all other persons supplying labor, materials, machinery, and equipment  
furnished for the performance of the Work provided for by said Contract, and such alterations or additions  
as may be made therein or in the Plans and Specifications, then this bond to be void; otherwise, in full force  
and effect, and

The surety to this bond, for value received, agrees that no change, extensions of time, alterations or  
additions to the terms of the Contract or the Work to be performed thereunder of the Specifications  
accompanying the same shall in any way affect its obligation on this bond, and alterations or additions to  
the terms of the Contract or the Work or to the Specifications. It is agreed that this bond is executed  
pursuant to and in accordance with the provisions of the Official Code of the State of Georgia, as amended,  
and is intended to be and shall be construed to be a bond in compliance with the requirements thereof.

**PAYMENT BOND**

IN WITNESS WHEREOF, the Principal and Surety have caused these presents to be duly signed and sealed in triplicate, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**CONTRACTOR**

\_\_\_\_\_  
(Company Name)

Attest: \_\_\_\_\_  
(Seal)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

**SURETY**

\_\_\_\_\_  
(Company Name)

Attest: \_\_\_\_\_  
(Seal)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

BY: \_\_\_\_\_  
(Local Agent's Signature)

\_\_\_\_\_  
(Name - Printed or Typed)

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Address)

Executed in Triplicate

## Illegal Immigration Reform and Enforcement Act of 2011

House Bill 87, also known as the Illegal Immigration Reform and Enforcement Act of 2011, was passed during the 2011 session of the Georgia General Assembly and was signed by Governor Nathan Deal on May 13, 2011. The bill, status history, votes, and sponsors, can be viewed on the Georgia General Assembly's website:

<http://www.legis.ga.gov>

All bidders are strongly encouraged to review the contents of this law.

O.C.G.A. §13-10-91(b) (1) states, in part, "A public employer shall not enter into a contract ... for the physical performance of services unless the contractor registers and participates in the federal work authorization program. Before a bid for any such service is considered by a public employer, the bid shall include a signed, notarized affidavit from the contractor attesting to the following:

- A. The affiant has registered with and is authorized to use, and uses the federal work authorization program;
- B. The user identification number and date of authorization for the affiant;
- C. The affiant will continue to use the federal work authorization program throughout the contract period; and
- D. The affiant will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the same information required by subparagraphs (A), (B) and (C) of this paragraph."

O.C.G.A. §13-10-91(b) (2) states, in part, "A contractor shall not enter into any contract with a public employer for the physical performance of services unless the contractor registers and participates in the federal work authorization program."

A subcontractor shall not enter into any contract with a contractor unless such subcontractor registers and participates in the federal work authorization program. A subcontractor shall submit, at the time of such contract, an affidavit to the contractor in the same manner and with the same information required in O.C.G.A. §13-10-91(b) (1). It shall be the duty of any subcontractor receiving an affidavit from a sub-subcontractor to forward notice to the contractor of the receipt, within five business days of receipt, of such affidavit. It shall be the duty of a subcontractor receiving notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor to forward, within five business days of receipt, a copy of such notice to the contractor. Requirements for sub-subcontractors are also contained in this law. The "Illegal Immigration Reform and Enforcement Act of 2011" establishes alternatives to the required affidavits for reporting purposes. Only the authorized alternatives will be considered.

It shall be the duty of the contractor to submit copies of all affidavits, drivers' licenses, and identification cards required pursuant to this subsection to the public employer within five business days of receipt.

Copies of the required affidavits for the contractor, subcontractor and sub-sub contractor are included in the package. **The contractor submitting a bid/proposal for the work covered in these documents is required to supply a fully completed affidavit with the submission of the bid/proposal. Bids received that do not include the required affidavit, or allowed substitution, will not be considered.**

**Contractor Affidavit under O.C.G.A. § 13-10-91(b) (1)**

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the City of Port Wentworth is registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Contractor

Roadway Improvements for Antrim Road, Block 3  
Name of Project

The City of Port Wentworth  
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on \_\_\_\_\_, 2022 in \_\_\_\_\_ (city), \_\_\_\_\_ (state)

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME  
ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires: \_\_\_\_\_

**Subcontractor Affidavit under O.C.G.A. § 13-10-91(b) (3)**

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with \_\_\_\_\_ (name of contractor) on behalf of the City of Port Wentworth has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five business days of receipt. If the undersigned subcontractor receives notice of receipt of an affidavit from any sub-subcontractor that has contracted with a sub-subcontractor to forward, within five business days of receipt, a copy of such notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Subcontractor

Roadway Improvements for Antrim Road, Block 3  
Name of Project

The City of Port Wentworth  
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on \_\_\_\_\_, 2022 in \_\_\_\_\_ (city), \_\_\_\_\_ (state)

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME  
ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires: \_\_\_\_\_

**Sub-subcontractor Affidavit under O.C.G.A. § 13-10-91(b) (4)**

By executing this affidavit, the undersigned sub-subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract for \_\_\_\_\_ (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract) and \_\_\_\_\_ (name of contractor) on behalf of the City of Port Wentworth registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned sub-subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned sub-subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the sub-subcontractor with the information required by O.C.G.A. § 13-10-91(b). The undersigned sub-subcontractor shall submit, at the time of such contract, this affidavit to \_\_\_\_\_ (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract). Additionally, the undersigned sub-subcontractor will forward notice of the receipt of any affidavit from a sub-subcontractor to \_\_\_\_\_ (name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract). Sub-subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Sub-subcontractor

Roadway Improvements for Antrim Road, Block 3  
Name of Project

The City of Port Wentworth  
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on \_\_\_\_\_, 2022 in \_\_\_\_\_ (city), \_\_\_\_\_ (state)

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME  
ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires: \_\_\_\_\_



This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

**STANDARD GENERAL CONDITIONS  
OF THE CONSTRUCTION CONTRACT**

**Prepared By**



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**STANDARD GENERAL CONDITIONS  
OF THE CONSTRUCTION CONTRACT**

**TABLE OF CONTENTS**

	<b>Page</b>
Article 1—Definitions and Terminology .....	1
1.01 Defined Terms .....	1
1.02 Terminology.....	5
Article 2—Preliminary Matters.....	6
2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance .....	6
2.02 Copies of Documents .....	6
2.03 Before Starting Construction .....	6
2.04 Preconstruction Conference; Designation of Authorized Representatives .....	7
2.05 Acceptance of Schedules.....	7
2.06 Electronic Transmittals .....	7
Article 3—Contract Documents: Intent, Requirements, Reuse.....	7
3.01 Intent .....	7
3.02 Reference Standards .....	8
3.03 Reporting and Resolving Discrepancies .....	8
3.04 Requirements of the Contract Documents .....	9
3.05 Reuse of Documents.....	9
Article 4—Commencement and Progress of the Work .....	10
4.01 Commencement of Contract Times; Notice to Proceed .....	10
4.02 Starting the Work .....	10
4.03 Reference Points.....	10
4.04 Progress Schedule.....	10
4.05 Delays in Contractor’s Progress.....	10
Article 5—Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions.....	12
5.01 Availability of Lands .....	12
5.02 Use of Site and Other Areas .....	12
5.03 Subsurface and Physical Conditions .....	13
5.04 Differing Subsurface or Physical Conditions.....	13
5.05 Underground Facilities .....	15
5.06 Hazardous Environmental Conditions at Site .....	16
Article 6—Bonds and Insurance .....	18
6.01 Performance, Payment, and Other Bonds .....	18
6.02 Insurance—General Provisions .....	19

6.03	Contractor’s Insurance .....	20
6.04	Builder’s Risk and Other Property Insurance .....	21
6.05	Property Losses; Subrogation .....	22
6.06	Receipt and Application of Property Insurance Proceeds .....	23
Article 7—Contractor’s Responsibilities .....		23
7.01	Contractor’s Means and Methods of Construction .....	23
7.02	Supervision and Superintendence .....	23
7.03	Labor; Working Hours .....	23
7.04	Services, Materials, and Equipment.....	24
7.05	“Or Equals” .....	24
7.06	Substitutes.....	25
7.07	Concerning Subcontractors and Suppliers .....	26
7.08	Patent Fees and Royalties .....	27
7.09	Permits .....	28
7.10	Taxes.....	28
7.11	Laws and Regulations .....	28
7.12	Record Documents .....	29
7.13	Safety and Protection.....	29
7.14	Hazard Communication Programs .....	30
7.15	Emergencies .....	30
7.16	Submittals.....	30
7.17	Contractor’s General Warranty and Guarantee .....	32
7.18	Indemnification .....	33
7.19	Delegation of Professional Design Services .....	34
Article 8—Other Work at the Site .....		34
8.01	Other Work .....	34
8.02	Coordination .....	35
8.03	Legal Relationships .....	35
Article 9—Owner’s Responsibilities .....		36
9.01	Communications to Contractor.....	36
9.02	Replacement of Engineer.....	36
9.03	Furnish Data.....	36
9.04	Pay When Due .....	36
9.05	Lands and Easements; Reports, Tests, and Drawings.....	37
9.06	Insurance.....	37
9.07	Change Orders.....	37
9.08	Inspections, Tests, and Approvals .....	37

9.09	Limitations on Owner’s Responsibilities .....	37
9.10	Undisclosed Hazardous Environmental Condition .....	37
9.11	Evidence of Financial Arrangements .....	37
9.12	Safety Programs .....	37
Article 10	—Engineer’s Status During Construction .....	37
10.01	Owner’s Representative .....	37
10.02	Visits to Site .....	37
10.03	Resident Project Representative .....	38
10.04	Engineer’s Authority .....	38
10.05	Determinations for Unit Price Work .....	38
10.06	Decisions on Requirements of Contract Documents and Acceptability of Work .....	38
10.07	Limitations on Engineer’s Authority and Responsibilities .....	38
10.08	Compliance with Safety Program .....	39
Article 11	—Changes to the Contract .....	39
11.01	Amending and Supplementing the Contract .....	39
11.02	Change Orders .....	39
11.03	Work Change Directives .....	40
11.04	Field Orders .....	40
11.05	Owner-Authorized Changes in the Work .....	40
11.06	Unauthorized Changes in the Work .....	41
11.07	Change of Contract Price .....	41
11.08	Change of Contract Times .....	42
11.09	Change Proposals .....	42
11.10	Notification to Surety .....	43
Article 12	—Claims .....	43
12.01	Claims .....	43
Article 13	—Cost of the Work; Allowances; Unit Price Work .....	44
13.01	Cost of the Work .....	44
13.02	Allowances .....	47
13.03	Unit Price Work .....	47
Article 14	—Tests and Inspections; Correction, Removal, or Acceptance of Defective Work .....	48
14.01	Access to Work .....	48
14.02	Tests, Inspections, and Approvals .....	48
14.03	Defective Work .....	49
14.04	Acceptance of Defective Work .....	50
14.05	Uncovering Work .....	50
14.06	Owner May Stop the Work .....	50

14.07	Owner May Correct Defective Work.....	50
Article 15—Payments to Contractor; Set-Offs; Completion; Correction Period.....		51
15.01	Progress Payments.....	51
15.02	Contractor's Warranty of Title.....	54
15.03	Substantial Completion.....	54
15.04	Partial Use or Occupancy.....	54
15.05	Final Inspection.....	55
15.06	Final Payment.....	55
15.07	Waiver of Claims.....	56
15.08	Correction Period.....	56
Article 16—Suspension of Work and Termination.....		57
16.01	Owner May Suspend Work.....	57
16.02	Owner May Terminate for Cause.....	58
16.03	Owner May Terminate for Convenience.....	59
16.04	Contractor May Stop Work or Terminate.....	59
Article 17—Final Resolution of Disputes.....		59
17.01	Methods and Procedures.....	59
Article 18—Miscellaneous.....		60
18.01	Giving Notice.....	60
18.02	Computation of Times.....	60
18.03	Cumulative Remedies.....	60
18.04	Limitation of Damages.....	60
18.05	No Waiver.....	60
18.06	Survival of Obligations.....	60
18.07	Controlling Law.....	60
18.08	Assignment of Contract.....	60
18.09	Successors and Assigns.....	61
18.10	Headings.....	61

## STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

### ARTICLE 1—DEFINITIONS AND TERMINOLOGY

#### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
  2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*
    - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.
    - b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.

- c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
  - d. A demand for money or services by a third party is not a Claim.
11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
  12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
  13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
  14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
  15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
  16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
  17. *Cost of the Work*—See Paragraph 13.01 for definition.
  18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
  19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
  20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
  21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.
  22. *Engineer*—The individual or entity named as such in the Agreement.
  23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
  24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
    - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.



- b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
  - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.
43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
  - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
  - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or

chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.

48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

## 1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives*: The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day*: The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*: The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
  1. does not conform to the Contract Documents;
  2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
  3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
  1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
  4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## **ARTICLE 2—PRELIMINARY MATTERS**

### **2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance***

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

### **2.02 *Copies of Documents***

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

### **2.03 *Before Starting Construction***

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
  2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
  1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
  2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
  3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
  4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

**ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE**

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.

- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
  - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
  - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

### 3.02 *Reference Standards*

#### A. *Standards Specifications, Codes, Laws and Regulations*

- 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
- 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

### 3.03 *Reporting and Resolving Discrepancies*

#### A. *Reporting Discrepancies*

- 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
- 2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the

Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

**B. *Resolving Discrepancies***

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
  - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
  - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

**3.04 *Requirements of the Contract Documents***

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

**3.05 *Reuse of Documents***

- A. Contractor and its Subcontractors and Suppliers shall not:
  1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

## **ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK**

### **4.01 *Commencement of Contract Times; Notice to Proceed***

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

### **4.02 *Starting the Work***

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

### **4.03 *Reference Points***

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

### **4.04 *Progress Schedule***

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
  2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

### **4.05 *Delays in Contractor's Progress***

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and



interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
  2. Abnormal weather conditions;
  3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
  4. Acts of war or terrorism.
- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
  2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
  3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
  2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
  3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
  4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
  5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.

- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

## **ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

### **5.01 Availability of Lands**

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

### **5.02 Use of Site and Other Areas**

#### **A. Limitation on Use of Site and Other Areas**

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
  - 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. Removal of Debris During Performance of the Work:** During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.

- C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

#### 5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
  - 1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
  - 2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
  - 3. Technical Data contained in such reports and drawings.
- B. *Underground Facilities*: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.
- C. *Reliance by Contractor on Technical Data*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.
- D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
  - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
  - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
  - 3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
  - 4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

#### 5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
  - 1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
  - 2. is of such a nature as to require a change in the Drawings or Specifications;

3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
  1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
    - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
    - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
  2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
    - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
    - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract

Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

- c. Contractor failed to give the written notice required by Paragraph 5.04.A.
  3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
  4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions*: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities*: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
  2. complying with applicable state and local utility damage prevention Laws and Regulations;
  3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
  4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
  5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review*: Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
  2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
  3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
  4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
  - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
    - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
    - c. Contractor gave the notice required in Paragraph 5.05.B.
  - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
  - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
  - 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

#### 5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
  - 1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
  - 2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
  - 3. Technical Data contained in such reports and drawings.

- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
  2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.

- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## **ARTICLE 6—BONDS AND INSURANCE**

### **6.01 *Performance, Payment, and Other Bonds***

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety.



The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

#### 6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.
- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.

- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
  - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
  - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.
- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
  - 1. include at least the specific coverages required;

2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
  3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
  4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
  5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds*: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
  2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
  3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);
  4. not seek contribution from insurance maintained by the additional insured; and
  5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

#### 6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.

- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.
  - 1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
  - 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
  - 1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.

- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

**ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES**

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
      - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
      - 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
      - 3) has a proven record of performance and availability of responsive service; and
      - 4) is not objectionable to Owner.

- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
      - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
      - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

#### 7.06 Substitutes

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
  - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
  - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
  - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
    - a. will certify that the proposed substitute item will:
      - 1) perform adequately the functions and achieve the results called for by the general design;
      - 2) be similar in substance to the item specified; and
      - 3) be suited to the same use as the item specified.
    - b. will state:
      - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;

- 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
  - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
- c. will identify:
- 1) all variations of the proposed substitute item from the item specified; and
  - 2) available engineering, sales, maintenance, repair, and replacement services.
- d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

#### 7.07 Concerning Subcontractors and Suppliers

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.



- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

#### 7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

#### 7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

#### 7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within

30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

#### 7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
  - 1. all persons on the Site or who may be affected by the Work;
  - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.

- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Contractor shall:
  - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
  - b. determine and verify:
    - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
    - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
    - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
  - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.
3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the

Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

**B. *Submittal Procedures for Shop Drawings and Samples:*** Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

**1. *Shop Drawings***

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

**2. *Samples***

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.

**3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.**

**C. *Engineer's Review of Shop Drawings and Samples***

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.
5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

**D. Resubmittal Procedures for Shop Drawings and Samples**

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

**E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs**

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
  - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
  - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
  - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.
  - d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.

- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

**7.17 Contractor's General Warranty and Guarantee**

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only

by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:

1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
  2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
1. Observations by Engineer;
  2. Recommendation by Engineer or payment by Owner of any progress or final payment;
  3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
  4. Use or occupancy of the Work or any part thereof by Owner;
  5. Any review and approval of a Shop Drawing or Sample submittal;
  6. The issuance of a notice of acceptability by Engineer;
  7. The end of the correction period established in Paragraph 15.08;
  8. Any inspection, test, or approval by others; or
  9. Any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

#### 7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

#### 7.19 *Delegation of Professional Design Services*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.
- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
  - 1. Checking for conformance with the requirements of this Paragraph 7.19;
  - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
  - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

## **ARTICLE 8—OTHER WORK AT THE SITE**

### 8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange



to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

#### 8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
  - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
  - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
  - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

#### 8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract

Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
  - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
  - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

## **ARTICLE 9—OWNER'S RESPONSIBILITIES**

### **9.01 *Communications to Contractor***

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

### **9.02 *Replacement of Engineer***

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

### **9.03 *Furnish Data***

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

### **9.04 *Pay When Due***

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

- 9.05 *Lands and Easements; Reports, Tests, and Drawings*
- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
  - B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
  - C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.
- 9.06 *Insurance*
- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.
- 9.07 *Change Orders*
- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.
- 9.08 *Inspections, Tests, and Approvals*
- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.
- 9.09 *Limitations on Owner's Responsibilities*
- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- 9.10 *Undisclosed Hazardous Environmental Condition*
- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.
- 9.11 *Evidence of Financial Arrangements*
- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).
- 9.12 *Safety Programs*
- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
  - B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

## **ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION**

- 10.01 *Owner's Representative*
- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.
- 10.02 *Visits to Site*
- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and

observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

#### 10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

#### 10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.
- E. Engineer's authority as to Applications for Payment is set forth in Article 15.

#### 10.05 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

#### 10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

#### 10.07 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract,

tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

#### 10.08 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

### **ARTICLE 11—CHANGES TO THE CONTRACT**

#### 11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

#### 11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
  - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
  - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and

4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

#### 11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.
- B. If Owner has issued a Work Change Directive and:
  1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
  2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

#### 11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

#### 11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

#### 11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
  - 1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
  - 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
  - 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:
  - 1. A mutually acceptable fixed fee; or
  - 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
    - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
    - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
    - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
    - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
    - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the

costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

#### 11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

#### 11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

#### B. *Change Proposal Procedures*

- 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
- 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
  - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
  - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change



Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

#### 11.10 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

## ARTICLE 12—CLAIMS

### 12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
  1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
  3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
  4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation*

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
  2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
  3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

**ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
  2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be

apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
5. Other costs consisting of the following:
  - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
  - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
    - 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.
  - c. *Construction Equipment Rental*
    - 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
    - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.

- 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
  - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
  - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
  - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.
  - g. The cost of utilities, fuel, and sanitary facilities at the Site.
  - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
  - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:
1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
  2. The cost of purchasing, renting, or furnishing small tools and hand tools.
  3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
  4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
  5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
  6. Expenses incurred in preparing and advancing Claims.
  7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
    - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
    - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
      - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
      - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
  2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.
- E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 *Allowances*

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
  1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
  2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.
- E. *Adjustments in Unit Price*
  - 1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
    - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
    - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
  - 2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
  - 3. Adjusted unit prices will apply to all units of that item.

## **ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK**

### **14.01 Access to Work**

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

### **14.02 Tests, Inspections, and Approvals**

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such

inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  3. by manufacturers of equipment furnished under the Contract Documents;
  4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

- A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects*: Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

#### 14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.



- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

## **ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

### **15.01 *Progress Payments***

- A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
  - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
  - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
  - 3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
  - 4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications*
  - 1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the

Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
  - a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
  - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
  - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
  - a. to supervise, direct, or control the Work;
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
  - a. the Work is defective, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

- d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

**D. *Payment Becomes Due***

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

**E. *Reductions in Payment by Owner***

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
  - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
  - c. Contractor has failed to provide and maintain required bonds or insurance;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
  - f. The Work is defective, requiring correction or replacement;
  - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - h. The Contract Price has been reduced by Change Orders;
  - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
  - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
  - l. Other items entitle Owner to a set-off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents,

or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

#### 15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 15.06 *Final Payment*

##### A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
  - d. a list of all duly pending Change Proposals and Claims; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
  - C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
  - D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
  - E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

#### 15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

#### 15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect

Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such adjacent areas;
  2. correct such defective Work;
  3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
  4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

## **ARTICLE 16—SUSPENSION OF WORK AND TERMINATION**

### **16.01 *Owner May Suspend Work***

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
  - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.



16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

## **ARTICLE 17—FINAL RESOLUTION OF DISPUTES**

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
  - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
  - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
  - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
  - 2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

## **ARTICLE 18—MISCELLANEOUS**

### **18.01 *Giving Notice***

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
  1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
  2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
  3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

### **18.02 *Computation of Times***

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

### **18.03 *Cumulative Remedies***

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

### **18.04 *Limitation of Damages***

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

### **18.05 *No Waiver***

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

### **18.06 *Survival of Obligations***

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

### **18.07 *Controlling Law***

- A. This Contract is to be governed by the law of the state in which the Project is located.

### **18.08 *Assignment of Contract***

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the

written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

## SUPPLEMENTARY CONDITIONS

### 01. GENERAL CONDITIONS

The "Standard General Conditions of the Construction Contract", Engineers Joint Contract Documents Committee, 2018 Edition, Articles 1 through 18 inclusive, included herein preceding these supplements, is a part of this Contract.

#### ARTICLE 6 – BONDS AND INSURANCE

Contractor's protective liability insurance, with limits as follows:

Personal injury including death - limits of \$100,000. for each person and \$1,000,000. for each occurrence.

Property damage - \$100,000. for each and \$1,000,000. for the aggregate for operations.

Contractor's public and automobile liability insurance (including contractual liability insurance as applicable to the Contractor's obligations under paragraph 4.18) with limits as follows:

Personal injury including death - limits of \$100,000. for each person and \$1,000,000. for each occurrence.

Property damage - limits of \$100,000. for each occurrence and \$1,000,000. for the aggregate of operations.

- a. Any exclusion of so-called underground damage to pipes, collapse of structures or damage resulting from explosion or blasting, shall be deleted.
- b. The policy shall provide completed operations coverage, and such coverage shall be maintained by the Contractor for a period of one year from the date of payment of the final amounts owed the Contractor by the Owner, whichever occurs first.

Owner's protective liability insurance, in the name of the Owner, his professional consultants and their agents as additional insureds under the contractor's general liability insurance policy with respect to the services performed by the Contractor for the Owner, with the following limits:

Personal injury including death - limits of \$100,000. for each person and \$1,000,000. for each occurrence.

Property damage - limits of \$100,000. for each occurrence and \$1,000,000. for the aggregate of operations.

#### ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

##### 15.01 Progress Payments

Add the following sentence as paragraph 5 of Section 15.01 B:

"Each payment request shall be accompanied with record drawings showing as-built conditions of all work requested during the pay period.

ARTICLE 16 – FINAL RESOLUTION OF DISPUTES

- 16.01 B Any dispute arising under this agreement shall first be resolved by utilizing non-binding mediation, however should the dispute not be resolved by this method it shall be heard in the Superior Court of the County in which the owner resides, and the parties consent to jurisdiction and venue in that Court. The parties waive any defense they may have to lack of jurisdiction or improper venue and agree to have all disputes resolved in the Superior Court of the County in which the owner resides.

SECTION 01150  
MEASUREMENT AND PAYMENT

Part 1 – GENERAL

1.01 QUANTITIES

- A. Quantities listed in the proposal are approximate only and are intended to serve as a guide in comparing bids, and may be increased or decreased without invalidating the unit price bid.
- B. Contractor shall be paid for actual in place quantities as determined by the engineer's field measurements.
- C. In case of discrepancies between the figures shown in the unit prices and totals, the unit prices shall apply and the totals shall be corrected to agree with the unit price.

PART 2 – MEASUREMENT AND PAYMENT

2.01 EXCAVATION AND DISPOSAL OF UNSUITABLE MATERIAL

- A. Measurement: Measurement will be made on the basis of each cubic yard of demolition and unsuitable material removed in accordance with the plans and specifications
- B. Payment: Payment will be made on the basis of each cubic yard of unsuitable material removed in accordance with the plans and specifications at the unit price bid. The unit price bid shall include all labor equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to, saw cutting and removal of existing pavement, removal of existing base material, excavation, trenching, de-watering, grading of sub-grade, hauling and disposal of unsuitable material, clean-up and surface restoration.

2.02 CLEARING, GRUBBING AND DEMOLITION

- A. Measurement: Measurement will be made on the basis of the completed item in accordance with the construction plan.
- B. Payment: Payment will be made on a lump sum basis as stated in the bid. The bid price will include furnishing all labor, material, and equipment necessary to complete the task. The work shall include, but is not limited to, the price shall be full compensation for clearing and grubbing inside the construction limits where the item is not shown as a separate item in the contract, all hauling of clearing grubbing and demolition, driveway and drainage demolition and removal, or any incidentals necessary to complete the item. the removal of structures, pipes, signs, curbs, gutters and pavement that conflicts with proposed plan not covered by another item, stabilization of slopes during removal, maintenance of crossings during removal and until new roadway is completed, disposal of materials, cleanup and site stabilization.

2.03 STRUCTURAL FILL MATERIAL

- A. Measurement: Measurement will be made on the basis of each cubic yard of structural fill material placed within the roadway area in accordance with the construction plans and specifications.

- B. Payment: Payment will be made on the basis of each cubic yard of structural fill material placed within the roadway area in accordance with the construction plans and accepted by the engineer at the price presented in the proposal. The unit price shall include all labor, equipment and material to complete the item of work. The work shall include, but is not limited to the excavation, loading, hauling, placement, compaction of the fill material. Any borrow area dewatering, maintenance and erosion and sediment control should be included. All material must be obtained from and approved D.O.T. pit. Testing will be in accordance with D.O.T. requirements for the intended use.

#### 2.04 GRADED AGGREGATE BASE (GAB)

- A. Measurement: Measurement shall be made on the basis of the number of square yards of graded aggregate base applied to the parking lot and roadway at the specified thickness as shown on the construction plans. Irregular areas such as turnouts, filler strips and intersections will be measured to the closest square yard. Prior to installation of the asphalt all areas will be checked for proper thickness.
- B. Payment: Payment will be made on the basis of the number of square yards of granite crusher run (graded aggregated) base at the specified thickness applied to the roadway at the unit price stated in the bid. The price shall include all labor, equipment and material to complete the task. Work shall include, but not be limited to, the furnishing, hauling, placing and compaction of the crusher run base in order to bring the base to the lines, grades, and cross sections shown on the construction plans or established by the Engineer. Work shall also include complete surface restoration and clean-up.

#### 2.05 GEOTEXTILE FABRIC

- A. Measurement: Measurement will be made on the basis of the number of square yards of geotextile fabric applied to the roadway as shown on the construction plans. The length will be measured on the surface along the centerline and the width will be that specified on the construction plans. Irregular areas such as turnouts and intersections will be measured to the closest square yard. Overlaps will not be measured separately.
- B. Payment: Payment will be made on the basis of each square yard of geotextile fabric installed in accordance with the construction plans at the unit price bid. The unit price bid shall include all labor equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to, furnishing geotextile fabric, hauling, excavation, laying out, placement, sewing, stretching, stabilization, and clean-up.

#### 2.06 ASPHALT PAVING

- A. Measurement: Measurement will be made on the basis of each ton of asphalt in place, in accordance with the construction plans and accepted by the Engineer. Actual weight will be determined by weighing on a certified motor truck scale and presenting a notarized copy of the record weight to the Engineer or His Representative.
- B. Payment: Payment will be made on the basis of the number of tons of asphalt in place, in accordance with the unit price bid. The unit price bid shall include all labor, equipment and materials to complete the item of work. The item of work shall include, but not be limited to, the furnishing, hauling, placing and

compacting of the asphalt in order to bring the pavement to the lines, grades and cross sections as designated on the construction plans and as determined by the Engineer. The unit price bid shall also include surface cleaning, and tack.

## 2.07 CURB AND GUTTER

- A. Measurement: Measurement will be made on the basis of each linear foot of curb and gutter removed and replaced as shown on the plans or as directed by the engineer. The size of the curb and gutter will be as shown on the plans and indicated in the bid documents.
- B. Payment: Payment will be made on the basis of the unit price stated in the bid. The unit price shall include all materials, labor and equipment necessary to complete the item of work. Work shall include, but not limited to, all excavation, saw cutting, forming, grade staking, grading, compaction, furnishing concrete, curb and gutter installation, filler strip installation where necessary, dewatering, form wrecking, backfilling, cleanup and surface restoration.

## 2.08 CONCRETE DRIVEWAY

- A. Measurement: Measurement will be made on the basis of each square yard of concrete driveway installed to the lines and grades shown on the plans not covered under some other section of this document.
- B. Payment: Payment will be made at the unit price bid for each square yard of concrete driveway installed as shown on the plans at the unit price bid. The unit price shall include all labor, materials and equipment necessary to complete the item of work. Work shall include, but is not limited to, excavation, subgrade preparation, compaction, forming, furnishing and installation of the concrete as shown on the plans, reinforcing, finishing, form wrecking, cleanup and surface restoration.

## 2.09 STORM STRUCTURE CORE

- A. Measurement: Measurement will be made on the basis of each drainage structure core completed at the elevation and location designated on the construction plans.
- B. Payment: Payment will be made on the basis of each core completed at the unit price bid. The unit price bid shall include furnishing all labor, equipment and materials necessary to complete the item of work. Work shall include, but not be limited to, excavation, necessary shoring and sheeting, dewatering, forming, coring of structure, drilling, grouting around pipe, backfill, compaction, grading, complete surface restoration and cleanup.

## 2.10 STORM STRUCTURE REPAIR

- A. Measurement: Measurement will be made on the basis of each structure repair completed as shown on the plans not covered under some other section of this document.
- B. Payment: Payment will be made for each structure repaired as shown on the construction plans or approved by the engineer at the unit price bid. The unit price shall include all labor, equipment and materials necessary to complete the repair. Work shall include, but is not limited to, excavation, subgrade preparation, compaction, forming, furnishing and installation of the concrete



repair as shown on the plans, finishing, form wrecking, cleanup and surface restoration.

#### 2.11 STRUCTURE RELOCATION

- A. Measurement: Structure Relocation, including haul, will be measured in a lump sum price based on the relocation or removal of necessary items needed to complete the project. The unit price bid shall include furnishing all labor, materials and equipment necessary to complete the item of work. Work shall include, but not be limited to, removal and relocation of fencing, mailboxes, utilities, permanent structures, temporary structures, etc. and the excavation, necessary shoring and sheeting, dewatering, forming, placement of concrete, bricks, or precast structure needed.
- B. Payment: The item of Structure Relocation, including haul, will be paid for at the contract unit price per complete in place item, which price shall be full compensation furnishing all labor, materials and equipment necessary to complete removal and relocation of fencing, mailboxes, utilities, permanent structures, temporary structures, etc. and the excavation, necessary shoring and sheeting, dewatering, forming, placement of concrete, bricks, or precast structure needed.

#### 2.12 DRAINAGE PIPE

- A. Measurement: Measurement will be made on the basis of each linear foot of drainage pipe installed at the elevation, grade and alignment as designated on the construction plans.
- B. Payment: Payment will be on the basis of each linear foot of drainage pipe installed at the elevation, grade and alignment as designated on the construction plans at the unit price bid stated in the Contract. The unit price bid shall include all labor, equipment and labor necessary to complete the item of work. Work shall include, but not be limited to, all excavation, trenching, dewatering, necessary shoring and sheeting, all pipe bedding, furnishing and installing pipe, backfill, compaction, complete surface restoration and cleanup.

#### 2.13 DRAINAGE STRUCTURES (Catch Basin, Yard Drain, Junction Box, Headwall, Concrete Flumes, Flared End Section, Pipe End Treatments)

- A. Measurement: Measurement will be made on the basis of each drainage structure installed at the elevation & location designated on the construction plans.
- B. Payment: Payment will be made on the basis of each structure installed at the unit price bid. The unit price bid shall include furnishing all labor, materials and equipment necessary to complete the item of work. Work shall include, but not be limited to, excavation, necessary shoring and sheeting, dewatering, forming, placement of concrete, bricks, or precast structure, form wrecking, foundations as required, furnishing and installing the structure, placement of grates and manhole rings and covers as applicable, grouting around pipe and lid, sealing of structure, backfill, compaction, grading, complete surface restoration and cleanup.

#### 2.14 SOCK DRAIN WITH STONE

- A. Measurement: Measurement will be made on the basis of each linear foot of sock drainage pipe installed at the elevation, grade and alignment as designated on the construction plans.
- B. Payment: Payment will be on the basis of each linear foot of drainage pipe installed at the elevation, grade and alignment as designated on the construction plans at the unit price bid. The unit price bid shall include all labor, equipment and materials to complete the item of work. The item of work shall include, but not be limited to, all excavation, trenching, dewatering, necessary shoring and sheeting, all pipe bedding, furnishing and installing pipe, furnishing and installing #57 stone, furnishing and installing fabric, backfill, compaction, complete surface restoration and cleanup.

#### 2.15 CONNECT TO EXISTING WATER MAIN

- A. Measurement: Measurement will be made on the basis of each completed connection to the existing water main.
- B. Payment: Payment will be made on the basis of the unit price stated in the bid. The work shall include all labor, equipment and materials necessary to complete the task. This item includes, but not be limited to, locating and identifying existing water main, all trenching and excavation, pressure testing, backfill, disinfection, surface restoration and cleanup, cutting and removing existing pipe where necessary, fittings, and other accessories required to complete the connection.

#### 2.16 PVC WATER MAIN

- A. Measurement: Measurement will be made on the basis of each linear foot of water main installed measured along the centerline of the pipe trench and through fittings and specials. No deduction in length will be made for fittings or specials. The size of the water main will be as shown on the plans and indicated in the bid documents.
- B. Payment: Payment will be made on the basis of unit price bid per linear foot for a specific line size. Unit price bid shall include all materials, labor and equipment necessary to complete the installation of the water main. Work shall include, but not be limited to, trenching and excavation, necessary shoring and sheeting, dewatering, furnishing and installing pipe, tracer wire, marker tape, backfilling and compaction, concrete blocking, bedding, pressure testing, disinfection, complete surface restoration and cleanup.

#### 2.17 WATER SERVICE CONNECTIONS

- A. Measurement: Measurement will be made on the basis of each water connection to the existing service installed. The size of the water system service will be as shown on the plans and indicated in the bid documents.
- B. Payment: Payment will be made on the basis of each water connection to the existing service installed at the unit price bid. The price shall include all materials, labor and equipment necessary to complete the item of work. This item includes, but not be limited to, all permits, grading, water service piping, fittings, valves, appurtenances, testing of the system, cleanup, etc. as necessary to provide a complete system.

## 2.18 GATE VALVE

- A. Measurement: Measurement shall be made on the basis of each unit installed in accordance with the construction plans and specifications.
- B. Payment: Payment will be made at the unit price bid for a specific valve size. Unit price bid shall include furnishing all materials, labor and equipment necessary to complete the installation of the gate valve. Work shall include, but not be limited to, excavation, necessary shoring, sheeting, backfilling, concrete valve box collar, furnishing and installing gate valves, valve boxes, pressure testing, disinfection and complete surface restoration and cleanup.

## 2.19 DUCTILE IRON FITTINGS

- A. Measurement: Measurement of the fittings shall be counted by unit of the various sizes & types actually installed. Fittings thus counted shall be converted to a total weight in pounds in accordance with Table 53.2 through 53.5 of AWWA Standard C153 for compact Ductile Iron MJ fittings. The weight shall not include glands, bolts, gaskets, etc.
- B. Payment: Payment will be made at the unit price bid per ton which shall include furnishing all materials, labor, and equipment necessary to complete the installation of the fittings. Work shall include, but not be limited to, excavation, necessary shoring, sheeting, backfilling, restrained joints, thrust blocks, bolts, glands, gaskets, furnishing and installing compact fittings, pressure testing, disinfection and complete surface restoration and cleanup.

## 2.20 FIRE HYDRANT ASSEMBLY

- A. Measurement: Measurement shall be made on the basis of each unit installed. The number of fire hydrant assemblies which will be paid for under this item, will be the number in place, tested, and accepted by the ENGINEER.
- B. Payment: Valves shall be paid for at the unit price bid for fire hydrant assembly. Unit price bid shall include furnishing all materials, labor and equipment, supervision, and incidentals required to furnish and to complete the installation of the fire hydrant assembly. Work shall include, but not be limited to, excavation, necessary shoring, sheeting, backfilling, dewatering, fittings, including the main line diameter x 6-inch tee or reducer if tee is existing and required, 6-inch diameter PVC pipe from the main, 6-inch valve and valve box, fire hydrant, thrust blocking or restraining as shown on the Drawings and specified herein. Fittings shall be included in the price of the fire hydrant assembly and will not be paid for under a separate item, pressure testing, disinfection and complete surface restoration and cleanup.

## 2.21 HIGH BUILD STANDARD AND WET WEATHER PAINT TRAFFIC STRIPE

- A. Measurement: Linear measurements are made on the painted surface by a measuring device rolled along the painted surface. Traffic stripe and markings, complete in place, are measured and accepted for payment as follows:
  - 1. Solid Traffic Stripe  
Solid traffic stripe is measured by the linear foot. Breaks or omissions in solid lines or stripes at street or road intersections are not measured.

## 2. Skip Traffic Stripe

Skip traffic stripe is measured by the gross linear foot. Unpainted spaces between the stripes are included in the overall measurements if the Plan ratio of 1 to 3 remains uninterrupted. Measurement begins and ends on a stripe.

## 3. Pavement Markings

Markings are words and symbols completed according to Plan dimensions. Markings are measured by the unit.

- B. Payment: Payment will be made on the basis of the unit price stated in the bid. The price shall include all materials, labor and equipment necessary to complete the installation. Work shall include, but is not limited to, Cleaning and preparing surfaces, furnishing materials, including paints, beads, and thinners, applying, curing, and protecting paints, protecting traffic, including providing and placing necessary warning signs, furnishing tools, machines, and other equipment necessary to complete the Item.

### 2.22 INLET PROTECTION

- A. Measurement: Measurement will be made on a unit price basis of the completed item in accordance with the construction plans
- B. Payment: Payment will be made on a unit price basis as stated in the bid. Work shall include, but not be limited to, furnishing all labor equipment and materials necessary for the satisfactory prevention of sediment-laden stormwater from entering drainage inlets or junction boxes. The unit price bid shall include, but not be limited to, trenching, furnishing and installing filter fabric, staking, backfill, furnishing and installing concrete blocks and associated materials, placement of filters, etc. The unit price shall also include complete maintenance, cleaning, and or replacement of the inlet sediment trap throughout the life of the project. It shall also include the removal of the inlet protection upon completion of the project and complete restoration of inlet grates and manhole covers.

### 2.23 SILT FENCE

- A. Measurement: Measurement will be made on the basis of each linear foot of silt fence installed in accordance with the construction drawings or as directed by the engineer.
- B. Payment: Payment will be made on the basis of each linear foot of silt fence installed in accordance with the construction drawings or as directed by the engineer at the unit price bid. The unit price shall include all labor, equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to necessary trenching, providing and placing silt fence, staking, stretching, backfill, maintenance for the life of the project, repair and/or replacement, removal, complete surface restoration and cleanup.

### 2.24 GRASSING

- A. Measurement: Measurement shall be made on the basis of the completed item in accordance with the construction plans and bid items. Work performed under this section will be measured to the nearest one-tenth acre.

- B. Payment: Payment will be made in accordance with the price stated in the bid. The unit price shall include, but is not limited to, furnishing all labor, materials and equipment necessary for the satisfactory growth of grass on all disturbed areas in accordance with plans and specifications. Work shall include, but not be limited to, furnishing all materials, fertilizer, soil samples, grass seed, raking, leveling, watering, maintenance and final surface restoration. Final payment will not occur until permanent grass is established.

#### 2.25 MULCHING

- A. Measurement: Measurement shall be made on the basis of the completed item in accordance with the construction plans and bid items. Work performed under this section will be measured to the nearest one-tenth acre.
- B. Payment: Payment will be made in accordance with the price stated in the bid. The unit price shall include, but is not limited to, furnishing all labor, materials and equipment necessary for the satisfactory mulching on all disturbed areas in accordance with plans and specifications. Work shall include, but not be limited to, furnishing all materials, blown or hand broadcasted to a uniform depth, minimum 85% coverage, and maintenance of mulch until final grassing is established. Mulching is to be completed daily to ensure no erosion of disturbed areas.

#### 2.26 TRAFFIC CONTROL

- A. Measurement: Measurement will be made on the basis of the completed item of work or percentage thereof.
- B. Payment will be made on the basis of the completed item of work or a percentage thereof at the unit price bid. The unit price bid shall include all labor, equipment and materials necessary to complete the item of work. The item of work shall include, but not be limited to, furnishing all necessary signage, barrels and personnel necessary to adequately manage traffic during all phases of construction. This item also includes the relocation of trash bins to allow trash collection during construction cost for placing notices on residential doors in the neighborhood.

#### 2.27 MOBILIZATION

- A. Measurement: Measurement will be made on the basis of the completed item of work or percentage thereof.
- B. Payment: Payment will be made on the basis of the completed item of work or percentage thereof at the unit price bid. The unit price bid shall include all labor, equipment and materials to complete the item of work. The item of work shall include, but not limited to, cost associated with insurance, bonding and mobilization of equipment and personnel to the project site.

SECTION 02100  
CLEARING AND GRUBBING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Clearing shall consist of the falling, trimming, cutting and disposal of trees and other vegetation designated for removal, including down timber, snags, brush and rubbish occurring within the area to be cleared. Grubbing shall consist of the removal and disposal of stumps, roots larger than 1.5 inches in diameter and matted roots.

PART 2 - EXECUTION

- 2.01 Trees, down timber, stumps, roots, brush and other vegetation in areas to be cleared shall be removed completely, except such trees and vegetation as may be indicated or directed to be left standing. Trees to be left standing within the cleared areas shall be trimmed of dead branches 1.5 inches or more in diameter.
- 2.02 Limbs and branches to be trimmed shall be neatly cut close to the bore of the tree or main branches.
- 2.03 All organic materials, masonry, concrete or metallic debris in the clearing and grubbing areas shall be excavated and removed to a depth of not less than 12 inches below grade where original grade is to remain level and two feet below finish grade, bottom of pavement base and bottom of footings.
- 2.04 Depressions made by grubbing shall be backfilled and compacted with fill material to meet the requirement for trenching and structural backfilling.
- 2.05 Machine grubbing shall not be done under trees left standing in the area covered by the branches, nor in any manner which might damage the trees or any new work.
- 2.06 Trees and vegetation to be left standing shall be protected from damage during clearing, grubbing and construction operations, by the erection of barriers.
- 2.07 Objects above or below grade interfering with construction shall be removed as directed by the Architect/Engineer.
- 2.08 DISPOSAL OF MATERIALS
  - A. Cleared and grubbed materials to be disposed of to an approved off-site disposal area. The disposal area shall be a state-approved landfill.
  - B. On site burning will not be allowed, without written permission of local authorities. The Forestry Department should be contacted for the permit.
  - C. The use of an air curtain destructor for on site burning shall be part of the permit.

SECTION 02210  
SITE GRADING

PART I-GENERAL

1.01 QUALITY ASSURANCE

A. Reference Standards:

1. Standards of American Society for Testing and Materials:  
ASTM-D-698 Moisture-Density Relations of Soils Using 5.5 lb. (2.5 KG) Hammer and 12 inch (304.8 mm) Drop
2. Methods of Sampling and Testing of American Association of State Highway and Transportation Officials (AASHTO), latest edition.

1.02 TESTING

A. All soil testing shall be performed by an Independent Testing Laboratory selected by the Engineer and paid for by the Contractor.

1.03 EXCESS EXCAVATED MATERIALS

A. Excess excavated materials shall be wasted off site by the Contractor at no expense to Owner, or as directed by the Engineer.

1.04 BORROW MATERIAL

A. Any borrow material required to accomplish all levels, lines and grades indicated shall be furnished by the Contractor at no expense to the Owner.

B. Borrow material shall be obtained from borrow pits off site

C. The Contractor shall pay for all soil analysis for borrow material

1.05 EXCAVATED MATERIAL

A. All material to be excavated shall be classified as earth.

1.06 UNSUITABLE BEARING MATERIALS

A. Should unsuitable bearing materials be encountered at levels indicated and found to have insufficient bearing values the Engineer may order the excavation carried to lower depths.

B. Compensation for the removal and/or replacement of unsuitable materials shall be in accordance with the General Conditions, Article 12.1.4.

C. Excavation of unsuitable bearing materials shall not proceed until the conditions have been observed by the Engineer and written approval has been given by the Owner.

PART 2 - EXECUTION

TOP SOIL

A. Areas to be stripped shall first be scraped clean of all brush, weeds, grass, roots and other material.

B. Remove topsoil from areas to be graded and stockpile in locations where it will not interfere with structures, roads or utility operations.

C. Topsoil shall be free from subsoil, debris and stones larger than 2 inches in diameter, The stored topsoil shall be left in piles to be used for finished grading.

D. Stockpiles shall be protected from contamination by undesirable foreign matter and shall be graded to shed water.

#### EXCAVATION

A. Excavations shall be accomplished to bring surface to the levels, lines and grades as indicated.

B. Excavated material to be used for fill or backfill material shall be stockpiled on the site as directed by the Engineer. Stockpiles shall be graded to shed water.

#### FILLING

A. All fill material required to bring areas to the levels, lines and grades indicated shall be selected and approved materials from approved borrow areas.

B. Sub-grades on which fill material is to be placed shall be scarified to a depth of not less than 4 inches by plowing or discing. A layer of suitable fill material, approximately 3 inches in depth, shall be spread over the scarified surface and compacted.

C. Fill material shall be spread and compacted in successive uniform layers not exceeding 8 inches in depth (loose measure) until the total thickness of fill is completed.

#### 2.04 COMPACTION

A. Compaction required for material fill shall be 95% of Standard Proctor, maximum dry density as determined by the procedures of ASTM D-698. Fill areas shall be crowned and sloped to drainage ditches or as required to prevent ponding of surface water.

B. Compaction by flooding of any material is not acceptable. In the event that any flooding takes place, the material and all adjacent softened material shall be removed and replaced with compacted fill at no cost to the Owner.



**SECTION 02220  
DEMOLITION**

**TABLE OF CONTENTS**

**PART 1 GENERAL**

- 1.1 REFERENCES
- 1.2 GENERAL REQUIREMENTS
- 1.3 SUBMITTALS
- 1.4 REGULATORY AND SAFETY REQUIREMENTS
  - 1.4.1 Notifications
- 1.5 DUST [AND DEBRIS] CONTROL
- 1.6 PROTECTION
  - 1.6.1 Traffic Control Signs
  - 1.6.2 Existing Work
  - 1.6.3 Weather Protection
  - 1.6.4 Trees
  - 1.6.5 Facilities
  - 1.6.6 Protection of Personnel
- 1.7 BURNING
- 1.8 RELOCATIONS
- 1.9 ENVIRONMENTAL PROTECTION
- 1.10 USE OF EXPLOSIVES

**PART 2 PRODUCTS**

**PART 3 EXECUTION**

- 3.1 EXISTING FACILITIES TO BE REMOVED
  - 3.1.1 Structures
  - 3.1.2 Utilities and Related Equipment
  - 3.1.3 Paving and Slabs
  - 3.1.4 Masonry
  - 3.1.5 Concrete
  - 3.1.6 Patching
  - 3.1.7 Air Conditioning Equipment
  - 3.1.8 Cylinders and Canisters
  - 3.1.9 Locksets on Swinging Doors
- 3.2 FILLING
- 3.3 DISPOSITION OF MATERIAL
  - 3.3.1 Title to Materials
  - 3.3.2 Disposal of Ozone Depleting Substance (ODS)
    - 3.3.5.1 Special Instructions
    - 3.3.5.2 Fire Suppression Containers
  - 3.3.3 Unsalvageable Material
- 3.4 CLEANUP
  - 3.4.1 Debris and Rubbish

## **PART 1 GENERAL**

### **1.1 REFERENCES**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

#### **AIR-CONDITIONING AND REFRIGERATION INSTITUTE (ARI)**

ARI Guideline K (1997) Containers for Recovered Fluorocarbon Refrigerants

#### **AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)**

ANSI A10.6 (1990; R 1998) Safety Requirements for Demolition Operations

#### **U.S. ARMY CORPS OF ENGINEERS (USACE)**

EM 385-1-1 (1996) Safety and Health Requirements Manual

### **1.2 GENERAL REQUIREMENTS**

Do not begin demolition until authorization is received from the Engineer. Do not allow accumulations inside or outside the building. The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Rubbish and debris shall be removed from property daily, unless otherwise directed, to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Engineer. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1. Asbestos removal will be performed by others under a separate contract. All asbestos will be removed prior to the issuance of a notice to proceed.

### **1.3 REGULATORY AND SAFETY REQUIREMENTS**

Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," safety requirements shall conform to ANSI A10.6.

#### **1.3.1 Notifications**

##### **1.3.1.1 General Requirements**

Furnish timely notification of demolition project to Federal, State, regional, and local authorities as required.

### **1.4 DUST AND DEBRIS CONTROL**

Prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Vacuum and dust the work area daily or as necessary. Sweep pavements as often as necessary to control the spread of debris.

## 1.5 PROTECTION

### 1.5.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Notify the Engineer prior to beginning such work.

### 1.5.2 Existing Work

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Owner; any damaged items shall be repaired or replaced as approved by the Engineer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements pavements to remain. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement must have Engineer's approval.

### 1.5.3 Weather Protection

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas so as to ensure effectiveness and to prevent displacement.

### 1.5.4 Trees

Trees within the project site which might be damaged during demolition, and which are indicated to be left in place, shall be protected by a 1.8 m (6 foot) 6 foot high fence. The fence shall be securely erected a minimum of 1.5 m 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the work under this contract shall be replaced in kind or as approved by the Engineer.

### 1.5.5 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the Engineer. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

#### 1.5.6 Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

#### 1.6 BURNING

The use of burning at the project site for the disposal of refuse and debris **will not** be permitted.

#### 1.7 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair items to be relocated which are damaged or replace damaged items with new undamaged items as approved by the Engineer.

#### 1.8 ENVIRONMENTAL PROTECTION

The work shall comply with all federal, state, and local laws and regulations.

#### 1.9 USE OF EXPLOSIVES

Use of explosives **will not** be permitted.

### **PART 2 PRODUCTS**

Not used.

### **PART 3 EXECUTION**

#### 3.1 EXISTING FACILITIES TO BE REMOVED

##### 3.1.1 Structures

Existing structures indicated shall be removed to grade. Interior walls, other than retaining walls and partitions, shall be completely removed to grade. Basement slabs shall be broken up and completely remove. Sidewalks, curbs, gutters and street light bases shall be removed as indicated.

##### 3.1.2 Utilities and Related Equipment

Remove existing utilities to limit of the property and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Engineer. When utility lines are encountered that are not indicated on the drawings, the Engineer shall be notified prior to further work in that area. Remove meters and related equipment.

##### 3.1.3 Paving and Slabs

Remove concrete and asphaltic concrete paving and slabs including aggregate base as indicated to natural grade. Provide neat saw cuts at limits of pavement removal as indicated.

#### 3.1.4 Masonry

Saw cut and remove masonry so as to prevent damage to surfaces to remain. Where new masonry adjoins existing, the new work shall abut or tie into the existing construction as specified for the new work.

#### 3.1.5 Concrete

Saw concrete along straight lines to a depth of not less than 50 mm 2 inches. Make each cut in walls perpendicular to the face and in alignment with the cut in the opposite face. Break out the remainder of the concrete provided that the broken area is concealed in the finished work, and the remaining concrete is sound. At locations where the broken face cannot be concealed, grind smooth or saw cut entirely through the concrete.

#### 3.1.6 Patching

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish. Patching shall be as specified and indicated, and shall include:

- a. Holes and depressions left as a result of removals in existing masonry walls to remain shall be completely filled with an approved masonry patching material, applied in accordance with the manufacturer's printed instructions.
- b. Where existing partitions have been removed leaving damaged or missing resilient tile flooring, patch to match the existing floor tile.
- c. Patch acoustic lay-in ceiling where partitions have been removed. The transition between the different ceiling heights shall be effected by continuing the higher ceiling level over to the first runner on the lower ceiling and closing the vertical opening with a painted sheet metal strip.

#### 3.1.7 Air Conditioning Equipment

Remove air conditioning equipment without releasing chlorofluorocarbon refrigerants to the atmosphere in accordance with the Clean Air Act Amendment of 1990. Recover all refrigerants prior to removing air conditioning equipment and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS)."

#### 3.1.8 Cylinders and Canisters

Remove all fire suppression system cylinders and canisters and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS)."

#### 3.1.9 Locksets on Swinging Doors

The Contractor shall remove all locksets from all swinging doors indicated to be removed and disposed of. Contractor shall give the locksets to the County after their removal.

## 3.2 FILLING

Holes, open basements and other hazardous openings shall be filled in accordance with the construction drawings. The finished grade shall match the adjacent grades and shall be properly drained as directed by the Engineer.

## 3.3 DISPOSITION OF MATERIAL

### 3.3.1 Title to Materials

Except where specified in other sections, all materials and equipment removed, and not reused, shall become the property of the Contractor and shall be removed from County property. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the County of the Contractor's demolition and removal procedures, and authorization by the Contracting Officer to begin demolition. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Materials and equipment shall not be viewed by prospective purchasers or sold on the site.

### 3.3.2 Disposal of Ozone Depleting Substance (ODS)

Class I and Class II ODS are defined in Section, 602(a) and (b), of The Clean Air Act. Prevent discharge of Class I and Class II ODS to the atmosphere. Place recovered ODS in cylinders meeting ARI Guideline K suitable for the type ODS (filled to no more than 80 percent capacity) and provide appropriate labeling. Recovered ODS shall be [put back into the existing equipment] [turned over to the Contracting Officer] [remove from Government property and dispose of in accordance with 40 CFR 82]. Products, equipment and appliances containing ODS in a sealed, self-contained system (e.g. residential refrigerators and window air conditioners) shall be disposed of in accordance with 40 CFR 82.

#### 3.3.2.1 Special Instructions

Each container shall have in it no more than one type of ODS. A warning/hazardous label shall be applied to the containers in accordance with Department of Transportation regulations. All cylinders including but not limited to fire extinguishers, spheres, or canisters containing an ODS shall have a tag with the following information:

- a. Activity name and unit identification code
- b. Activity point of contact and phone number
- c. Type of ODS and pounds of ODS contained
- d. Date of shipment

#### 3.3.2.2 Fire Suppression Containers

Fire suppression system cylinders and canisters with electrical charges or initiators shall be deactivated prior to shipment. Also, safety caps shall be used to cover exposed actuation mechanisms and discharge ports on these special cylinders.

#### 3.3.3 Unsalvageable Material

Concrete, masonry, and other noncombustible material, except concrete permitted to remain in place, shall be disposed of by the Contractor.

### 3.4 CLEANUP

Debris and rubbish shall be removed from basement and similar excavations. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

#### 3.4.1 Debris and Rubbish

Debris and rubbish shall be removed from basement and similar excavations. Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

**-- End of Section --**

SECTION 02221  
TRENCH EXCAVATION, BACKFILL AND COMPACTION

PART 1 - GENERAL

1.01 SCOPE

- A. Work under this section shall consist of furnishing all materials, equipment and labor for excavation, trenching and backfilling for utility systems. "Utility systems" shall include underground piping and appurtenances for gas, gasoline, oil, and water distribution systems, storm water drains, and sewage collection systems.

1.02 EXISTING UTILITIES

- A. Before opening trenches, the Contractor shall examine all available records and explore for the location of all sub-surface pipes, valves or other structures and reference such locations on the surface. It shall be the responsibility of the contractor to contact the utility clearinghouses as required by law.
- B. In opening trenches, every effort shall be made not to interfere with these utilities structures. Expose existing piping by hand before excavating by machine. Excavate existing utilities sufficiently in advance of pipe laying to determine crossing arrangement. Slight deviations may be permitted in order to clear such structures. The Contractor shall be entirely responsible for the preservation of all underground or overhead utility lines and structures, such as gas, water, sewer lines, telephone conduit, power lines, etc., and shall replace, adjust or repair, without additional compensation, any such lines damaged or interfered with as a result of this construction.
- C. Schedule work to keep roads and utilities in usable condition; coordinating all operation with the City to avoid inconvenience insofar as practicable.

1.03 BORROW MATERIAL

- A. Any borrow material required to accomplish all levels, lines and grades indicated shall be furnished from an approved site.
- B. The OWNER or his agent shall pay for all soils analysis for borrow material.

1.04 TESTING

- A. All soil testing shall be performed by an Independent Testing Laboratory selected by the County and the design engineer.

1.05 QUALITY ASSURANCE

- A. All excavation within the rights of way of city streets and county, State or Federal roadways, shall be backfilled in accordance with the then prevailing requirements of the Georgia Department of Transportation, Highway Division.
- B. Reference Standards: Methods of Sampling and Testing of American Association of State Highway and Transportation Officials (AASHTO).



## 1.06 SAFETY

- A. The Contractor is responsible for maintaining a safe job environment. He is responsible for meeting all OSHA requirements and conditions as part of the project.

## PART 2 - EXECUTION

### 2.01 GENERAL EXCAVATION

- A. The Contractor shall do all excavation of whatever substances encountered to depth shown on plans. Excavated materials not required for fill or backfill shall be removed from site as directed by the Engineer.
- B. Contractor is to excavate to provide 36 inch minimum cover over utility.
- C. Excavation for manholes and other accessories to have 12 inches minimum and 24 inch maximum clearance on all sides.
- D. Excavation shall not be carried below the required level.
- E. Where excavation is carried below grades indicated, the Contractor shall refill same to the proper grade with compacted earth or stone, or as directed by the Engineer.
- F. Width of trench shall be as shown on the plans. The bottom of trench for sewers and culverts shall be rounded so that an arc of the circumference equal to 0.6 of the outside diameter of the pipe rests on undisturbed soil.
- G. Bell holes shall be excavated accurately to size by hand.

### 2.02 UNSUITABLE BEARING MATERIALS

- A. Should unsuitable bearing materials be encountered at levels indicated and found to have insufficient bearing values the Engineer may order the excavation carried to lower depth.
- B. Excavation of unsuitable bearing materials shall not proceed until the conditions have been observed by the Engineer and written approval is given by the Owner.

### 2.03 PIPE BEDDING

- A. The contact between a pipe and the foundation on which it rests is the pipe bedding.
- B. Classes of Bedding: Four typical classes of bedding to be used for pipes in trenches are described as follows:
  - 1. Class A - Concrete Cradle or Concrete Arch Bedding: This class of bedding may take either of two forms.
    - a. Concrete Cradle- The pipe shall be bedded in a monolithic cradle of plain or reinforced concrete having a minimum thickness of 1/4 the inside pipe diameter of a minimum of 4 inches under the barrel and extending up the sides for a height equal to 1/4 the outside diameter. The cradle shall have width at least equal to the outside diameter of the pipe barrel plus 8 inches. Backfill above the cradle and extending to 12 inches above the crown of

the pipe shall be compacted carefully.

- b. Concrete Arch- The pipe shall be embedded in a carefully compacted granular material having a minimum thickness of 1/4 the outside diameter between barrel and bottom of trench excavation and extending halfway up the sides of the pipe. The top half of the pipe shall be covered with monolithic plain or reinforced concrete arch having a minimum thickness of 1/4 the inside diameter at the crown and having a minimum width equal to the outside pipe diameter plus 8 inches.
2. Class B- First -Class Bedding - Class B bedding may be achieved by either of two construction methods.
    - a. Shaped Bottom with Tamped Backfill. The bottom of the trench excavation shall be shaped to conform to a cylindrical surface with a radius at least 2 inches greater than the radius of the outside of the pipe and with a width sufficient to allow 6/10 of the width of the pipe barrel to be bedded in fine granular fill placed in the shaped excavation. Carefully compacted backfill shall be placed at the sides of the pipe to a thickness of at least 12 inches above the top of the pipe. Shaped trench bottoms shall be used only with the approval of the Engineer.
    - b. Compacted Granular Bedding with Tamped Backfill. The pipe shall be bedded in compacted granular material placed on a flat trench bottom. The granular bedding shall have a minimum thickness of 1/4 the outside pipe diameter and shall extend halfway up the pipe barrel at the sides. The remainder of the side fills and minimum depth of 12 inches over the top of the pipe shall be filled with carefully compacted, select material.
  3. Class C - Ordinary Bedding: Class C ordinary bedding may be achieved by either of two construction methods:
    - a. Shaped Bottom. The pipe shall be bedded with "ordinary" care in an earth foundation formed in the trench bottom by a shaped excavation which will fit the pipe barrel with reasonable closeness for a width of at least 50% of the outside pipe diameter. The side fills and area over the pipe to a minimum depth of 6 inches above the top of the pipe shall be filled with lightly compacted fill. The shaped bottom bedding shall be used only with the approval of the Engineer.
    - b. Compacted Granular Bedding with a Tamped Backfill. The pipe shall be bedded in compacted granular material placed on a flat trench bottom. The granular bedding shall have a minimum thickness of 4 inches under the barrel and shall extend 1/10 to 1/6 of the outside diameter up the pipe barrel at the sides. The remainder of the side fills and to a minimum depth of 6 inches over the top of the pipe shall be filled with lightly compacted backfill.
  4. Class D - Class D bedding is not permissible. Flat bottom trench. In this bedding the bottom is left flat, and no care is taken to secure compaction of backfill at the sides immediately over the pipe.
- C. Granular pipe bedding material shall be well graded crushed stone or crushed gravel meeting the requirements of ASTM C33, Gradation 67 (3/4 inch to No. 4). A well-graded gravel meeting these same requirements can also be used.

- D. Where ledge rock, compact rocky or gravelly soil, or other unyielding foundation material is encountered, the pipes shall be bedded in accordance with the requirements of the foregoing classes of bedding, but with the following additions: The hard unyielding material shall be excavated to the elevation of the bottom of the concrete cradle (Class A bedding) or below the bottom of the pipe and the pipe bell (Class B or C bedding), to depth of at least 6 inches (15cm). The width of the excavation shall be at least 5/4 the outside diameter of the pipe and it shall be refilled with granular material as identified above.

#### 2.04 BRACING AND SHORING

- A. The Contractor shall do all bracing, sheeting and shoring necessary to perform and protect all excavations as required for safety.
- B. Sheeting driven alongside the pipe should be cut off and left in place to an elevation 1.5 feet above the top of the pipe.
- C. All other sheeting shall be removed as directed by the Engineer.

#### 2.05 DEWATERING FOR EXCAVATION

- A. The Contractor shall pump or remove any water accumulated in any excavated area and shall perform all work necessary to keep excavations clear of water while foundations, structures or any masonry are being constructed or while pipe is being laid, or during demolition.
- B. No structure or pipe shall be laid in water, and water shall not be allowed to flow over or rise upon any concrete or masonry or piping until same has been inspected and the mortar or joint material has cured.
- C. All water pumped or bailed from the trenches or other excavation shall be conveyed in a manner to a point of discharge where it will neither cause a hazard to the public health, nor damage to the public or private property, or to work completed or in progress.

#### 2.06 BACKFILL

- A. The soil at the sides of a pipe and above it is the backfill.
- B. Prior to backfilling any excavation, all piping and structures, the Engineer and City Inspector shall be notified for observation.
- C. After pipes have been tested and approved, backfilling shall be done with approved material free from large clods or stones.
- D. Backfill shall be placed in uniform layers, four inches thick, on both sides of the pipe and thoroughly compacted with pneumatic or hand tampers. The backfill shall be brought up uniformly on both sides of the pipe and compacted to an elevation of one foot above the top of the pipe, after which the fill shall be placed in eight inch lifts. No rock will be allowed in the backfill within a distance of one foot from the pipe, and rock larger than six inches in the greatest dimension will not be permitted in any part of the trench or backfill.
  - 1. Backfill shall be compacted to not less than 95% of the maximum dry weight per cubic foot as determined by AASHTO Method T-99 (Standard Proctor Test).

2. The top 18 inches of backfill under any paved area shall be compacted to 100% Standard Proctor.
3. Water settling will not be permitted in clay soils. It may be allowed at the option of the City Inspector and design engineer in sandy soils.

## 2.07 REPLACING PAVEMENTS

- A. Subgrades shall be compacted with a mechanical tamper.
- B. The minimum width of replaced concrete pavements shall be 4 feet at interiors and 6 feet at joints and constructed as shown on Standard Details. Avoid cutting pavements at joints; if unavoidable, reconstruct same as original joint. Depth shall be equal to the original thickness. Existing pavements edges shall be cut vertical.
- C. Use high-early-strength cement if road is to be opened in less than 24 hours.
- D. The minimum width of replaced bituminous pavements shall be 3 feet with 8 inch concrete patch. The existing pavement shall be cut vertically and horizontally to a straight line. The 8-inch concrete patch shall be minimum 3,000-psi concrete containing black dye and shall be flush with the existing pavement.
- E. The minimum width of replaced bituminous pavement with asphalt shall be 3 feet with 6 inches of concrete and 2 inches of asphalt after the existing pavement is cut vertically and horizontally to a straight line.

SECTION 02520-H  
STORM DRAINAGE AND APPURTENANCES

PART 1 - GENERAL

1.01 APPLICABLE STANDARDS

- A. Appurtenances shall be constructed in accordance with the referenced Georgia Department of Transportation Standard Drawings.
- B. American Society for Testing and Materials (ASTM):
  - C- 32 Specification for Sewer and Manhole Brick.
  - C- 76 Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
  - C-139 Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes.
  - C-144 Aggregate for Masonry Mortar.
  - C-270 Mortar for Unit Masonry
  - C-443 Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
  - C-478 Specification for Precast Reinforced Concrete Manhole Section
  - C-536 Test for Continuity of Coatings in Glassed Steel Equipment by Electrical Testing.
- C. Only reinforced concrete pipe will be allowed under roadways or frequently traveled areas.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Roadway Storm Drainage Pipe: Pipe shall be reinforced Concrete Pipe which conforms to ASTM Specification C-76 and shall be of sizes shown. Pipe shall be Class III minimum and as indicated on GA. D.O.T. Standard 1030 D.
- B. Non Roadway Storm Drainage Pipe: Pipe shall be one of the following:
  - 1. Corrugated metal pipe shall conform to AASHTO designation M-36, AREA Manual 1-4 requirements for corrugated etal. culverts, or Federal Specification QQ-C- 806, with the following applicable requirements:
    - a. The outside and inside surfaces of the corrugated metal pipe shall be completely coated with bituminous material with a minimum thickness of 0.05 inch at the crest of the corrugations. Immediately prior to the application of the bituminous coating, the corrugated metal pipe shall be cleaned of all dirt, grease, mill scale, or loose rust and shall be dry.
    - b. The outside and inside surfaces of the corrugated metal pipe shall be completely coated with a pure aluminum coating metallurgically bonded by an alloy layer between

the steel and the aluminum. The coating shall be applied at a minimum of 1 oz./sq.ft., 2 mils. each side. The weight of aluminum (total both sides) shall be as follows: Minimum check limit triple-spot test=1.00 oz/sq feet, minimum check limit single-spot test=0.90 oz/sq feet. The aluminized steel pipe shall be Armco Aluminized Steel Type 2 or equal.

- c. All rivets shall be placed in the inside valley of the corrugations. The interior coating shall be protected against damage from insertion or removal of struts or tie wires. Lifting lugs, where used, shall be so placed as to facilitate moving the pipe without damage to the exterior or interior coating. All lateral pipe shall be sixteen (16) gauge. All pipe under possible traffic areas will be twelve (12) or fourteen (14) gauge as indicated.
  - d. To facilitate field jointing, the ends of pipes with helical corrugations shall be rerolled to form circumferential corrugations from the end. The diameter of the reformed ends shall not exceed that of the pipe barrel by more than the depth of the corrugation.
2. Polyvinyl chloride (PVC) pipe shall be manufactured and tested in accordance with specification for "Poly (Vinyl Chloride) PVC Large Diameter Ribbed Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter." The pipe and fittings shall be made of PVC plastic and shall have a smooth (not ribbed or corrugated) inside surface. All pipe shall be bell and spigot. The bell shall consist of an integral wall section or an internal plastic sleeve. The solid cross section rubber ring shall be factory assembled on the spigot. Size and dimensions shall be as shown on the plans. Standard laying length shall be 13 feet  $\pm$ 1 inch. All fittings and accessories shall be as manufactured and furnished by the pipe supplier or approved equal and have bell and/or spigot configurations compatible with that of the pipe. Pipes shall be designed to pass all tests described herein at 73 degrees F ( $\pm$ 3degrees F). The pipe stiffness shall equal or exceed 10 psi when tested in accordance with ASTM D 2412.

B. Pipe Joints:

1. Joints for concrete pipe shall be one of the following types:
  - a. Bell and spigot with rubber gaskets.
  - b. Tongue and groove with rubber gaskets.
  - c. Tongue and groove with preformed plastic gaskets.
2. Rubber Gaskets shall conform to ASTM Specification C443. Only a neutral agent shall be used as a lubricant. Performed Plastic Gaskets shall conform to Federal Specification SS-S210, Type I-rope form.
3. Field joints of corrugated steel pipe shall maintain pipe alignment during construction and prevent infiltration of side material during the life of the installation. Circumferential and longitudinal strength shall be provided in accordance with the structural joint performance criteria of Division 2, Section 23 of the AASHTO standard specification for Highway Bridges. The bands shall be constructed in such a manner that will effectively engage the pipe ends. Coupling bands shall not be more than 3 nominal sheet thickness' lighter than the thickness of the pipe to be connected and in no case lighter than 0.052 inches. Bolts and nuts for coupling bands shall conform to the requirements of ASTM Designation: A307.

Bands shall be furnished to lock with the circumferential corrugations, including rerolled end helical pipe. The corrugated bands shall be not less than 7 inches wide for diameter 4 to 36 inches, inclusive, and not less than 10 1/2 inches wide for all other pipe diameters.

NO DIMPLE BANDS WILL BE ALLOWED.

4. Joints for PVC pipe must be an integral bell gasketed joint, which forms a silt tight joint.

C. Precast Concrete Manhole Sections:

ASTM C478, except that spacing of manhole steps or ladder rungs shall not exceed 12 inches.

D. Masonry Manholes: Shall be constructed of the following materials:

1. Brick: ASTM C32, Grade MS
2. Concrete Masonry Units: ASTM C139.
3. Mortar of Masonry: ASTM C279, Type M.
4. Aggregate for Masonry Mortar: ASTM C144.
5. Water: Water for Masonry Mortar shall be fresh, clean and potable.

E. METALS

1. Frames, Covers, and Grating: Frames, covers, grating shall conform to ASTM Specifications A-536 and shall be of ductile iron.
2. Manhole Steps: Manhole steps shall be constructed of a number of 3 reinforcing bar encapsulated in polypropylene plastic with a non-skid tread. Finished dimensions of the steps shall be identical to that of malleable iron manhole steps. Steps to have a minimum tread width of 12 inches.

## 2.02 DELIVERY AND STORAGE

- A. Storm Drainage Pipe: Care shall be exercised in loading and unloading pipe, fittings, specials and castings at all times in order to avoid shock and damage to the materials. Lifting shall be by hoist or by rolling on skids. Dropping will not be permitted. The Contractor shall be responsible for the safe handling of all materials and no damaged materials shall be used in the work. Materials shall be inspected upon arrival at the site, and any damaged or defective materials shall be immediately removed from the site. All materials shall be stored above grade.
- B. Cementious Materials: Cementious materials in bags shall be stored in enclosed structures, floors shall be elevated above the ground a distance sufficient to prevent the absorption of moisture.
- C. Metal Items: Metal items, including reinforcing steel, shall be stored above grade in a manner which will not cause excessive rusting or coating with grease or other objectionable materials.
- D. PVC Pipe: PVC pipe shall be stored protected from sun light by means of covering the pipe or storing inside a building or under a covered shed. Any pipe showing signs of prolonged outside storage (i.e. faded exterior color or signs of drying) shall be rejected.

- E. Aggregates: Aggregates shall be stored on areas to prevent the inclusion of foreign material. Aggregates of different sizes shall be stored in separate piles. Stockpiles of coarse aggregate shall be built in horizontal layers not exceeding 4 feet in depth to minimize segregation. Should the coarse aggregate become segregated, it shall be remixed to conform to the grading requirements.
- F. Brick, Concrete Masonry Units and Precast Concrete Manholes: Brick, concrete masonry units and precast concrete manholes shall be handled with care to avoid chipping and breakage, and shall be stored to protect them from contact with the earth and exposure to the weather, and shall be kept dry until used. Masonry units or precast concrete containing frost or ice shall not be used.

## PART 3 - EXECUTION

### 3.01 DRAINAGE PIPE

- A. Each section of pipe shall be carefully examined before being laid, and defective or damaged pipe shall not be used.
- B. Under no circumstances shall pipe be laid in water, and no pipe shall be laid when trench conditions or weather are unsuitable for such work. Diversion of drainage or dewatering of trenches during construction shall be provided as necessary. Pipe shall be laid true to line and grades indicated and shall rest upon the pipe bed for the full length of each section. Runs of pipe shall be laid with outside bells or grooved ends up-grade beginning at the lower end of the pipe line. Pipe having its grade and/or joint disturbed after laying shall be removed, cleaned, and relaid.
- C. When pipes are protected by head walls or connect with drainage structures, the exposed ends of the pipe shall be placed or cut flush with the inside face of the structure. After the pipe is cut the rough edges shall be smoothed up in an approved manner. All pipe shall be laid so that markings are on top and the inner surfaces abut neatly, tightly and smoothly.
- D. All pipe in place shall be observed by the Engineer before being covered and concealed unless this requirement is waived by the City Inspector and the Design Engineer. Contractor shall clear all pipe of silt debris prior to final acceptance.

### 3.02 CORRUGATED METAL PIPE JOINTS

- A. Corrugated metal pipe shall be butted to form a smooth joint; the space between the pipe and coupling bands shall be kept free from dirt and grit so that the corrugations fit snugly. The coupling band while being tightened shall be tapped with a soft head mallet of wood, rubber or plastic to take up slack and insure a tight joint. Coupling band bolts and damaged areas of the coupling bands and pipe shall be given a coating of bituminous cement. Pipe on which the asphalt coating has been damaged to such extent that satisfactory field repairs cannot be made will be replaced.

### 3.03 CONCRETE PIPE JOINT

- A. Joint installation shall be in accordance with the recommendations of the manufacturer of the joint material. Surfaces to receive lubricants, cements or adhesives shall be clean and dry. Gaskets and jointing materials shall be affixed to the pipe not more than 24 hours prior to the installation of the pipe, and shall be protected from the sun, blowing dust and other deleterious agents at all times. Gaskets and jointing materials shall be inspected before installation of the



pipe, and any loose or improperly affixed gaskets and jointing materials shall be removed and replaced.

- B. The pipe shall be aligned with the previously installed pipe, and the joint pulled together. If, while making the joint, the gasket or jointing material becomes loose and can be seen through the exterior joint recess when the joint is pulled up to within one inch of closure, the pipe shall be removed and the joint remade.

#### 3.04 MASONRY WORK

- A. Mortar for Masonry: Mortar for brick masonry, concrete unit masonry, rubble stone masonry, and for bedding cast iron frames in masonry shall be Type M, conforming to ASTM C270.
- B. Mortar for pargetting Masonry Walls: Mortar for pargetting masonry walls below grade shall be Type M, conforming to ASTM C270.
- C. Brickwork: Brick in circular walls shall be laid in all header courses to form full and close mortar joints, ends and sides in one operation. Vertical joints shall be radial from the center. Brickwork around pipe inlets and outlets shall be built using sufficient mortar to seal the pipe tight in the wall.
- D. Concrete Unit Masonry: Walls shall be constructed in horizontal courses, with vertical joints broken. Units shall be laid in mortar, and all joints shall be filled completely with mortar.
- E. Masonry Structures: Masonry structure walls shall be constructed of brick, concrete masonry units or precast concrete structural sections.

#### 3.05 PRECAST CONCRETE

- A. Walls shall be constructed on a footing of cast-in-place concrete, except that precast concrete base sections may be used for precast concrete structure risers. Precast base sections shall conform to the applicable requirements for precast risers and tops in made ASTM C478. Mortar that has hardened to the extent that it cannot be made workable without the addition of water shall not be used. Thickness of parget shall be not less than 1/2 inch. No pargetting will be permitted on the inside of structures. Pargetting will not be required for precast concrete structures. Joint work inside masonry structures shall be smooth.

#### 3.06 METAL WORK

- A. Iron and steel shall be formed to shape and size with sharp lines and angles. Shearing and punching shall produce clean true lines and surfaces. Casting shall be sound and free from warp, cold shuts, and blowholes that may impair their strength or appearance. Exposed surfaces shall have a smooth finish and sharp well defined lines and arises. The necessary ribbets, lugs, and brackets shall be provided.

#### 3.07 FIELD TEST

- A. A light held in a drainage structure shall show a practically full circle of light through the pipe when viewed from the adjoining end of the line.
- B. Lines under pavements shall be tested for infiltration by means of a suitable weir or other measurement device as directed by the City. When determination of infiltration is not practicable because of dry trench conditions, an exfiltration test shall be applied by filling with water so that the hydraulic head will be at least 6 inches above the crown of the upper end and

of the section being tested. The amount of leakage (infiltration or exfiltration) shall not exceed 100 gallons per inch of diameter per day per mile of pipe.

SECTION 02540  
EROSION CONTROL

PART 1 - GENERAL

1.01 SCOPE

- A. The work specified in this Section consists of furnishing, installing and maintaining temporary erosion controls and temporary sedimentation controls.
- B. All erosion and sediment control measures shall be in accordance with the existing Erosion and Sedimentation Control Ordinance of the City of Hinesville.

1.02 DEFINITIONS

- A. Temporary erosion controls shall include grassing, mulching, watering and reseeding on-site sloped surfaces, providing berms at the top of the slopes and providing interceptor ditches at the ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or minimized.
- B. Temporary sedimentation controls shall include silt dams, traps, barriers and appurtenances at the toe slopes and in drainage ways.

PART 2 - MATERIALS

2.01 Hay bales shall be clean, seed free cereal hay type, securely bound with wire or mylar cord.

2.02 Netting shall be 1/2 inch, galvanized steel chicken wire mesh.

2.03 Filter stone shall be crushed stone conforming to the Department of Transportation State of Georgia-Standard Specifications-Construction of Roads and Bridges-1983 or latest edition - Table 800.01 H, Size Number 3.

PART 3 - EXECUTION

3.01 SEDIMENTATION CONTROL

- A. Silt dams, traps, barriers, and appurtenances shall be installed and shall be maintained in-place for duration of construction.
- B. Hay bales shall be staked with two (2) 1X4 wood stakes per bale driven eighteen (18) inches into the ground and finishing flush with the top of the bale.
  - 1. Install two (2) stakes per bale with the long dimension of the stakes parallel to the long dimension of the bale.
  - 2. Where bales are installed in multiple layers the bales shall be installed with vertical joints staggered and two (2) 1 x 4 wood stakes per bale driven through all layers, full from top of bale to eighteen inches into the ground.
  - 3. Hay bales that have deteriorated shall be replaced with new materials.

C. Silt Fence

1. Silt fence shall be installed in accordance with manufacture instructions. The bottom 2" should be installed beneath the ground surface.
2. A small trench should be dug before installation. The silt fence should then be installed and the trench back filled.

D. Erosion and sedimentation controls shall be maintained in a condition that will retain unfiltered water.

E. The Contractor shall construct the sedimentation ponds and control devices prior to clearing and grubbing the site to insure complete silt control. When the silt or the debris level is greater than 1 foot above the bottom of the pond, the Contractor shall remove the silt or debris to restore the proper elevation for the bottom of the pond.

F. The Contractor shall have all erosion and sedimentation control devices in service and operating properly prior to completion and final acceptance of the contract.

3.02 RESPONSIBILITY

A. The Contractor shall be solely responsible for insuring that no silt or debris leaves the immediate construction site. Any silt or debris that does leave the immediate site shall be cleaned up and the area disturbed shall be returned to its natural state as directed by the City Inspector at the Contractor's expense.

B. The Contractor has the option to submit additional control measures in the form of shop drawings.

SECTION 02555  
WATER DISTRIBUTION SYSTEM

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. American Water Works Association (AWWA):
  - C500 Gate Valves 3" - 48" for Water and Other Liquids
  - C502 Dry-Barrel Fire Hydrants
  - C600 Installation of Cast Iron Water Mains
  - C601 Disinfecting Water Mains
  - C800 Threads for Underground Service Line Fittings
- B. American National Standards Institute (ANSI):
  - A-21.10 Gray-Iron and Ductile Iron Fittings, 2"-48" for Water and Other liquids
  - A-21.11 Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe Fittings
  - A-21.4 Cement Mortar Lining for Cast Iron and Ductile Iron Pipe and Fittings for Water
  - A-21.51 Ductile Iron Pipe, Centrifugally Cast in Metal or Sand-Lined Molds, for Water or Other Liquids
  - B-18.2 Square and Hex-Head Bolts and Screws
- C. American Society of Testing and Materials (ASTM):
  - A-47 Malleable Iron Castings
  - A-48 Gray Iron Casting
  - A-88 Seamless Copper Water Tube
  - A-240 Chromium and Chromium-Nickel Stainless Steel Plate Sheet and Strip for Fusion-Welded Unfired Pressure Vessels
  - A-307 Low Carbon Steel Externally and Internally Threaded Standard Fasteners
  - D-1784 Rigid Poly (Vinyl chloride) Compounds, and Chlorinated Poly (Vinyl Chloride) Compounds
  - D-2239 Polyethylene (PE) Plastic Pipe (SDR-PR)
  - D-2241 Poly Vinyl Chloride (PVC) Plastic Pipe (SDR-PR and Class T)
  - D-3139 Joints for Plastic Pressure Pipe Using Flexible Elastomeric Seals

D. Rule for Safe Drinking Water, Georgia State EPD: Chapter 391-3-5

1.02 DESCRIPTION

- A. All valves of the same type shall be from a single manufacturer. Parts for valves of the same type and size shall be interchangeable. Spare parts shall be furnished where required in the payment items. Special tools required for repacking or disassembling valves shall be provided.
- B. All valves shall open left (counter-clockwise).
- C. Any pipe, solder or flux which is used in the installation or repair of public water distribution systems shall be lead free with not more than 8.0% lead in pipes and fittings and not more than 0.2% in solder or flux.

1.03 SUBMITTALS

A. Six copies of manufacturer's drawings and catalog cuts of the following items shall be submitted for approval of the Design Engineer:

- 1. Pipe
- 2. Fittings
- 3. Joints and Couplings
- 4. Hydrants
- 5. Valves

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Materials delivered to site shall be inspected for damage, unloaded and stored with the minimum of handling. Store materials on site in enclosures or under protective coverings. Store plastic piping and rubber gaskets under cover and protect from exposure to direct sunlight. Store materials above ground. Interior of pipe and fittings shall be kept free of dirt and debris.
- B. Pipe, fittings, valves, hydrants and other accessories shall be handled to insure delivery to the point of installation in sound undamaged condition. If coatings or linings of pipe or fittings are damaged, such pipe or fittings shall be removed from the site and new materials furnished. Pipe shall not be dragged. Rubber gaskets that are not installed immediately shall not be left in the sunlight but shall be stored under cover and protected from exposure to direct sunlight.

PART 2 - PRODUCTS

All materials that come into contact with the drinking water during its treatment, storage, transmission or distribution shall not adversely affect drinking water quality and public health and must be certified for conformance with American National Standards Institute/National Sanitation Foundation Standard 61 (ANSI/NSF Standard 61)

2.01 POLYVINYL CHLORIDE PIPE (PVC)

- A. Polyvinyl chloride water main pipe shall conform to Designation ASTM D2241 and shall consist of Type I, Grade 1 PVC compound conforming to ASTM D1784. All pipe shall be Class 200-SDR 21. The standard laying length shall be 20 ft. ±1 inch.
- B. Pipe shall have integral bell and spigot joints. Provisions shall be made for contraction and expansion at each joint with an elastomeric ring. Threaded or solvent welded type joints shall not be used. Bell end pipe and couplings with elastomeric gaskets shall meet the requirements of ASTM 3139.
- C. The Contractor shall install a continuous run of 14-gauge copper tracer wire with underground coating above the top of the PVC pipe 12 inches above the pipe but no deeper than 48 inches below finished grade. The tracer wire shall be suitable for detection with metal pipe location equipment.
- D. Pipe shall carry National Sanitation Foundation (NSF) seal and be factory marked with manufacturer's identification, pipe size, material and pressure rating.

2.02 DUCTILE IRON PIPE

- A. Ductile iron pipe shall conform with the requirements of ANSI Standard A21.51 and shall be of the thickness classes shown below:

NORMAL PIPE DIAMETER	THICKNESS CLASS
4"	51
6"	50
8"	50
10"	50
12"	50
16"	50
18"	50

Class designations for the various classes of pipe shall be painted on the outside of each joint of pipe. Weights shall be conspicuously painted in white on each joint of pipe after the bituminous coating has hardened.

- B. All joints shall have the same pressure rating as the pipe with which it is used. Joints shall be rubber gasketed push on or mechanical joint. Joints shall meet the requirements of ANSI A21.11.
- C. Pipe shall be coated inside and out with one mil. thick bituminous coating conforming to ANSI A21.4. The interior shall be lined with a cement mortar lining conforming to ANSI/AWWA C104/A21.4.

2.03 GALVANIZED STEEL PIPE

- A. This pipe and fittings shall conform to the requirements of ASTM A120. The pipe shall be "standard weight", unless otherwise specified.

## 2.04 PLASTIC TUBING

- A. Plastic pipe shall conform to all the requirements of the "Specifications for Polyethylene (PE) Plastic Pipe (ADR-PR)", as they apply to PE 3306 of ASTM D2239.
- B. The hydrostatic design stress shall be 630 psi for water at 23° centigrade (73.4° F) and 500 psi for water at 37.8° C (100° F).
- C. The polyethylene extrusion compound from which the pipe is extruded shall meet the requirements of Type III, Grade 3, Class C material as described in "Specification for Polyethylene Molding and Extrusion Materials", ASTM D1248, except that melt index shall be determined under a higher temperature than any of the conditions as listed in Section 6(b) of "Method of Test for Measuring Flow Rates of Thermoplastics by Extrusion Plastometer", ASTM D1238. The test condition shall be the same as for condition J, except that the temperature shall be 310° C (590° F), with a load of 12-5 kilograms. Under these conditions the resin shall extrude at a maximum rate of 0.25 grams per ten (10) minutes. The pipe shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions or other defects. The pipe shall be uniform in color, capacity, density, and other physical properties.
- D. The size, the type of plastic pipe material, dimension ratio, commercial standards with which the pipe complies, the manufacturer's name and the National Sanitation Foundation (NSF) seal of approval, shall be conspicuously marked on the outside of the pipe at intervals of not more than five (5) feet.

## 2.05 FITTINGS

- A. Ductile iron mechanical joint fittings shall conform to the requirements of ANSI A21.10. The fittings shall be of the lightest class conforming to the pressure rating of the pipe lines in which they are installed, in no case shall the fittings be lighter than class 200.
- B. Fittings for galvanized steel pipe shall be malleable iron conforming to ANSI B16.3 except the nipples and couplings shall be the same material as the pipe. All fittings shall be hot-dip galvanized in accordance with ASTM A120.
- C. The mechanical joint shall meet requirements of ANSI A21.11 and shall have the same pressure rating as the fitting of which it is a part.
- D. Fittings shall be coated inside and out with one mil. thick bituminous coating conforming to ASNI A21.4.

## 2.06 HYDRANTS

- A. All fire hydrants shall conform to AWWA C502.
- B. All fire hydrants shall have a 6" mechanical joint in-let connection and be equipped with a 5-1/4-inch valve, two 2-1/2-inch hose nozzles and one 4-1/2-inch pumper connection, all with ANSI (National) standard threads. Operating nuts shall be 1-1/2-inch, pentagon type.
- C. All fire hydrants shall be equipped with "O" ring type stem seals.



- D. All fire hydrants shall be designed for 150 psi working pressure and 300 psi test pressure.
- E. All fire hydrants shall be equipped with a 6" gate valve, complying with other sections of the specifications, installed on the fire hydrant lead between the hydrant and the main.
- F. The Contractor shall paint the hydrant with XO-14 Tractor Red (Federal Safety Color) paint.
- G. All fire hydrants shall be designed such that clockwise rotation of the stem closes the valve and counterclockwise rotation opens the valve. Hydrant covers shall have the word "Open" and an arrow showing the proper rotation of the operating nut cast in or permanently attached.
- H. An independent drain shall be provided, completely draining the hydrant after use. The drain shall be activated to the open position by the closing of the hydrant valve. The drain rod shall be easily cleaned. The drain shall have a protective shield integral with the hydrant base to minimize clogging and prevent undermining.
- I. All working parts of the hydrant shall be easily removed for inspection or servicing without digging or the use of hoists or derricks or special tools. The hydrant cover and stand pipe shall be removable without requiring the water to be shut off.
- J. Each fire hydrant shall be equipped with a ground line mounted breakaway flange and cast iron safety stem coupling specially designed so that upon sustaining severe impact the hydrant will shear off at the ground line without loss of water in the main.
- K. All fire hydrants shall be Mueller standard or equal as approved by the Governing Authority's Inspector.

#### 2.07 METERS

- A. All meters shall be approved first line product of recognized manufacturer and shall be compatible with the meter reading system currently being used by the Governing Authority.
- B. Meters, meter materials and meter test shall conform to applicable AWWA Specifications and shall meet or exceed current AWWA Specifications.
- C. Each meter shall have manufacturers serial number on the lid.
- D. All body parts as cases, boxes and lids shall be of bronze composition.
- E. Meters shall be split case, positive displacement type.
- F. The register shall read in U.S. Gallons and shall be hermetically sealed and driven by permanent magnets.

#### 2.08 METER BOXES

- A. The meter box shall be the approved standard product used by the Governing Authority.

- B. They shall be rectangular and of adequate dimension to accommodate the specified meters.
- C. Boxes shall have cast iron or heavy plastic covers labeled "WATER METER".
- D. Boxes for 5/8" by 3/4" meters shall have inside width not less than 10 inches, inside length not less than 15 inches and overall height not less than 12 inches.
- E. Boxes shall be designed and built to withstand traffic loads typical of yard installations.

## 2.09 VALVES

- A. All valves 2" in diameter and smaller shall be constructed of brass or bronze except that the hand wheel which shall be of malleable iron construction with screwed ends. All valves 2-1/2" in diameter and larger shall have flanged ends for interior service and mechanical joints for buried service unless otherwise approved. They shall be iron body, bronze mounted, except that in the smaller sizes the valves may be all bronze.
- B. Gate Valves:
  1. Gate valves smaller than three inches shall meet the requirements of Fed. Spec. WW-V-54, Class A, 125 pounds.
  2. Gate valves three inches and larger shall have nonrising stems and shall meet the requirements of AWWA Standard C-500. Valves for lighter pressures than the AWWA Standard shall meet the requirements of the above specifications except that the requirements for metal thickness and strengths and structural designs shall be adjusted as required to meet hydrostatic test pressures not less than 150 psi.
  3. All gate valves shall have standard stuffing box seals. Bonnet bolts, studs and nuts shall be cadmium plated. Seating devices shall be bronze to iron or bronze to bronze. The glands shall be bronze or bronze bushed. Gland bolts and nuts shall be bronze.
  4. All gate valves 2½ inches in diameter and larger shall be of the double disc type. All gate valves two inches in diameter and smaller shall be of the double disc or the solid wedge type.
  5. Valves to have two inches square operating nut, with the exception that gate valves in altitude valves pits shall have hand wheels.
  6. Valves buried in ground or located in vaults or structures shall have suitable extensions for socket operation with top of operating nut located two feet below finished grade maximum.
- C. Check Valves:
  1. Check valves 2" through 24" shall be iron body, bronze mounted swing check valves meeting the requirements of AWWA Standard C508-76.
  2. The check valve shall be metal to metal or composite to metal seat construction with flange ends or screw and coupled ends.

D. Altitude Valves:

1. All altitude valves furnished for use on this project shall be equipped for showing at all times the position of the valve. Said altitude valves shall be of the size specified on the drawings and suitable for the use intended.
2. The Contractor shall supply the services of a qualified manufacturer's representative to check and calibrate each altitude valve installation for proper working pressure and sequence.

E. Air Release Valves

1. Air release valve shall have all bronze body and bonnet. They shall be the direct acting type.
2. Valves shall be hydrostatically tested to at least 150 psi.
3. The valve shall have stainless steel floats and an internal coating with rust inhibitors.

2.10 BACKFLOW PREVENTERS

- A. The back flow preventers used shall be those specifically designed for use in connections when the danger from back flow presents a health hazard.
- B. All back flow preventers shall be of the reduced pressure type.
- C. Back flow preventers 3/4" to 2" shall be Hersey, Model FRPII or equal meeting or exceeding the following specifications:

Mainline Case	- Bronze
Working Parts	- Bronze & Stainless Steel
Springs	- Stainless Steel
Diaphragms	- Buna N and Mylar
Valve disc	- Silicone Rubber
O Ring	- Buna N
Check Valve Enclosure	- Glass Reinforced Plastic
Maximum Rated Working Pressure	- 150 psi
Temp. Range	- 33° - 210°F

- D. Back flow Preventers 2½" to 10" shall be Model 6CM or equal meeting or exceeding the following specifications:

Body 8"-10"	-Hot Dipped Galvanized or Epoxy Coating
Body 2½"-6"	- Bronze
Working Parts	- Bronze & Stainless Steel
Springs 2½"-6"	- Stainless Steel
Springs 8"-10"	- Vinyl Coated Carbon Steel
Diaphragms	- Reinforced Elastomer
Valve Disc	- Silicone Rubber
Maximum Rated Working Pressure	- 175 psi
Temp. Range	- 33° - 140°F

- E. Back flow preventers larger than 10" shall be designed for conditions that do present a health hazard. It shall be the reduced pressure type and depending on the

application, may require detection of leaks or unauthorized use. Detectors above 10" shall be submitted for approval. The submittal shall include complete shop drawings. The submittal will be reviewed based on the product's ability to meet the needs of the project.

## PART 3 - EXECUTION

- A. All valves shall be carefully mounted in their respective positions free from distortion and strain. All valves shall be properly packed and left in satisfactory operating condition at the completion of the project.
- B. Valve box and cover shall be installed with each valve as shown in miscellaneous details.

### 3.01 PIPE INSTALLATION

- A. PVC pipe shall be installed in accordance with the Uni-Bell Plastic Pipe Association guide for installation of polyvinyl chloride plastic pressure pipe for municipal water main distribution system and the printed recommendations of the manufacturer.
- B. Ductile iron pipe shall be installed in accordance with AWWA C600.
- C. Pipe line alignment and gradient shall be straight, or shall follow true curves as near as practicable. Curvature in pipe lines, where required, shall be well within the allowable laying radius, horizontal and vertical.
- D. Excavation, cleaning, laying, jointing and back filling shall follow as closely as is possible so as to progress the work. In no case shall pipe be left in the trench overnight without completing the jointing. The completed pipe line shall not be left exposed in the trench unnecessarily, and the Contractor shall backfill and compact the trench as soon as is possible after laying and jointing is completed. Each day at the close of work, and at all times when laying is not in progress, the exposed end of the pipe line in the trench shall be closed with a head or barrier of wood or metal. If at any time it becomes necessary to cover the end of any uncompleted pipe line with backfill, the end of that pipe shall be closed with a mechanical joint plug.
- E. The Contractor shall keep exposed ends of pipe properly plugged during laying to prevent dirt and other materials from entering the line, and shall also, before the system is accepted, thoroughly clean all lines.
- F. Thrust Blocks (Reaction Blocking) shall be provided as specified AWWA C600. All exposed pipes, valves, hydrants, etc., shall be securely strapped and all ends and bends braced.
- G. Other means of pipe restraining shall include "mega lug" utilization and all threads bolted through fittings in accordance with AWWA C600.
- H. Mechanical joints shall be made only be experienced mechanics. Sockets and spigots shall be washed with soapy water before slipping gland and gasket over spigot. The spigot shall be inserted in the socket full depth. The gasket shall be brushed with soapy water and pushed into position making sure the gasket is evenly seated in the socket. The gland shall then be properly positioned for compressing the gasket. All bolts and nuts shall be tightened with a torque wrench to a uniform, permanent tightness. Bolts shall be tightened alternately 180 degrees apart.

Sockets, spigots, glands and bolts shall be kept clean and wet with soapy water until each joint is completed.

- I. All water distribution mains shall have a minimum 36" of cover.

### 3.02 FIRE HYDRANT INSTALLATION

- A. All fire hydrants shall have 36" minimum pipe cover provided for the branch supply line.
- B. Each fire hydrant shall be set on a stable foundation at least 18 inches square and 6 inches thick and shall be blocked against the end of the trench with concrete and anchored.
- C. Hydrant drainage shall be provided by installing around the hydrant at least 7 cubic feet of gravel or crushed stone below the top of the hydrant supply pipe.
- D. The barrel of the fire hydrant shall be set plumb (perpendicular to the ground) with the lowest discharge outlet at least fifteen (15) inches high but no higher than 24 inches above finished grade. No fire hydrant shall be installed within 10 feet of any private driveway. Hydrants shall be located no closer than 5 feet of a curbing and no further than 12 feet of the curbing.
- E. Immediately before installation of a hydrant, the following operations shall be performed:
  - 1. The hydrant shall be thoroughly inspected.
  - 2. The hydrant interior shall be thoroughly cleaned.
  - 3. The hydrant shall be opened and closed to determine that all parts are in proper working order, with valves seating properly and the drain valve operating freely.

### 3.03 HYDROSTATIC TEST

- A. Pressure and leak test shall be performed in accordance with the latest edition of AWWA Standard C600. Upon completion of back filling operations and not less than seven (7) days after the last concrete blocking anchor has been poured, the pipe system shall be subject to hydrostatic test.
- B. The system shall be filled with water and all air expelled.
- C. The Contractor shall pressurize the system to 150 pounds per square inch at the highest point in the system.
- D. The test pressure shall be maintained for two hours.
- E. If the pressure cannot be maintained, the cause shall be determined, corrected and test repeated until successful.

### 3.04 LEAKAGE TEST

- A. Following the pressure test, the system shall be subject to a leakage test. Pressure and leak test shall be performed in accordance with the latest edition of AWWA Standard C600.

### 3.05 DISINFECTION

- A. Disinfection of the new mains and the disposal of the heavily chlorinated water, following the disinfection, shall be accomplished in accordance with the latest edition of AWWA Standard C651. Water mains and accessories shall be disinfected in accordance with "Rules for Safe Drinking Water" as published by the Georgia Environmental Protection Division.
- B. The chlorine solution used for disinfection of water mains shall have a free chlorine residual concentration not less than 25 mg/L. This heavily chlorinated water shall be retained in the main for at least 24 hours, during which time all valves and hydrants shall be operated to ensure disinfection of the appurtenances. At the end of the 24-hour period, the treated water in all portions of the main shall have a residual of not less than 10 mg/L free chlorine. Re-chlorinate is required results are not obtained on all samples.
- C. The mains shall be flushed before disinfecting by maintaining a velocity of at least 2.5 feet per second for a period of ten minutes.
- D. The continuous feed method may be used for any size main or system where satisfactory quantity and quality water is available. The tablet method shall not be acceptable.
- E. Following disinfection, the system shall be flushed until chlorine concentration is less than 1 milligram per liter.
- F. Bacteriologic Tests:
  - 1. Tests shall be performed to detect the presence of coliform organisms on samples taken from the end farthest from the point at which chlorine was introduced into the system and at 1000-ft. intervals.
  - 2. If unsatisfactory samples are produced, disinfection shall be repeated until samples are satisfactory.

SECTION 02611  
BASE AND PAVING

PART 1 - GENERAL

1.01 APPLICABLE STANDARDS

- A. When used in this section, the term "Standard Specifications" shall mean the DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES 1983 edition unless amended herein.
- B. American Society for Testing and Materials (ASTM) :
  - D-698 Test for, Moisture-Density Relations for soils
  - D-1557 Test for, Moisture-Density Relations for soils

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Base: The base shall conform to Section 310, Graded Aggregate Construction, of the Standard Specifications.
- B. Prime: The prime coat shall be RC-70 and shall conform with Section 412, Bituminous Prime, of the Standard Specifications.
- C. Tack Coat: The tack coat shall be RC-70 and shall conform with Section 413, Bituminous Tack Coat of the Standard Specifications.
- D. Intermediate Course (Binder): The intermediate course shall be Type B Asphaltic Concrete and shall conform with Section 400, Hot Mix Asphaltic Concrete Construction of the Standard Specifications.
- E. Surface Course - Asphalt Plant Mix: The surface course shall be Type E or F Asphaltic Concrete and shall conform with Section 400, Hot Mix Asphaltic Concrete Construction, of the Standard Specifications.
- F. Paint: Paint for pavement marking shall be white Traffic Line Paint and shall conform with Section 870, Paint, of the Standard Specifications.
- G. Concrete Curb and Gutter: Shall conform to Section 441- Concrete Curb, Gutter, Combination Curb and Gutter, Header, and Median of the Standard Specification.

PART 3 - EXECUTION

3.01 COMPACTION

- A. Subgrade: The upper 12 inches of subgrade soils in all cut areas and all fill areas that are to receive new pavements shall be scarified and recompacted until a density equivalent to 95% standard Proctor maximum dry density in accordance with ASTM D698 has been obtained.

- B. Base: All base shall have minimum compaction of 100% of the maximum density obtained by the test procedure present in ASTM D1557, Method D. The maximum permissible lift thickness shall be 6 inches (compacted).
- C. Moisture Content: Compaction shall be performed only when the moisture content of the soil is within 4% of the optimum moisture content at the time of compaction as determined by ASTM D698. Soils are to be dried prior to compaction by discing and aeration. An Independent Testing Laboratory shall determine if soils are within the optimum moisture content.

### 3.02 CONSTRUCTION

- A. Preparation of Subgrade: Prior to placing of base and pavements, the construction of all utility lines (water, sewer, power, gas, etc.) which are to be placed under the pavements shall have been completed.
- B. Base: The base course shall be constructed in accordance with Section 310 of the Standard Specifications to the compacted thickness specified.
- C. Prime: The prime coat shall be applied at a rate of 0.25 gallons per square yard and in accordance with Section 413 of the Standard Specifications.
- D. Tack Coat: The tack coat shall be applied at a rate of 0.10 gallons per square yard and in accordance with Section 413 of the Standard Specifications.
- E. Intermediate and Surface Course - Asphalt Plant Mix: The intermediate and face courses shall be constructed in accordance with Section 400 of Standard Specifications to the thickness indicated. All thicknesses are compacted.
- F. Painting Centerline Stripe: Contractor shall paint a 4 inch wide broken yellow paint stripe in the center of all new streets. Broken centerline shall consist of painted segments 15 feet long with 25 foot unpainted gaps between painted segments.
- G. Existing pavement which has pavement markings damaged by this construction shall be repainted.
- H. Concrete Curb and Gutter: Shall be constructed in accordance with Section 441 of the Standard Specification.

### 3.03 TESTING

- A. A compaction test by certified laboratory shall be required on the subgrade of streets dedicated to the City. Test for compaction shall be located no more than 500 feet apart and staggered right, left and on the centerline. A minimum of two-subgrade compaction test shall be required per street location to be determined by the City and the Design Engineer.
- B. The thickness and compaction of base shall be required. A certified laboratory report shall be required as to the measured thickness and compaction of all material prior to placement of the asphalt wearing coarse. If deficiencies are found, the base material in the area will be removed and the subgrade regraded to allow the specified thickness of base material on the roadway.



- C. All streets to be dedicated to the City of Hinesville shall be proof rolled with a fully loaded (18 yard) tandem axle dump truck. Both subgrade and base material shall be subject to this test procedure.

3.04 EXISTING PAVEMENT RESTORATION

- A. Pavement damaged due to construction shall be patched or replaced as directed by the City Inspector and at no cost to the City.
- B. Pavement damaged by new utility trenches shall be restored as directed.

SECTION 02821  
GRASSING

PART 1 - GENERAL

1.01 APPLICABLE STANDARDS

- A. Conform to Section 700 and other applicable articles of the "Standard Specifications Construction of Roads and Bridges", of the Department of Transportation, State of Georgia, dated September 15, 1977. Omit all references to measurement and payment.

1.02 SOIL SAMPLES

- A. The Contractor shall take soil samples from several areas of the site to be grassed and have them analyzed by the Georgia Extension Service. The results of the analysis shall determine the best fertilizer mixture to use on the site.

PART 2 - MATERIALS

2.01 FERTILIZER

- A. Commercial Fertilizer: Fertilizer for lawns shall be a complete fertilizer, the nitrogen content of which shall be derived from either organic or inorganic sources and meeting the following minimum requirements of plant food by weight, unless the soil analysis and report indicates a need for a different fertilizer mixture in which case the recommended mixture shall be furnished and applied. All State and Federal laws relative to fertilizer must be complied with.

10% Nitrogen - 12% Phosphoric Acid - 12% Potash

- B. Ground Limestone: Lime shall be ground dolomitic limestone containing not less than 85% of total carbonates and shall be ground to such fineness that 50% will pass through a 20-mesh sieve. Coarser material will be acceptable, provided the specified rates of application are increased proportionately on the basis of quantities passing the 100-mesh sieve.
- C. Sodium Nitrate shall be a commercial product in dry powder form and shall be delivered in the original, unopened containers each bearing the manufacturer's guaranteed statement of analysis. It shall contain not less than 16% Nitrogen.

2.02 LAWN MATERIALS

- A. Kentucky 31 Fescue (Fescue elatior: var. arundinacea): Seed shall be 98% min. purity and 85% germination.
- B. Bermuda Grass (Cyanodon Dactylon): Seed shall be 98% min. purity and 85% germination.

3.01 PREPARATION

- A. Prepare the seed bed by thoroughly cultivating, discing and hand raking as necessary to produce a smooth even grade free from hollows or other inequalities. Before any seeding is attempted the soil must be in a well pulverized, smooth, friable condition of uniformly fine texture.

### 3.02 FERTILIZING AND LIMING

- A. Approximately two (2) days prior to the start of seeding operations, apply ground limestone at the rate of 20 pounds per 1000 sq. ft. of lawn area. Either in conjunction with the above operation or immediately afterwards apply the specified Commercial Fertilizer over all lawn areas at the rate of 30 pounds per 1000 sq. ft. of lawn area. Work limestone into the top 6 inches of ground and the fertilizer into the top 2 inches of ground.
- B. When the grass has started to cover well (approximately 4 weeks after sowing seed) apply 1-1/2 pounds of Ammonium Nitrate to all lawn areas and immediately water using a fine spray. At the end of the maintenance period and prior to the final inspection apply 10 pounds of the specified Commercial Fertilizer per 1000 sq. ft. of lawn area and immediately water.

### 3.03 SEEDING

- A. Before any seeding is attempted the soil must be in a well pulverized, smooth, friable condition of uniformly fine texture. Lawn areas shall be seeded evenly with a mechanical spreader at the rate of 2 lbs. of seed per 1000 sq. ft., 50% in one direction and the remainder sown at right angles to first sowing. The seeded areas shall be lightly raked, rolled with a suitable weight roller and watered with a fine spray.

### 3.04 WATERING

- A. Soak soil to a minimum depth of 6 inches immediately after seeding. Do not wash away soil or seed. Keep all surfaces continuously moist thereafter until 30 days after the lawn has been seeded. Use fine spray nozzles only.

3.05 Fescue planting season shall be as approved by Engineer.

3.06 Bermuda Grass seeding shall be planted only between May 1 to September 1.

3.07 Maintenance of grass areas shall consist of watering, weeding, cutting, repair of any erosion and reseeding or resodding as necessary to establish a uniform stand of the specified grasses, and shall continue until final acceptance.

3.08 All grassed areas that do not show satisfactory growth within 15 days after sowing shall be re-sown and re-fertilized as directed until a satisfactory blanket is established. Approximately 3 weeks after sowing the last seed, but not before the seed has taken hold and the grass is growing well, apply sulfate of ammonia or sodium nitrate at the rate of 300 pounds to the acre and water immediately. The lawns shall be considered established when they are reasonably free from weed, green in appearance and the specified grass is vigorous and growing well on each square foot of lawn area. Full coverage is required in 60 days.

3.09 All grassed areas shall be protected until accepted. All eroded and damaged areas, regardless of cause, shall be immediately repaired and reseeded. Protect lawn areas against traffic.

3.10 Grassed areas shall be covered evenly with a loose layer of clean wheat, rye, oats, Serecia Lespedeza or Coastal Bermuda Hay. Two tons of dry mulch shall be applied to each acre seeded. Hay shall be placed during calm weather with no wind.

3.11 As soon as the grass becomes established, a final inspection of the work will be made, provided a written request for such inspection is given to the Engineer. Satisfactory coverage is defined as coverage of the areas seeded with grass that is alive and growing, leaving no bare spots larger than one (1) square foot with 98% coverage.

- 3.12 When grassing is required between curbs and sidewalks, behind sidewalks in areas adjacent to private property, the Engineer may change the type of seeding to that required to match any type of grass which may be planted and growing on the adjacent lawn. No increase in the Contract Sum will be made for this substitution.
- 3.13 All temporary valves, cutoffs and piping shall be removed by the Contractor at final acceptance of the grassing.

SECTION 03300  
CONCRETE GENERAL

PART 1 - GENERAL

1.01 QUALITY STANDARDS

A. Any procedure and material operation specified by reference to the following publications shall comply with the requirements of the current specification or standard:

1. American Society for Testing Materials (ASTM):

A185 Welded Steel Wire Fabric for Concrete Reinforcement.

A615 Deformed Billet-Steel Bars for Concrete Reinforcement.

C31 Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field.

C33 Specification for Concrete Aggregate.

C39 Compressive Strength of Molded Concrete Cylinders.

C94 Specification for Ready-Mixed Concrete.

C143 Slump of Portland Cement Concrete.

C150 Portland Cement

C172 Sampling Fresh Concrete

C192 Making and Curing Concrete Test Specimens in the Laboratory.

D1751 Preformed Expansion Joint Fillers for Concrete Paving.

2. American Concrete Institute:

ACI 301 Specification for Structural Concrete for Buildings.

ACI 305 Recommended Practice for Hot Weather Concreting.

ACI 318 Building Code Requirements for Reinforced Concrete.

ACI 350 Sanitary and Water Holding Structure.

1.02 QUALITY CONTROL

A. The Contractor shall submit to the Engineer, for review a design mix for each class of concrete listed under CLASSES OF CONCRETE, prior to placing any concrete.

B. Verification tests of design mixes and aggregates are required by the Engineer. Verification test specimens shall be made in accordance with ASTM C39 by an

3300-1

Independent Test Laboratory. Compressive strength shown by verification tests shall be at least fifteen percent in excess of the strengths listed under CLASSES OF CONCRETE. The Independent Testing Laboratory shall report the test results to the Engineer, in writing and shall note any failure to meet the specification.

- C. Verification tests of design mixes made not more than one year prior to the date of submittal will be acceptable provided they were made from materials identical to those to be used in the project.
- D. Mill Test: Conducted in accordance with ASTM A615 recommendations on each 15 tons, or less reinforcing shipped to the job. Two (2) copies of test to be sent to the Engineer.
- E. Inspection and Testing of Concrete:
  - 1. The cost of slump tests and sampling, molding, storing, materials, transporting concrete test specimens shall be paid by the Contractor. The laboratory or inspection agency shall be selected by the Owner. Costs of all laboratory testing services required because of failure to meet the requirements of these specifications shall be paid by the Contractor.
  - 2. One set of four (4) acceptance cylinders shall be prepared for each day's placing of each strength of concrete and if more than 50 cubic yards of concrete is placed in any day, there shall be an additional set of cylinders prepared for each 50 cubic yards placed or for any fraction thereof. One cylinder shall be broken at seven days and two at twenty-eight days, with one cylinder held in reserve.
  - 3. Responsibilities in Inspection:
    - a. Laboratory's Duties
      - 1.) The reception and marking of specimens in the laboratory, laboratory curing, preparation for breaking and testing of cylinders shall be the responsibility of the laboratory and shall be performed by qualified laboratory personnel, observing all requirements of applicable ASTM Standards. Compression test specimens shall be tested in accordance with ASTM C39.
      - 2.) Prior to the commencement of concrete work, the laboratory shall provide initial instruction in the performance of sampling and testing duties for an employee designated by the Contractor and shall provide him with copies of all ASTM Standards pertinent to his duties.

b. Contractor's Duties:

- 1.) The Contractor shall deliver to the laboratory all materials to be used in required testing. He shall supply wheelbarrows, shovels, mixing boards, shaded work space and similar equipment required for molding test cylinders. He shall provide stable, insulated storage boxes, equipped with thermostatically controlled heat, for storage of cylinders in the first 24 hours after molding.
- 2.) He shall designate an employee, who alone shall perform all operations of sampling concrete, molding test specimens, protecting test specimens for the first 24 hours after molding, and packing and shipping of test specimens. The employee shall make a record of a slump test in connection with each truckload of concrete. The designated employee shall receive initial instruction in the performance of his sampling and testing duties from a representative of the testing laboratory and shall have available copies of all ASTM Standards pertinent to his duties. Sampling shall conform to ASTM C172. Slump tests shall conform to ASTM C143. Compression test specimens shall be made and cured in accordance with ASTM C31.
- 3.) Each set of test cylinders shipped to the laboratory shall be accompanied by a report giving information as to location in the structure of concrete sampled, time and date of sampling, air temperature, slump, class designated nominal strength, air content if applicable, temperature of concrete, truck number, and time batched. Each report shall be signed by the employee making the test and by the Contractor or his representative, certifying that the test specimens have been made by the one designated, fully instructed employee and have been made in accordance with applicable standard specifications.
- 4.) Should any concrete fail to meet the specified strength, have a slump in excess of that required by the design mix for each class of concrete listed under CLASSES OF CONCRETE, or result in voids, honeycombs or otherwise fail to meet the requirements, the Engineer may order the concrete removed, further tests made, or other remedial measures taken, all at the Contractor's expense.

1.03 SHOP DRAWINGS

- A. After making his check the Contractor shall submit to the Engineer one (1) blue line copy of each of placing plans, bending details and bar lists covering all reinforcing steel.
- B. Full information for checking and for proper installation without reference to other drawings shall be included. At splices the amount of lap shall be shown. Location and arrangement of accessories shall be clearly shown. Elevations shall be drawn

for all reinforced masonry and reinforced concrete walls to a scale no smaller than 1/4 inch = 1 foot.

- C. Work shall not proceed before the Contractor has received shop drawings approved by the Engineer. The Contractor shall be responsible for the conformation of all typical and special reinforcing steel details.
- D. Engineer's review is for conformance to the design concept and contract documents. Markings or comments shall not be construed as relieving the Contractor from compliance with the project plans and specifications, nor departures therefrom. The Contractor remains responsible for details and accuracy, for selecting fabrication processes, for techniques of assembly, and for performing his work in a safe manner.
- E. Proposed construction joint shall be clearly indicated on shop drawings and subject to approval of the Engineer.

#### 1.04 INSPECTION

- A. The Contractor shall give the City and Design Engineer 24 hours advance notice before starting to place concrete in any portion of the structure to permit observation. An authorization of the Engineer shall be secured before concrete is placed. Any concrete placed in violation to this provision shall be replaced by new concrete if required by the Engineer.
- B. Prior to notification of the Engineer, the Superintendent shall personally inspect the work and verify that it is ready for observation.
- C. At the time of observation, all reinforcing in the area where concrete is to be poured shall be in place, tied and ready for the placement of concrete. All anchors, sleeves, inserts, etc., shall be securely held in position.

#### 1.05 STORAGE

- A. Reinforcing steel delivered to the job and not immediately placed in forms shall be placed in racks or other supports at least eighteen (18) inches above ground.

### PART 2 - MATERIALS

2.01 CEMENT: Portland cement shall conform to ASTM C150, Type I.

#### 2.02 AGGREGATES

- A. Aggregates for standard weight concrete shall conform to ASTM C33, maximum size: 3/4 inch

#### 2.03 WATER

- A. Mixing water shall be potable



## 2.04 REINFORCING STEEL

- A. Reinforcing bars shall be American manufactured conforming to the requirements of ASTM A615 "Deformed Billet Steel Bars for Concrete Reinforcement", Grade 60.
- B. Welded wire-fabric or cold-drawn wire for concrete reinforcement shall be of American manufacture and shall conform to the requirements of the ASTM A185 "Welded Steel Fabric for Concrete Reinforcement."
- C. Accessories shall conform to the requirements of C.R.S.I. Manual.

## 2.05 READY MIXED STRUCTURAL CONCRETE:

- A. Ready mix concrete shall be mixed and delivered in accordance with these specifications and requirements set forth in ASTM C94. In addition, these following conditions must be met:
  - 1. Concrete shall be normal weight with an ultimate compressive strength at 28 days, and slump as follows:
  - 2. Air entrained concrete shall be used for all structural concrete with the air content not less than 3 percent and no more than 5 percent.
- B. Classes of Concrete:
  - Class A  $f'_c = 3000$  psi Slump 4 inches  $\pm 1$  inch
  - Class AA  $f'_c = 4000$  psi Slump 3 inches  $\pm 1$  inch
  - Class B  $f'_c = 5000$  psi Slump 5 inches  $\pm 1$  inch

## 2.06 EXPANSION JOINT MATERIAL

- A. Expansion joint material at slabs on grade shall be premolded asphalt saturated cellulose fiber or mineral strips conforming to ASTM D1751.

## 2.07 WALL TIES

- A. Ties shall be made with breakback ends or other means of removing the tie end to a depth of at least 1 inch from the concrete surface after the forms are removed.

## 2.08 LIQUID FORM SEALER

- A. Form sealer shall be a standard product compatible with the finish required for exposed concrete and shall contain no paraffin oil or mineral oil.

## PART 3 - FORMWORK

- A. Forms shall conform to the shapes, lines and dimensions of the members as indicated, and shall be substantial and sufficiently tight to prevent leakage of mortar. They shall be braced or tied together so as to maintain position and shape.
- B. Formwork shall be observed by the City and Design Engineer before pouring concrete. Before placing the reinforcement, surfaces of wood forms in contact with the concrete, unless lined, shall receive a thorough coating of form sealer. The

Engineer shall have the right to reject any forms that do not appear to him to be sufficient as to alignment and of producing the required finished surface. Should misalignment of forms or screed, excessive deflection of forms or displacement of reinforcing occur during concrete placing, corrective measures shall be immediately made to the extent, if necessary, that placing operations shall be stopped and concrete removed from within forms. The surfaces to required dimensions and cross section. Exposed lines and surfaces shall not vary from dimensions shown on plans by more than 1/4 inch in twenty feet.

- C. Forms may be constructed of wood or metal. Earth forms for footings may be permitted if local conditions are favorable, and approved by the Engineer. Form work for exposed concrete shall be form grade plywood.
- D. Studs, waler, and ties shall be so spaced that the load of wet concrete will not stress ties beyond the printed working load recommended by the manufacturer not cause spans of form material to deflect from a true surface.
- E. The Contractor shall maintain a continuous check upon formwork during the placing of concrete. An instrument check shall be periodically made or "Tattle Tail" rods or other devices shall be used to detect any settlement in forms.
- F. Conduits in Concrete: Conduits shall not displace reinforcing steel from its intended position, nor impair the strength of the structure and should be isolated.
- G. The Contractor shall assume all responsibility for removal of formwork. Elevated concrete slabs shall attain 70% of the specified ultimate strength before removing the forms. After removing forms, slabs shall be reshored at mid-span and at all points under shores supporting forms for the work above. No floor shall be loaded in excess of the live load for which designed unless adequate shores are place beneath members supporting the concrete of load.

### 3.02 PLACING REINFORCING STEEL

- A. Reinforcement shall be shop fabricated, accurately positioned and secured with not less than 16 gauge annealed wire or suitable clips.
- B. No bars, partially embedded in concrete shall be field bent, unless noted otherwise.
- C. Reinforcing bars shall be accurately placed and secured in position by approved chairs, spacers or ties to maintain the position of the reinforcing steel prior to and during placing of concrete.
- D. Reinforcing steel support chairs and bolsters for use in concrete to be exposed shall have galvanized steel leg.
- E. No splices shall be made, except as shown on approved Shop Drawings or approved in writing by the Engineer.
- F. The placement of reinforcement shall be observed by the City and Design Engineer before pouring of concrete. Should there be any delay in the work, reinforcement previously placed shall be reinspected and cleaned if necessary before concrete placement is resumed.

- G. Metal reinforcement shall be protected by concrete cover. Where not otherwise shown, the thickness of concrete over the reinforcement shall be as follows:

Footings	3" clear sides and bottom
Slabs	3/4" clear, top and bottom
Beams	2" clear, all around
Walls	2" clear, both faces
Columns & Piers	2" clear

- H. All splicing or reinforcement not shown shall be approved by the Engineer. Splices shall not be made a point of maximum stress and shall provide sufficient lap to transfer the stress between bars by bond. Hook and bending details, column tie arrangements, etc., shall be as shown by the S.R.A.I. Manual or the ACI Detail Engineering Manual.
- I. Wire mesh reinforcing shall be placed one inch from top of concrete slabs on ground. Lap all joints 12 inches and extend mesh to within 1 inch of sides and ends of slabs.
- J. Wire brush all steel prior to placing concrete.

### 3.03 CONCRETE MIXING AND PLACING

- A. Ready-mix concrete shall conform to ASTM C94. Not more than one hour shall elapse between the time mixing water is added to the batch and the concrete is poured. No water shall be added on the job.
- B. No concrete shall be placed until all embedded items and reinforcing have been placed in the forms and observed by the Engineer. At least 24 hour notice shall be given the Engineer of an impending pour, so that he may observe the work, prior to placing.
- C. Concrete shall be conveyed from the mixer to the place of final deposit by methods that will prevent segregation or loss of materials.
- D. Concrete shall be deposited in its final position to avoid segregations and separation do to rehandling or flowing. The placing shall be carried on at such a rate that concrete is at all times plastic and flows readily into the spaces between bars. When placing is once started, it shall be carried on as a continuous operation, until placement of that section is completed.
- E. Concrete shall be worked into and around bars and embedded items with spades, rods, trowels and vibrators, so as to produce a solid homogeneous mass, free of voids, pockets or honeycombs.
- F. Construction joints shall be installed and located as indicated. Where a joint occurs, the surface of the concrete shall be thoroughly cleaned and all laitance removed and shall be left rough or mechanically roughened, thoroughly wetted and slushed with a coat of neat cement grout immediately before placement of new concrete.
- G. All embedded items, including anchor bolts and dowels, shall be in place, preset and held in position, before any concrete is placed.

- H. No concreting shall be performed when ambient temperatures are below 40° F or if the temperature is predicted by the local U.S. Weather Bureau will fall below 40°F within 24 hours after the time of installation.
- I. No concrete shall be installed against frozen ground. All foundation cavities and slab areas that have frozen, shall be thoroughly clean of all loose earth prior to pouring concrete.
- J. All newly poured concrete shall be protected from freezing or near freezing weather during the cure period.
- K. Hot weather precautions shall be taken whenever the maximum air temperature exceeds 80°F during the day. Hot weather concreting shall be performed in accordance with ACI 305.

#### 3.04 ANCHORAGE

- A. Slots, inserts, and connections elements for anchoring items to concrete shall be built into forms before placing concrete.

#### 3.05 SLABS ON GRADE

- A. Concrete shall be compacted, screeded to grade, and prepared for the specified finish. Slabs shall be placed in panels in alternate checkerboard pattern or in alternate lanes divided into panels. Each panel shall be approximately square terminated by slab joints.
- B. Contraction joints shall be true to line 1/8 inch wide, and of depth equal to approximately 1/4 of the slab thickness. Joints shall be sawed or formed.

#### 3.06 CURING

- A. Provisions shall be made for maintaining concrete in a moist condition for at least 10 days after the placement of the concrete, or by one of the following methods:
  - 1. Spraying with water or ponding
  - 2. Using moisture retaining covers
- B. The spraying water shall be applied on unformed surfaces within one hour after the forms are stripped and the spraying shall be continuous. The moisture retaining cover shall be applied on unformed surfaces immediately after the concrete is finished. If there is any delay, the concrete shall be kept moist until the application is made. If the surfaces are formed, the forms shall be removed and the concrete sprayed lightly with water before the cover is applied.
- C. When concrete surfaces are to receive applied finishes of materials, all curing compounds shall be checked for compatibility with other material to be applied to the concrete surfaces before application.

### 3.07 CONCRETE FINISHES

- A. All poured joints, voids, honeycombs and other imperfections shall be patched within the same working day that forms are removed.
- B. Troweled Finish:
  - 1. Troweled finish shall be applied to the surface of all floors unless ceramic tile, quarry tile or pavers are called for on finish schedule.
  - 2. Floor slabs shall be screeded to an even surface by the use of straight-edge and screeding strips accurately set to the proper grade. The concrete shall be floated with a wood float in a manner which will compact it and produce a surface free from depressions or inequalities of any kind. Floors shall be level with a tolerance of 1/8 inch in 10 feet except where drains are indicated. After the concrete has hardened sufficiently to prevent fine materials from working to the top and has been allowed to stand until all water sheen has disappeared, it shall be steel troweled. Final troweling shall be done after the concrete is hard enough that no mortar accumulates on the trowel and a ringing sound is produced as the trowel is drawn over the surface. The drying of the surface moisture before troweling shall proceed naturally and shall not be hastened by the dusting on of dry sand or cement.
- C. Non-slip Finish: All exterior platforms and step treads shall be made non-slippery by application at not less than 1/4 lb. per sq. ft. of aluminum oxide or emery aggregate graded from particles retained on a #50 mesh screen to particles passing an 1/8 inch screen placed during the finishing process. Abrasive aggregate shall be sprinkled by hand as soon as the freshly placed cement will support the weight of workmen and floated into the surface.
- D. Unfinished Slabs: Depressed slab areas to receive ceramic quarry tile or pavers shall be finished to remove all laitance and to leave a slightly roughened, surface to insure bond. The surface of the slab shall not vary in any direction more than 1/8 inch when tested with a ten foot straight edge. The straight edge shall be lapped one half its length as the test is being made.

### 3.08 CONCRETE FLOOR HARDENER

- A. All concrete floor slabs shall be cured with concrete floor hardener, "Clear Bond", as manufactured by Guardian Chemical, "Triple-Cure" by Cobra Chemicals, or "Seal tight Cs-309 by W.R. Meadows. The floor hardener shall be applied in strict accordance with the manufacturer's recommendations.
- B. Walks shall be tooled, full 1 inch deep into separate slabs as indicated. Surface edges of each slab shall be rounded to approximately 1/4 inch radius.
- C. Final finish shall be a medium or light broom finish and all tool marks completely removed.
- D. Expansion joints shall be placed a maximum 20 ft. intervals and at all intersections with steps, curbs other walks or abutting structures. Joints shall extend from the surface to the subgrade at right angles to the sidewalk.

- E. Expansion joint filler shall be 1/2 inch thick and as wide as the full width and depth of the sidewalk.