

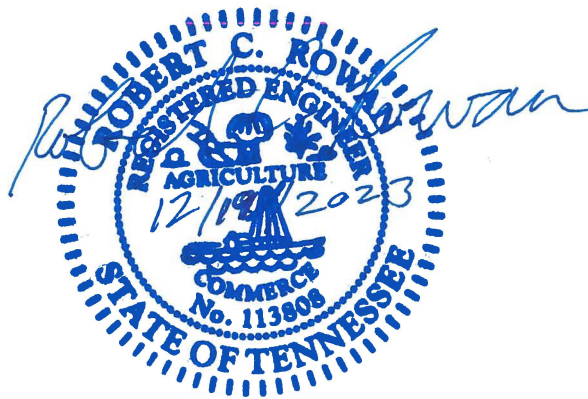


## **Project Manual For**

# **Robert C. Jackson Dr. & Big Springs Rd. Signalization Bid No. 36-23**

**Invitation to Bidders, Instructions for Bidders,  
Bid Form, Bid Bond, Agreement, Performance Bond, and  
Technical Special Provisions**

Prepared By:  
Chuck Rowan, P.E.



**December 19<sup>th</sup>, 2023**

**The City of Maryville, Tennessee  
Engineering & Public Works Department  
416 West Broadway  
Maryville, TN 37801  
Phone: (865) 273-3500  
[www.maryvillegov.com](http://www.maryvillegov.com)**



<b><u>INDEX TO CONTRACT DOCUMENTS</u></b>	<b><u>SECTION</u></b>
TITLE SHEET	A
INDEX	B
INVITATION TO BIDDERS	C
INSTRUCTIONS FOR BIDDERS	D
*Drug Free Workplace Affidavit	
*Business Tax License Affidavit	
*Title VI Compliance	
*Iran Divestment Act Improvements	
*Non-Boycott of Israel	
*Non-Collusion Affidavit	
*Debarment Certification Form	
*W-9 Form	
BID FORM	E
*Bid Form	
*Work Reference Form	
*Bid Envelope Cover	
*BID BOND	F
AGREEMENT	G
PERFORMANCE BOND	H
PAYMENT BOND	I
STANDARD GENERAL CONDITIONS	J
SUPPLEMENTARY CONDITIONS	K
TECHNICAL SPECIFICATIONS & SPECIAL PROVISIONS	L
APPENDIX	

PLAN SET

\*Items must be completed and turned in with a bid.



# INVITATION TO BIDDERS

Date December 19<sup>th</sup>, 2023

## **INVITATION TO BIDDERS**

PROJECT: Robert C. Jackson Dr & Big Springs Rd Signalization  
Maryville, TN **BID # 36-23**  
Project Location: Intersection at Robert C. Jackson Dr. & Big Springs Rd  
Maryville, TN

ENGINEER: City of Maryville Engineering & Public Works Department  
Chuck Rowan, P.E.

OWNER: City of Maryville, Tennessee

Sealed bids will be received by the Purchasing Agent at the City of Maryville Municipal Building in the Engineering Conference Room (lower level) - 416 W. Broadway Ave., Maryville, Tennessee, 37801 - until **1:30 p.m., local time, January 9th, 2024**, at which time bids will be publicly opened and read aloud. **Sealed bids shall include both a paper copy and a digital copy of the completed bid documents on a USB flash drive in the bid envelope.**

The successful bidder will provide a fully functional signalized intersection which includes but not limited to the installation of mast arms, video detection, pavement markings, and fiber communications. Existing sidewalks will need to be rebuilt to meet ADA guidelines.

No bids will be received or accepted after the above specified time for the opening of Bids. Bids submitted after the designated hour will be deemed invalid and rejected.

Electronic copies of BIDDING DOCUMENTS may be examined and downloaded from both the City of Maryville and the Knoxville Builders Exchange. Bidders are not required to purchase a set of bid documents, however the appropriate forms must be printed and filled out as described in the Instructions for Bidders.

Engineering &  
Public Works Department  
City of Maryville  
416 W. Broadway Ave.  
Maryville, TN 37801  
(865) 273-3500  
[www.maryvillegov.com/ bid-opportunities.html](http://www.maryvillegov.com/bid-opportunities.html)

Knoxville Builders Exchange  
300 Clark Street  
Knoxville, TN. 37921  
(865) 525-0443  
[www.bxtn.org](http://www.bxtn.org)

BIDS shall be accompanied by a BID Guarantee bond in the amount of no less than ten percent (10%) of the BID made payable to City of Maryville, OWNER, and subject to the conditions provided in the INSTRUCTION FOR BIDDERS. Bidders should submit with their bid all documents referenced in INSTRUCTION FOR BIDDERS section 2.4, as required by TCA Section 50-9-113.

The successful bidder will be required to furnish an acceptable Performance and Payment Bond in the amount of one hundred percent (100%) of the contract price, each bond.

The project herein described as the base bid is to be completed within **two-hundred ten (210) calendar days** after the date when the Contract Time commences to run. Please see the Technical Specifications for further scheduling requirements. Liquidated damages for delay of completion of contract will be in accordance with the Agreement (Contract).

All bidders must be able to demonstrate before the award of the contract that the proposer (and subcontractors if applicable) has all appropriate licenses and certifications required in the State of Tennessee to perform the Services.

This project is funded by the City of Maryville.

The Contractor shall comply with all State, Federal, and Local laws and/or regulations.

The OWNER reserves the right to waive any irregularities or reject any or all bids.

The City of Maryville does not discriminate based on race, color, or national origin in federal or state approved programs, pursuant to Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d).

CITY OF MARYVILLE  
400 W. Broadway Avenue  
Maryville, Tennessee 37801



# **INSTRUCTIONS FOR BIDDERS**

## **INSTRUCTIONS FOR BIDDERS**

### **1. DEFINED TERMS**

Terms used in these Instructions for Bidders which are defined in the Standard General Conditions of the Construction Contract, NSPE-ACEC Document EJCDC C-700 (2013 edition) have the meanings assigned to them in the General Conditions. The term "Successful Bidder" means the lowest, qualified, responsible Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

### **2. COPIES OF BIDDING DOCUMENTS**

- 2.1 Complete sets of the Bidding Documents may be downloaded from the City of Maryville website ([www.maryvillegov.com/bid-opportunities.html](http://www.maryvillegov.com/bid-opportunities.html)) or the Knoxville Builders Exchange website ([www.bxtn.org](http://www.bxtn.org)). Prospective bidders shall check the websites for addenda prior to submission of bids.
- 2.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.3 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids on the work and do not confer a license or grant for any other use.
- 2.4 The bidder is not required to purchase a set of printed bid documents from the City of Maryville. It shall be the responsibility of the bidder to print and fill out appropriate bid documents which include the following:
  - 1) Bid Form (including work reference form, envelope cover, bid schedule, etc.)
  - 2) Bid Bond
  - 3) Title VI Compliance Form
  - 4) Drug Free Workplace Affidavit
  - 5) Business Tax License Affidavit
  - 6) Iran Divestment Act Improvements
  - 7) Non-Boycott of Israel
  - 8) Non-Collusion Affidavit
  - 9) Debarment Certification Form
  - 10) W-9 Form

### **3. QUALIFICATIONS OF BIDDERS**

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five (5) days of Owner's request written evidence of the types set forth in Supplementary Conditions, such as financial data, previous experience and evidence of authority to conduct business in the jurisdiction where the Project is located. Each Bid must contain evidence of Bidder's qualifications to do business

in the state where the Project is located or covenant to obtain such qualifications prior to award of the contract.

#### **4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

- 4.1. Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself or herself with federal, state and local laws, ordinance, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (c) study and carefully correlate Bidder's observations with the Contract Documents.
- 4.2. Reference is made to the Supplementary Conditions for the identification of those reports of investigations and test of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by the Engineer in preparing the Drawings and Specifications. Owner will make copies of such reports available to any Bidder requesting them. These reports are not guaranteed as to accuracy or completeness, nor are they part of the contract Documents. Before submitting his or her Bid, each Bidder will, at their own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his or her Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- 4.3. On request, Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of this Bid.
- 4.4. The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by Contractor in performing Work are identified in the Supplementary Conditions, General Requirements, or Drawings.
- 4.5. The submission of a Bid will constitute an incontrovertible representation by the Bidder that he or she had complied with every requirement of this Article 4 and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

#### **5. INTERPRETATIONS**

All questions about the meaning or intent of the Contract Documents shall be submitted to the Engineer in writing. Replies will be issued by Addenda mailed or delivered to all parties recorded by the Engineer as having received the Bidding Documents. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

#### **6. BID SECURITY**

- 6.1. Bid Security shall be made payable to Owner, in an amount of ten percent (10%) of the Bidder's maximum Bid price and in the form of a certified Bid Bond (on form attached, if a form is prescribed) issued by a Surety meeting the requirements of paragraph 5.1. of the General Conditions.



- 6.2. The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within 15 days of the Notice of Award, Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of any Bidder whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh day after the "effective date of the Agreement" (which term is defined in the General Conditions) by Owner to Contractor and the required contract Security is furnished or the sixty-first (61st) day after the Bid opening. Bid Security of other Bidders will be returned within seven days of the Bid opening.

**7. CONTRACT TIME**

The number of days within which, or the date by which, the Work is to be completed (the Contract Time) is set forth in the Bid Form and will be included in the Agreement.

**8. LIQUIDATED DAMAGES**

Provisions for liquidated damages, if any, are set forth in the Agreement.

**9. SUBSTITUTE MATERIAL AND EQUIPMENT**

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or equal" items. When it is indicated in the Drawings or specified in the Specifications that a substitute or "or equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, applications for such acceptance will not be considered by Engineer until after the "effective date of the Agreement". The procedure for submittal of any such applications by Contractor and consideration by Engineer is set forth in paragraphs 6.7, 6.7.1 and 6.7.2 of the General Conditions which may be supplemented in the General Requirements.

**10. SUBCONTRACTORS, ETC.**

- 10.1 If the Supplementary Conditions require the identity of certain Subcontractors and other persons or organizations to be submitted to Owner in advance of Notice to Award, the apparent Successful Bidder, and any other Bidder so requested, will within seven (7) days after the day of the Bid opening submit to Owner a list of all Subcontractors and other persons or organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the Work as to which such identifications is so required. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualifications for each such Subcontractor, person or organization if requested by the Owner. If Owner or Engineer after due investigation has reasonable objection to any proposed Subcontractor, other person or organization, either may before giving the Notice of Award request the apparent

successful Bidder to submit an acceptable substitution, the contract shall not be awarded to such Bidder, but his declining make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor, other person or organization so listed and to who Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer.

- 10.2 In contracts where the Contract Price is on the basis of Cost-of-the-work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to Owner those portions of the work that such Bidder proposes to subcontract and after the Notice of award, may only subcontract other portions of the Work with Owner's written consent.
- 10.3 No Contractor shall be required to employ any Subcontractor, other person or organization against whom he has reasonable objection.

## **11. BID FORM**

- 11.1. The Bid Form is attached hereto; additional copies may be obtained from Engineer.
- 11.2. Bid Forms must be completed legibly in ink or electronically. The Grand Total on the Bid Form must be stated in both words and numerals; in case of a conflict, words will take precedence.
- 11.3. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 11.4. Bids by partnership must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- 11.5. All names must be typed or printed below the signature.
- 11.6. The Bid shall contain an acknowledgement of receipt of all Addenda (the number of which shall be filled in on the Bid Form).
- 11.7. The address to which communications regarding the Bid are to be directed must be shown.

## **12. SUBMISSION OF BIDS**

Bids shall be submitted at the time and place indicated in the Invitation to Bid. Bidders should use the BID ENVELOPE COVER document included in the Bid Form and also include it within the PDF document.

Bids must be accompanied by the Bid Security and other required documents. A scanned pdf of all forms is required.

**13. MODIFICATION AND WITHDRAWAL OF BIDS**

- 13.1. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered in the same manner as is required of the original bid.
- 13.2. If, within twenty-four hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of his Bid, that Bidder may withdraw his Bid and the Bid Security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work.

**14. OPENING OF BIDS**

Bids will be opened and tabulated at the time stated in the Invitation to Bidders. An abstract of the amounts of the base Bids and major alternates (if any) will be made available after the opening of Bids.

**15. BIDS TO REMAIN OPEN**

All Bids shall remain open for sixty (60) days after the day of the Bid opening, but Owner may, in his sole discretion, release any Bid and Return the Bid Security prior to that date.

**16. AWARD OF CONTRACT**

- 16.1. Owner reserves the right to reject any and all Bids, to waive any and all irregularities and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, non-responsive or conditional Bids. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
- 16.2. In evaluating Bids, Owner shall consider the qualification of the Bidders, whether or not the Bids comply with the prescribed requirements, and alternates and unit prices if requested in the Bid forms. It is Owner's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid form but Owner may accept them in any order or combination.
- 16.3. Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity to Subcontractors and other persons and organizations must be submitted as provided in the Supplementary Conditions. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may

also be considered by Owner.

- 16.4. Owner may conduct such investigations as he deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of the Bidders, proposed Subcontractors and other persons and organizations to do the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.
- 16.5. Owner reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to Owner's satisfaction.
- 16.6. If the contract is to be awarded, it will be awarded to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interest of the Project.
- 16.7. If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within sixty (60) days after the day of the Bid opening.

## **17. PERFORMANCE AND OTHER BONDS**

Paragraph 5.1 of the General Conditions and Supplementary Conditions set forth Owner's requirements as to performance and other Bonds. When the Successful Bidder delivers the executed Agreement to Owner it shall be accompanied by the required Contract Security.

## **18. SIGNING OF AGREEMENT**

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by at least three unsigned counterparts of the Agreement and all other Contract Documents. Within fifteen days thereafter Contractor shall sign and deliver at least three counterparts (or number required by Engineer) of the Agreement to Owner with all other contract Documents attached. Within ten days thereafter Owner will deliver all fully signed counterparts to Engineer. Engineer will identify those portions of the Contract Documents not fully signed by Owner and Contractor and such identification shall be binding on all parties.

## **19. SPECIAL LEGAL REQUIREMENTS**

- (a) Statements required by federal, state or local law or regulations or funding agency or appropriate reference thereto;
- (b) Bid pricing requirements on base bid alternative, cash allowances (see paragraph 11.10 of General Conditions), unit prices and acceptable combinations;
- (c) Pre-purchasing by Owner and subsequent assignment of purchase order to Contractor;
- (d) Owner's special tax exemption;

- (e) Detailed description of Work with cross-reference to General Requirements: and
- (f) Division of Work into separate parts with cross reference to General Requirements.

20. **FOUR HOUR BIDDING PRACTICES CODE FOR RECEIVING SEALED BIDS ON MUNICIPAL UTILITIES CONSTRUCTION WORK IN TENNESSEE**

The Municipal-Utilities Contractors of Tennessee have adopted bidding practice codes in an endeavor to create an atmosphere of confidence and mutual respect among municipal-utilities contractors, subcontractors, equipment and materials suppliers and will encourage fair and equitable dealings within the industry in keeping with the principals of competitive free enterprise.

Compliance with these procedures of giving and receiving prices on subcontracts, materials and equipment in sufficient time to allow the contractor to analyze and evaluate sub-bids, material and equipment prices, and his own bid, prior to bid filing is requested and encouraged. Copies of the Bidding Practices Code may be secured through the Tennessee Contractor's Association.

21. **FORTY-EIGHT (48) HOUR NON-CONTACT PERIOD**

Questions or other inquiries regarding these plans and specifications prior to bidding shall be submitted a minimum of 48 hours prior to bid opening. Any questions submitted after this time will not be accepted or responded to, at the discretion of the Engineer or the Owner.

22. **DRUG-FREE WORKPLACE AFFIDAVIT OF PRIME BIDDER**

If a Contractor has five (5) or more employees receiving pay, the Contractor shall have a drug-free workplace program that complies with Title 50, Chapter 9 of the Tennessee Code Annotated. (Affidavit attached).

23. **TITLE VI COMPLIANCE**

**The City of Maryville does not discriminate based on race, color or natural origin in federal or state approved programs, pursuant to Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d).** A Title VI Disclosure must be included with the bid to assist the City of Maryville with compliance with Title VI of the Civil Rights Act of 1964. (Disclosure attached).

24. **IRAN DIVESTMENT ACT**

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to § 12-12-106.”



# **DRUG-FREE WORKPLACE AFFIDAVIT**



*Engineering & Public Works*  
416 W. Broadway Avenue Maryville, TN. 37801  
Phone: (865) 273-3500

**DRUG-FREE WORKPLACE AFFIDAVIT OF PRIME BIDDER**

STATE \_\_\_\_\_ COUNTY \_\_\_\_\_

Comes the affidavit after having first been duly sworn and testifies as follows:

1. My name is \_\_\_\_\_. I hold the principal office of \_\_\_\_\_  
\_\_\_\_\_ for \_\_\_\_\_.  
(Name of Principal Office) (Name of Bidding Entity)
2. \_\_\_\_\_ has submitted a bid to the City of Maryville for the  
(Name of Bidding Entity)  
construction of: **Robert C. Jackson Dr & Big Springs Rd Signalization**
3. \_\_\_\_\_ employs no less than five (5) employees.  
(Name of Bidding Entity)
4. In accordance with Tennessee Code Annotated Title 50, Chapter 9-113, this is to certify that  
\_\_\_\_\_ has in effect, at the time of submission of its bid  
(Name of Bidding Entity)  
to perform the City of Maryville project described above, a drug-free workplace program  
that complies with Title 50, Chapter 9 of the Tennessee Code.
5. This affidavit is made on personal knowledge.

Further the affiant saith not this \_\_\_\_ day of \_\_\_\_\_.

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

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

Subscribed and sworn to before me this \_\_\_\_ day of \_\_\_\_\_.

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

My commission expires: \_\_\_\_\_

**NOTE: This affidavit is to be attached to the Bid Form at the time of submission.**



**BUSINESS TAX & LICENSE AFFIDAVIT**  
**Tennessee Code Annotated § 5-14-108(l)**

The undersigned states that they have legal authority to swear this on behalf of \_\_\_\_\_,  
Name of firm or individual  
and that the business is not in any manner  
in violation of Tennessee Code Annotated § 5-14-108(l) which states, *"No purchase shall be made or purchase order or contract of purchase issued for tangible personal property or services by county officials or employees, acting in their official capacity, from any firm or individual whose business tax or license is delinquent."*

Affiant affirms and warrants that their business licenses are currently valid, and all business taxes have been paid and are current as of the date of this affidavit. The business is licensed and pays business taxes in \_\_\_\_\_ County, \_\_\_\_\_.  
Name of State

Business License Number: \_\_\_\_\_

**BUSINESS**

Signature: \_\_\_\_\_

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

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

**Witness**

Signature: \_\_\_\_\_

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



# **TITLE VI DISCLOSURE**



### TITLE VI DISCLOSURE

**NOTE TO BIDDERS:** To assist the City of Maryville's compliance with Title VI of the Civil Rights Act of 1964, you are required to complete the following information and attach it to the submitted bid.

Name/Address of Firm:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ Telephone: (    ) \_\_\_\_\_ - \_\_\_\_\_  
\_\_\_\_\_ Fax: (    ) \_\_\_\_\_ - \_\_\_\_\_  
\_\_\_\_\_

Are you a tax-exempt corporation? Yes \_\_\_\_\_ No \_\_\_\_\_

Exemption Number \_\_\_\_\_

Is your company a small business as defined by the U.S. Small Business Administration?

Yes \_\_\_\_\_ No \_\_\_\_\_

Are you incorporated? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, are you publicly traded? Yes \_\_\_\_\_ No \_\_\_\_\_

Owner's Gender: Male \_\_\_\_\_ Female \_\_\_\_\_

Identify company classification:

American Indian or Alaska Native \_\_\_\_\_ Hispanic or Latino \_\_\_\_\_

Asian \_\_\_\_\_ Native Hawaiian/Pacific Islander \_\_\_\_\_

Black or African American \_\_\_\_\_ Caucasian \_\_\_\_\_

Is your business classified as a Disadvantaged Business? Yes \_\_\_\_\_ No \_\_\_\_\_ Other \_\_\_\_\_

Names of Officers:

President: \_\_\_\_\_

Vice-President: \_\_\_\_\_

Contact Person for this bid: \_\_\_\_\_

Contact Telephone: \_\_\_\_\_



# IRAN DIVESTMENT ACT



## IRAN DIVESTMENT ACT

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to § 12-12-106.

Bid Item/Project Name: Robert C. Jackson Dr & Big Springs Rd Signalization

Bid Date: January 9, 2024

Company Name: \_\_\_\_\_

### **Non-Boycott of Israel Certification**

The Contractor certifies that it is not currently engaged in, and will not for the duration of the contract engage in, a boycott of Israel as defined by Tenn. Code Ann. § 12-4-119. This provision shall not apply to contracts with a total value of less than two hundred fifty thousand dollars (\$250,000) or to contractors with less than ten (10) employees.

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

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

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

# NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

State of \_\_\_\_\_

County of \_\_\_\_\_

I, \_\_\_\_\_, being first duly sworn, deposes and says that:

- (1) Bidder is \_\_\_\_\_ of \_\_\_\_\_,  
(Title) (Name of Company)  
the Bidder that submitted the attached Bid:
- (2) Bidder is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid:
- (3) Such Bid is genuine and is not a collusive or sham Bid:
- (4) Neither said Bidder nor any of its officers, partners, owners, agents, representatives, employees of parties in interest, including this affidavit, has in any way colluded, conspired, connived, or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Maryville or any person interested in the proposed contract: and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees or parties, in interest, including this affiant.

Signature

Title

**SUBSCRIBED AND SWORN BEFORE ME**

**THIS DAY OF , 202 .**

**NOTARY PUBLIC**

## MY COMMISSION EXPIRES

## City of Maryville

### **Contractor Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion**

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 2 CFR 200.213 and 2 CFR Part 417. Copies of the regulations may be obtained online at [www.ecfr.gov](http://www.ecfr.gov).

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS)

- (1) The Contractor/Vendor certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) The Contractor/Vendor acknowledges that this certification applies to all prospective and engaged lower tier covered transactions (subcontracts and subcontractors), and that the Contractor/Vendor will obtain a signed "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- (3) Where the Contractor/Vendor is unable to certify any of the statements in this certification, the Contractor/Vendor shall attach an explanation to this proposal.

Organization Name:

Names(s) and Title(s) of Authorized Representative(s) of the Contractor/Vendor:

Signature(s): \_\_\_\_\_

Date:

#### Instructions for Certification

1. By signing and submitting this form, the contractor is providing the certification set out in accordance with these instructions for both the Contractor/Vendor and any prospective lower tier participant



2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The contractor shall provide immediate written notice to the City of Maryville if at any time the Contractor or any prospective or engaged lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The Contractor/Vendor agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The Contractor/Vendor further agrees by submitting this form that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions. A copy of the "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions" is included in this document.

7. A Contractor/Vendor in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A Contractor/Vendor may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List/Excluded Parties list available at [www.sam.gov](http://www.sam.gov).

# Request for Taxpayer Identification Number and Certification

Give Form to the  
requester. Do not  
send to the IRS.

► Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

Print or type. See Specific Instructions on page 3.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only <b>one</b> of the following seven boxes.  <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____ <b>Note:</b> Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is <b>not</b> disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner. <input type="checkbox"/> Other (see instructions) ► _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):  Exempt payee code (if any) _____  Exemption from FATCA reporting code (if any) _____  <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

## Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

**Note:** If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number											
				-				-			
or											
Employer identification number											
				-							

## Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person ►	Date ►
-----------	----------------------------	--------

## General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

## Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.*

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947



The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

## Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

## Line 6

Enter your city, state, and ZIP code.

## Part I. Taxpayer Identification Number (TIN)

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

## Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.

**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.**

You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

**What Name and Number To Give the Requester**

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee <sup>1</sup>
b. So-called trust account that is not a legal or valid trust under state law	The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

**\*Note:** The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

**Secure Your Tax Records From Identity Theft**

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

**Protect yourself from suspicious emails or phishing schemes.**

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/IdentityTheft](http://www.irs.gov/IdentityTheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.



# BID FORM



**B I D F O R M**

**Project:**

**Robert C. Jackson Dr & Big Springs Rd. Signalization  
in Maryville, TN**

**Bid # 36-23**

**Engineer:**

**Chuck Rowan, P.E.  
City Engineer  
City of Maryville  
Engineering & Public Works**

**This bid is submitted to:**

**Katie Kerr  
Purchasing Agent  
City of Maryville  
414 W. Broadway Ave.  
Maryville, TN 37801**

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Contract Documents to complete all Work as specified or indicated in the Contract Document for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the Contract Documents.

2. BIDDER accepts all of the terms and conditions of the Instructions for Bidders, including without limitations those dealing with the disposition of Bid Security. This Bid will remain open for sixty (60) days after the day of BID opening. BIDDER will sign the Agreement and submit the Contract Security and other documents required by the Contract Documents within fifteen (15) days after the date of OWNER'S Notice of Award.

3. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:

(a) BIDDER has received, read, and examined the following numbered addendum:  
, \_\_\_\_, \_\_\_\_, \_\_\_\_.

(b) BIDDER has examined the site and locality where the Work is to be performed, the legal requirements (federal, state and local laws, ordinances, rules and regulations) and the conditions affecting cost, progress or performance of the Work and has made such independent investigations as BIDDER deems necessary; the Bidder has carefully examined the Plans, the Technical Specifications, the General and Special Conditions, Instructions for Bidders, the Form of Contract, and the form of Contract Bond, and thoroughly understands their stipulations, requirements and provisions.

BIDDER has determined the quality and quantity of materials required; has investigated the location and determined the sources of supply of materials required; has investigated labor conditions; and has arranged for the continuous prosecution of the work herein described.

(c) BIDDER understands that the quantities of work shown herein are approximate only and are subject to increase and decrease and agrees that all quantities of work, whether increased or decreased are to be performed at the unit prices stated in the following Estimate of Quantities and Schedule of Prices for the work described. The Bidder agrees to perform all "Extra Work" which may be required in connection with the construction and completion of the work as required.

(d) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or a corporation to refrain from bidding; and BIDDER has not sought by

collusion to obtain for himself any advantage over any other Bidder or over OWNER.

4. BIDDER understands that a price for each item in the Bid Schedule must be filled in as stated in Instructions for Bidders. Failure to indicate price for alternate, if any, may be grounds for considering the Bid irregular.

5. BIDDER will complete the Work as described in the specifications for the price(s) as shown on the following Bid Schedule:

---

*(SEE BID FORM NEXT SHEET)*

---



**PROJECT: Robert C. Jackson Dr at Big Springs Rd - Signal Plans Project No. 2021-050**

**BID NUMBER: 36-23**

**BID OPENING DATE: January 9, 2024 1:30 PM**

**CONTRACTOR**

**BID SCHEDULE**

<b>TDOT ITEM NO.</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>UNIT PRICE</b>	<b>TOTAL COST</b>
209-99.91	EROSION CONTROL	LS	1		
701-02.03	CONCRETE CURB RAMP	S.F.	600		
712-01	TRAFFIC CONTROL	LS	1		
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	16		
712-06	SIGNS (CONSTRUCTION)	S.F.	146		
712-08.03	ARROW BOARD (TYPE C)	EACH	1		
713-15	REMOVAL OF SIGNS, POSTS AND FOOTINGS	LS	1		
713-15.07	SUSPENDED FLAT SHEET ALUMINUM SIGN (0.080" THICK)	EACH	4		
713-16.20	SIGNS (INTERNALLY ILLUMINATED STREET NAME SIGN)	EACH	4		
713-16.22	SIGNS (W3-3)	EACH	2		
716-02.03	PLASTIC PAVEMENT MARKING (CROSS-WALK)	L.F.	335		
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	150		
716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	EACH	1		
716-02.08	PLASTIC PAVEMENT MARKING (8" DOTTED LINE)	L.F.	215		
716-08.03	REMOVAL OF PAVEMENT MARKING (CROSS-WALK)	L.F.	140		
716-08.05	REMOVAL OF PAVEMENT MARKING (STOP LINE)	L.F.	60		
716-08.06	REMOVAL OF PAVEMENT MARKING (TURN LANE ARROW)	EACH	1		
717-01	MOBILIZATION	LS	1		

BID SCHEDULE					
TDOT ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL COST
725-03.09	ETHERNET SWITCH (TYPE A)	EACH	1		
725-23.25	FIBER OPTIC CLOSURE (72 F)	EACH	1		
725-23.30	FIBER OPTIC TERMINATION CABINET (12 FIBER TERMINATION CABINET)	EACH	1		
730-02.09	SIGNAL HEAD ASSEMBLY (130 WITH BACKPLATE)	EACH	9		
730-02.17	SIGNAL HEAD ASSEMBLY (150 A2H WITH BACKPLATE)	EACH	2		
730-03.21	INSTALL PULL BOX (TYPE B)	EACH	9		
730-03.23	INSTALL PULL BOX (FIBER OPTIC - TYPE A)	EACH	3		
730-03.36	FIBER SPLICE ENCLOSURE (AERIAL)	EACH	1		
730-03.54	FIBER OPTIC DROP CABLE (12F)	L.F.	450		
730-05.01	ELECTRICAL SERVICE CONNECTION	EACH	1		
730-08.01	SIGNAL CABLE - 3 CONDUCTOR	L.F.	2050		
730-08.02	SIGNAL CABLE - 5 CONDUCTOR	L.F.	1325		
730-08.03	SIGNAL CABLE - 7 CONDUCTOR	L.F.	1650		
730-11.10	RISER ASSEMBLY (2" RGS CONDUIT RISER)	EACH	1		
730-11.11	RISER ASSEMBLY (FIBER OPTIC RISER)	EACH	1		
730-12.02	CONDUIT 2" DIAMETER (PVC)	L.F.	350		
730-12.14	CONDUIT 2" DIAMETER (PVC JACK AND BORE)	L.F.	1000		
730-12.16	CONDUIT (2" DIAMETER HDPE)	L.F.	30		
730-12.17	CONDUIT (2" DIAMETER HDPE - JACK AND BORE)	L.F.	250		
730-13.14	VEHICLE DETECTOR (360-DEGREE CAMERA)	EACH	1		
730-15.32	CABINET (EIGHT PHASE BASE MOUNTED)	EACH	1		

BID SCHEDULE					
TDOT ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	TOTAL COST
730-16.04	CONTROLLER (ATC)	EACH	1		
730-23.29	PEDESTAL POLE (TYPE A)	EACH	3		
730-25.01	CANTILEVER SIGNAL SUPPORT (1 ARM @ 45')	EACH	1		
730-25.11	CANTILEVER SIGNAL SUPPORT (1 ARM @ 55')	EACH	1		
730-25.13	CANTILEVER SIGNAL SUPPORT (1 ARM @ 60')	EACH	1		
730-25.16	CANTILEVER SIGNAL SUPPORT (1 ARM @ 75')	EACH	1		
730-26.11	COUNTDOWN PED SGNL HEAD W/AUDBILE PUSH BUTTON & 15IN SIGN	EACH	8		
730-35.06	BATTERY BACK-UP AND POWER CONDITIONER	EACH	1		
BID TOTAL					

(write in words)

6. BIDDER agrees that:

- (a) The work will be substantially completed on or before the dates or within the number of calendar days indicated in the Agreement and the Notice to Proceed; and
- (b) The work will be completed within **two-hundred ten (210) calendar days** for conditional acceptance after the date when the Contract Time commences to run, followed by a 90-day observation period and final acceptance. Please refer to the Technical Special Provisions for further scheduling requirements.

BIDDER accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work on time.

7. The undersigned Bidder submits herewith bid guaranty in an amount of not less than five percent (5%) of the total amount of the proposal offered and agrees and consents that the bid guaranty shall be forfeited to the Owner as liquidated damages if the required contract bond is not executed within fifteen (15) days from the date of the Notice of award and work has not been started as required. The following documents are attached to and made a condition of this BID:

- (a) Required Bid Security in the form of:

\_\_\_ Bid Bond

8. Communications concerning this BID shall be addressed to:

Chuck Rowan, P.E.  
City Engineer  
Engineering & Public Works  
City of Maryville  
416 W. Broadway  
Maryville, TN 37801  
Phone: (865) 273-3500  
Email: [crowan@maryville-tn.gov](mailto:crowan@maryville-tn.gov)

9. The terms used in this Bid which are defined in the General Conditions of the construction Contract included as part of the Contract Documents have the meanings assigned to them in the General Conditions.

## CONTRACTOR LICENSE INFORMATION PAGE

(Complete and attach to the outside of written bid envelope or attach to electronic bid submittal)

To: **City of Maryville**  
**Purchasing Department**  
**414 West Broadway Avenue**  
Maryville, TN 37804-5906

BID NO:		
PROJECT		
BID DEADLINE DATE AND TIME:		
CONTRACTOR:		
ADDRESS:		
CITY/ST/ZIP:		
TN CONTRACTOR LICENSE NO:		LICENSE CLASSIFICATION(S):
EXPIRATION DATE:		LICENSE LIMITATION(S): \$
<b>List below the Subcontractors to be used on this project, or check "N/A" if no subcontractors are to be used.</b>		
ELECTRICAL <input type="checkbox"/> <b>N/A</b>	Subcontractor:	License No:
	Classification/Limitation:	Expiration Date:
TRAFFIC CONTROL <input type="checkbox"/> <b>N/A</b>	Subcontractor:	License No:
	Classification/Limitation:	Expiration Date:
CONCRETE <input type="checkbox"/> <b>N/A</b>	Subcontractor:	License No:
	Classification/Limitation:	Expiration Date:
PAVEMENT MARKINGS <input type="checkbox"/> <b>N/A</b>	Subcontractor:	License No:
	Classification/Limitation:	Expiration Date:
OTHER <input type="checkbox"/> <b>N/A</b>	Subcontractor:	License No:
	Classification/Limitation:	Expiration Date:



SUBMITTED on \_\_\_\_\_, 2024.

If BIDDER is:

An Individual

By \_\_\_\_\_ (SEAL)  
(Individual's Name)

doing business as \_\_\_\_\_

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

Phone No.: \_\_\_\_\_

A Partnership

By \_\_\_\_\_ (SEAL)  
(Firm Name)

\_\_\_\_\_  
(General Partner)

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

Phone No.: \_\_\_\_\_

A Corporation

By \_\_\_\_\_  
(Corporation Name)

\_\_\_\_\_  
(State of incorporation)

By \_\_\_\_\_  
(Name of Person Authorized to Sign)

\_\_\_\_\_  
(Title)

(Corporate Seal)

Attest \_\_\_\_\_  
(Secretary)

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

Phone No.: \_\_\_\_\_

A Joint Venture

By \_\_\_\_\_  
(Name)

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

By \_\_\_\_\_  
(Name)

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

(Each joint venturer must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)

## WORK REFERENCE FORM

WORK REFERENCE: \_\_\_\_\_  
(Name of Bidder)

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

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

	Owner	Contact Telephone #	Project Name
2023			
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
2022			
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
2021			
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
2020			
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____



# BID BOND

## B I D   B O N D

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, as CONTRACTOR, and \_\_\_\_\_ as Surety, are hereby held and firmly bound unto the City of Maryville, Tennessee, as OWNER in the penal sum of \_\_\_\_\_ for payment of which, well and truly to be made, were hereby jointly and severally bind ourselves, successors and assigns.

Signed, this \_\_\_\_ day of \_\_\_\_\_.

The Condition of the above obligation is such that whereas the principal has submitted to a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for construction of:

### **Bid # 36-23 Robert C. Jackson Dr. & Big Springs Rd. Signalization**

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the CONTRACTOR shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respect perform the agreement created by the acceptance of said BID,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the CONTRACTOR and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

\_\_\_\_\_  
CONTRACTOR

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

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

\_\_\_\_\_  
Surety

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

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

Note: Bond may be declared invalid if not accompanied by Power of Attorney.



# AGREEMENT

## AGREEMENT

THIS AGREEMENT, made this \_\_\_\_ day of \_\_\_\_\_, 2024, by and between the City of Maryville, Tennessee, hereinafter called "OWNER" and \_\_\_\_\_ doing business as a corporation, hereinafter called "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

**ARTICLE 1. WORK.** The contractor will perform all Work as shown in the Contract Documents for the Completion of the Project generally described as follows:

### **Bid # 36-23 Robert C. Jackson Dr. & Big Springs Rd. Signalization**

**ARTICLE 2. ENGINEER.** This project has been designed by Mark Washing, P.E., Barge Design Solutions. Chuck Rowan, P.E., City Engineer, will act as the ENGINEER in connection with completion of the project in accordance with the Contract Documents.

**ARTICLE 3. CONTRACT TIME.** The work shall be completed within **two-hundred ten (210) calendar days** for conditional acceptance after the date which the Contractor is to start the work as provided in the Contract Documents. **The Notice to Proceed will be given within 2 weeks of receipt of completed contract documents.** Please see the Technical Specifications for further scheduling requirements.

**LIQUIDATED DAMAGES:** If the Contractor shall fail to complete the work within the time stipulated in this Agreement, including any extensions of time for excusable delays as provided for in the Supplemental General Conditions, the Contractor shall pay to the Owner liquidated damages in the stipulated amount of \$100.00/day for each calendar day of delay, until the work is substantially completed.

**ARTICLE 4. CONTRACT PRICE.** The OWNER will pay the CONTRACTOR for performance of Work and completion of the Project in accordance with the Contract Documents subject to adjustment modifications as provided therein the sum of:

\$ \_\_\_\_\_

as shown in the Bid Schedule.

**ARTICLE 5. PAYMENT PROCEDURES.** The OWNER will make progress payments on account of the Contract Price as provided in the General Conditions as follows:

- 5.1. Progress and final payments will be on the basis of the CONTRACTOR'S Applications for Payment as approved by the ENGINEER.
- 5.2. On or about the 1st day of each month during construction:  
100 % of the Work completed and approved, and

100 % of material and equipment not incorporated in the Work, but delivered and suitably stored, less in each case the aggregate of payments previously made.

- 5.3. Upon Substantial Completion, a sum sufficient to increase the total payments to the CONTRACTOR to 100% of the completed and approved Work, less any amount, as applicable and as determined by the ENGINEER, for any unsettled claims.
- 5.4. Upon Final Completion of the Work and Settlement of all claims, the remainder, if any, of the payment for completed Work of this Contract.

**ARTICLE 6. CONTRACT DOCUMENTS.** The Contract Documents which comprise the contract between the OWNER and CONTRACTOR are attached hereto and make a part hereof and consist of the following:

- 6.1. This Agreement (Pages 1 to 3)
- 6.2. CONTRACTOR'S Bid Form (Pages 1 to 9) and Bid Bond (Page 1 to 2)
- 6.3. Specifications consisting of:
  - Instructions for Bidders (Pages 1 to 9)
  - General Conditions (Page 1 to 65)
  - Supplementary Conditions (Pages 1 to 6)
  - Technical Specifications (Pages 1 to 29)
- 6.4. Plans prepared by Mark Washing, P.E.
- 6.5. Addenda numbers \_\_ to \_\_, and
- 6.6. Any Modifications, including Change Orders, duly delivered after execution of this Agreement.

**ARTICLE 7. MISCELLANEOUS.**

- 7.1. Terms used in this Agreement which are defined in Article A of the General Conditions shall have the meanings indicated in the General Conditions.
- 7.2. Neither the OWNER nor the CONTRACTOR shall, without the prior written consent of the other, assign or sublet in whole or part this interest under any of the Contract Documents and, specifically, the CONTRACTOR shall not assign any moneys due or to become due without the prior written consent of the OWNER.
- 7.3. The OWNER and the CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto in respect of all covenants, agreements and obligations contained in the Contract Documents.
- 7.4. The Contract Documents constitute the entire agreement between the OWNER and the CONTRACTOR and may only be altered, amended or repealed by a duly executed written instrument.



IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in quadruplicate each of which shall be deemed an original on the date first above written.

OWNER \_\_\_\_\_

CONTRACTOR \_\_\_\_\_

By \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Title \_\_\_\_\_

{CORPORATE SEAL}

{CORPORATE SEAL}

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

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

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

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

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



# PERFORMANCE BOND

## **PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, that

---

(Name of Contractor)

---

(Address of Contractor)

a \_\_\_\_\_, hereinafter called Contractor,  
(Corporation, Partnership, Individual, or Joint Venture)  
and \_\_\_\_\_

---

(Name of Surety)

---

(Address of Surety)

hereinafter called Surety, are held and firmly bound onto

---

The City of Maryville  
(Name of Owner)

---

400 W. Broadway, Maryville, TN 37801  
(Address of Owner)

hereinafter called OWNER, in the penal sum of \_\_\_\_\_ Dollars,  
\$(\_\_\_\_\_) in lawful money of the United States, for the payment of which  
sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally,  
firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Contractor has  
entered into a certain contract with the OWNER, dated the \_\_\_\_ day of \_\_\_\_\_, a  
copy of which is hereto attached and made a part hereof for the construction of:

### **Bid # 36-23 Robert C. Jackson Dr. & Big Springs Rd Signalization**

NOW, THEREFORE, if the Contractor shall well, truly and faithfully perform its duties,  
all the undertakings covenants, terms conditions, and agreements of said contract during the  
original term thereof, and any extensions thereof which may be granted by the OWNER, with or  
without notice to Surety and during the one year guaranty period, and if he shall satisfy all claims  
and demands incurred under such contract, and shall fully indemnify and save harmless the  
OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall  
reimburse and repay the OWNER all outlay and expense which the OWNER may incur in  
making good any default, then this obligation shall be void; otherwise to remain in full force and  
effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or additional to the terms of the contract or to the WORK to be performed hereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in (four) counterparts, each one of which shall be deemed an original, this the \_\_\_\_ day of \_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
(Contractor) Secretary

(SEAL)

By \_\_\_\_\_(s)

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

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

\_\_\_\_\_  
Witness to Contractor

\_\_\_\_\_  
Address

\_\_\_\_\_  
Surety

ATTEST:

By \_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
Witness to Surety

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

NOTE: Date of BOND must not be prior to date of Contract.

If CONTRACTOR is Partnership, all partners should execute BOND.

BOND is not valid unless accompanied by Power of Attorney.



# PAYMENT BOND

## PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that

---

(Name of Contractor)

---

(Address of Contractor)

a \_\_\_\_\_, hereinafter called Contractor, (Corporation, Partnership, Individual or Joint Venture)

and \_\_\_\_\_  
(Name of Surety)

---

(Address of Surety)

hereinafter called Surety, are held and firmly bound onto  
The City of Maryville  
(Name of Owner)

---

400 W. Broadway, Maryville, TN 37801  
(Address of Owner)

hereinafter called OWNER, in the penal sum  
of \_\_\_\_\_ Dollars, \$(\_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATIONS is such that whereas, the Contractor has entered into a certain contract with the OWNER, dated the \_\_\_\_ day of \_\_\_\_\_, a copy of which is hereto attached and made a part hereof for the construction of:

### **Bid # 36-23 Robert C. Jackson Dr. & Big Springs Rd. Signalization**

NOW, THEREFORE, if the Contractor shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due to materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed there under or the SPECIFICATIONS accompanying the same shall in any way affect its obligations on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in (four) counterparts each one of which shall be deemed an original, this the \_\_\_\_ day of \_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
CONTRACTOR

\_\_\_\_\_  
(Contractor) Secretary

(SEAL)

By \_\_\_\_\_(s)

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

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

\_\_\_\_\_  
Witness to Contractor

\_\_\_\_\_  
Address

\_\_\_\_\_  
Surety

ATTEST:

By \_\_\_\_\_

Attorney-in-Fact

\_\_\_\_\_  
Witness to Surety

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

NOTE: Date of BOND must not be prior to date of Contract.

If CONTRACTOR is Partnership, all partners should execute BOND.

BOND is not valid unless accompanied by Power of Attorney.

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



Issued and Published Jointly by





These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

Copyright © 2013:

National Society of Professional Engineers  
1420 King Street, Alexandria, VA 22314-2794  
(703) 684-2882  
[www.nspe.org](http://www.nspe.org)

American Council of Engineering Companies  
1015 15th Street N.W., Washington, DC 20005  
(202) 347-7474  
[www.acec.org](http://www.acec.org)

American Society of Civil Engineers  
1801 Alexander Bell Drive, Reston, VA 20191-4400  
(800) 548-2723  
[www.asce.org](http://www.asce.org)

The copyright for this document is owned jointly by the three sponsoring organizations listed above. The National Society of Professional Engineers is the Copyright Administrator for the EJCDC documents; please direct all inquiries regarding EJCDC copyrights to NSPE.

NOTE: EJCDC publications may be purchased at [www.ejcdc.org](http://www.ejcdc.org), or from any of the sponsoring organizations above.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

## TABLE OF CONTENTS

	Page
Article 1 – Definitions and Terminology .....	1
1.01 Defined Terms .....	1
1.02 Terminology .....	5
Article 2 – Preliminary Matters .....	6
2.01 Delivery of Bonds and 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 Initial Acceptance of Schedules .....	7
2.06 Electronic Transmittals.....	7
Article 3 – Documents: Intent, Requirements, Reuse .....	8
3.01 Intent.....	8
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 .....	10
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 .....	11
Article 5 – Availability of Lands; 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 .....	14
5.05 Underground Facilities .....	15

5.06	Hazardous Environmental Conditions at Site.....	17
Article 6 – Bonds and Insurance .....		19
6.01	Performance, Payment, and Other Bonds .....	19
6.02	Insurance—General Provisions .....	19
6.03	Contractor’s Insurance .....	20
6.04	Owner’s Liability Insurance .....	23
6.05	Property Insurance.....	23
6.06	Waiver of Rights .....	25
6.07	Receipt and Application of Property Insurance Proceeds .....	25
Article 7 – Contractor’s Responsibilities .....		26
7.01	Supervision and Superintendence .....	26
7.02	Labor; Working Hours .....	26
7.03	Services, Materials, and Equipment.....	26
7.04	“Or Equals” .....	27
7.05	Substitutes .....	28
7.06	Concerning Subcontractors, Suppliers, and Others .....	29
7.07	Patent Fees and Royalties .....	31
7.08	Permits .....	31
7.09	Taxes .....	32
7.10	Laws and Regulations.....	32
7.11	Record Documents.....	32
7.12	Safety and Protection.....	32
7.13	Safety Representative .....	33
7.14	Hazard Communication Programs .....	33
7.15	Emergencies .....	34
7.16	Shop Drawings, Samples, and Other Submittals.....	34
7.17	Contractor’s General Warranty and Guarantee.....	36
7.18	Indemnification .....	37
7.19	Delegation of Professional Design Services .....	37
Article 8 – Other Work at the Site .....		38
8.01	Other Work .....	38
8.02	Coordination .....	39
8.03	Legal Relationships.....	39

Article 9 – Owner’s Responsibilities .....	40
9.01 Communications to Contractor.....	40
9.02 Replacement of Engineer .....	40
9.03 Furnish Data .....	40
9.04 Pay When Due.....	40
9.05 Lands and Easements; Reports, Tests, and Drawings .....	40
9.06 Insurance .....	40
9.07 Change Orders.....	40
9.08 Inspections, Tests, and Approvals .....	41
9.09 Limitations on Owner’s Responsibilities .....	41
9.10 Undisclosed Hazardous Environmental Condition.....	41
9.11 Evidence of Financial Arrangements.....	41
9.12 Safety Programs .....	41
Article 10 – Engineer’s Status During Construction.....	41
10.01 Owner’s Representative.....	41
10.02 Visits to Site.....	41
10.03 Project Representative.....	42
10.04 Rejecting Defective Work.....	42
10.05 Shop Drawings, Change Orders and Payments.....	42
10.06 Determinations for Unit Price Work .....	42
10.07 Decisions on Requirements of Contract Documents and Acceptability of Work .....	42
10.08 Limitations on Engineer’s Authority and Responsibilities.....	42
10.09 Compliance with Safety Program.....	43
Article 11 – Amending the Contract Documents; Changes in the Work.....	43
11.01 Amending and Supplementing Contract Documents .....	43
11.02 Owner-Authorized Changes in the Work .....	44
11.03 Unauthorized Changes in the Work .....	44
11.04 Change of Contract Price .....	44
11.05 Change of Contract Times .....	45
11.06 Change Proposals .....	45
11.07 Execution of Change Orders.....	46
11.08 Notification to Surety.....	47
Article 12 – Claims.....	47

12.01	Claims .....	47
Article 13 – Cost of the Work; Allowances; Unit Price Work .....		48
13.01	Cost of the Work .....	48
13.02	Allowances .....	50
13.03	Unit Price Work .....	51
Article 14 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work .....		52
14.01	Access to Work .....	52
14.02	Tests, Inspections, and Approvals .....	52
14.03	Defective Work .....	53
14.04	Acceptance of Defective Work .....	53
14.05	Uncovering Work .....	53
14.06	Owner May Stop the Work .....	54
14.07	Owner May Correct Defective Work .....	54
Article 15 – Payments to Contractor; Set-Offs; Completion; Correction Period .....		55
15.01	Progress Payments .....	55
15.02	Contractor’s Warranty of Title .....	58
15.03	Substantial Completion .....	58
15.04	Partial Use or Occupancy .....	59
15.05	Final Inspection .....	59
15.06	Final Payment .....	59
15.07	Waiver of Claims .....	61
15.08	Correction Period .....	61
Article 16 – Suspension of Work and Termination .....		62
16.01	Owner May Suspend Work .....	62
16.02	Owner May Terminate for Cause .....	62
16.03	Owner May Terminate For Convenience .....	63
16.04	Contractor May Stop Work or Terminate .....	63
Article 17 – Final Resolution of Disputes .....		64
17.01	Methods and Procedures .....	64
Article 18 – Miscellaneous .....		64
18.01	Giving Notice .....	64
18.02	Computation of Times .....	64
18.03	Cumulative Remedies .....	64

18.04	Limitation of Damages .....	65
18.05	No Waiver .....	65
18.06	Survival of Obligations .....	65
18.07	Controlling Law .....	65
18.08	Headings.....	65

## 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 form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting 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, or both; 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, or both; 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; or (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. 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), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree 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 the 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. *Engineer*—The individual or entity named as such in the Agreement.
21. *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.
22. *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. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.



24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *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.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *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.
28. *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.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
30. *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.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.
33. *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.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.
35. *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.
36. *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.

37. *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 furnished by Owner which are designated for the use of Contractor.
38. *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.
39. *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.
40. *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 thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, 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.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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.

48. *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 the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. 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:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
    - a. does not conform to the Contract Documents; or
    - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
    - c. 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 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean 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, shall mean 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, shall mean 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. 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 Bonds and Evidence of Insurance***

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), 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 executed 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 specifically 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 *Initial 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 for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall 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.

#### 2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items 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 items, or from those established in applicable transmittal protocols.

### **ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE**

#### **3.01 *Intent***

- A. The Contract Documents are complementary; what is required by one 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 or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall 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.

#### **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, shall mean 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, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, 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, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 Documents 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 Documents 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 shall 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 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 thereunder.
- 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 give written notice to Owner and Contractor 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 editions, 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 shall preclude 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 thirtieth 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 sixtieth day after the day of Bid opening or the thirtieth 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 shall 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 shall 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 shall 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 the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the 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. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall 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 utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
  4. acts of war or terrorism.
- D. 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.
- E. Paragraph 8.03 governs 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.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times 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.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

## **ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

### **5.01 *Availability of Lands***

- A. Owner shall furnish the Site. Owner shall notify Contractor 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; 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 7.12, 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 at law; 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 shall 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 known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
  - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); 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 upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or
  - 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.

#### 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 either:
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; or
  2. is of such a nature as to require a change in the Drawings or Specifications; or
  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 the necessity of Owner's obtaining 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 above; 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. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, 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 conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
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; or
  - 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 as 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, or both, then any such adjustment shall 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, or both, 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.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
  1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
  2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
    - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
    - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
    - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
    - d. 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 in the Contract Documents, or was not shown or indicated 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), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; 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 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. *Possible Price and Times Adjustments:*
  - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, 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. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
    - 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;
    - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
    - d. 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, or both, then any such adjustment shall 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, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
  2. 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 Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. 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; or
  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, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, 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.
- 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 or 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.H shall obligate 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 shall obligate 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 all of Contractor's obligations under the Contract. These bonds shall 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 Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, 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 shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. 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.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

### 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. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements 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 and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. 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, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect 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 shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

#### 6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
  - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
  - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
  - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
  2. claims for damages insured by reasonably available personal injury liability coverage.
  3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
    - a. Such insurance shall be maintained for three years after final payment.
    - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
  2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
  3. Broad form property damage coverage.
  4. Severability of interest.
  5. Underground, explosion, and collapse coverage.
  6. Personal injury coverage.
  7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
  8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
  - 1. include at least the specific coverages provided in this Article.
  - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
  - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
  - 4. remain in effect at least until final payment (and longer if expressly required in this Article) 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 Documents.
  - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed 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.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

#### 6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. 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.

#### 6.05 *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 full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
  - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
  - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
  - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
  - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
  6. extend to cover damage or loss to insured property while in transit.
  7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
  8. allow for the waiver of the insurer's subrogation rights, as set forth below.
  9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
  10. not include a co-insurance clause.
  11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
  12. include performance/hot testing and start-up.
  13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed 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.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- 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 notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* 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 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

#### 6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers 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. 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 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 Subcontractors, all individuals or entities identified in the Supplementary Conditions as 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. None of the above waivers shall extend 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. 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:
  - 1. loss 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 perils whether or not insured by Owner; and
  - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner 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.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work 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 any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

#### 6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 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 6.05 shall 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, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

## **ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES**

### **7.01   *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. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

### **7.02   *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 at all times maintain good discipline and order at the Site.
- B. 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 shall 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.

### **7.03   *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 shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and



guarantees required by the Specifications shall 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 shall 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.

#### 7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, 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 material or equipment, or items from other proposed suppliers under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that:
      - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
      - 2) it 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) it has a proven record of performance and availability of responsive service; and
      - 4) it is not objectionable to Owner.
    - b. Contractor certifies that, if approved and incorporated into the Work:
      - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
      - 2) it 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 shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

#### 7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment 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 material or equipment under the circumstances described below. To the extent possible such requests shall 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 material or equipment from anyone other than Contractor.
  - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.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 material or equipment that Contractor seeks to furnish or use. The application:
    - a. shall 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 that specified, and
      - 3) be suited to the same use as that 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 that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall 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 shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity 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 five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. 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, Suppliers, or other individuals or entities 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, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, 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, Supplier, or other individual or entity, whether initially or as a replacement, shall 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 fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
2. shall create 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.

7.07 *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 a particular 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 shall be disclosed by Owner 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.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. 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

#### 7.09 *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.

#### 7.10 *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. Except where otherwise expressly required by applicable Laws and Regulations, 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 shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give 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 notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.11 *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.

#### 7.12 *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. 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.
- B. 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. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when 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.
  - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
  - D. 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.
  - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.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).
  - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
  - G. Contractor's duties and responsibilities for safety and protection shall 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.

#### 7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

#### 7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of 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 threatened 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 thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

#### 7.16 *Shop Drawings, Samples, and Other Submittals*

##### A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
  - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
  - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
  - c. determined and verified 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
  - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall 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 submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

##### 1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will 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.D.

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.D.

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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. 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, conform to the information given in 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 shall 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.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 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, shall 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, Sample, or other submittal shall 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.D.4.

E. *Resubmittal Procedures:*

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 submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

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 and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  1. abuse, modification, or improper 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.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
  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. any inspection, test, or approval by others; or
  8. any correction of defective Work by Owner.

- D. 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 shall 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 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 performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury 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 shall 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.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
  - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
  - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

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

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

## **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 utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

## 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 at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner 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, or both. 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 shall 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. When applicable, any such equitable adjustment in Contract Price shall 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 is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- 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. 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 to 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.
- C. 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 to Contractor.

- D. 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 shall 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 Documents (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 10.08. 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 *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 Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *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.

10.07 *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.

10.08 *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, shall 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 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 10.08 shall also apply to the Resident Project Representative, if any.

#### 10.09 *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 (if any) of which Engineer has been informed.

### **ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK**

#### 11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
  - 1. *Change Orders:*
    - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
    - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not 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, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
  - 2. *Work Change Directives:* 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 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: 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. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.02 *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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes 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 shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate 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.

#### 11.03 *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.

#### 11.04 *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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall 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); or
  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 11.04.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 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall 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 shall be 15 percent;
    - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five 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 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.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 five 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 shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
    - d. no fee shall 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 will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
    - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

#### 11.05 *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 shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

#### 11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. 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. The supporting data shall 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. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
  2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall 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.
  3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *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 that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

#### 11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the 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 11.02, (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 in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

#### 11.08 *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 shall be submitted 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; and
  - 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.
- 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 shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall be incorporated in a Change Order 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. 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 shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall 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. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, 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, shall 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 shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall 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, who 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 shall 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 for services specifically related to the Work.
5. Supplemental costs including 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, and hand tools not owned by the workers, 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.
  - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the 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 property insurance established in accordance with Paragraph 6.05), 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 shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall 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 shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety 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. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. 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.
- 5. 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:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

## 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 on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a 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 on account of Work covered by allowances, and the Contract Price shall 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, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
  - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
  - 2. there is no corresponding adjustment with respect to any other item of Work; and
  - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

## **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 will 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 therewith 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 shall 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 shall 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 shall 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 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 shall 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 special 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, or both, 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 shall 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 rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven 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 on account of 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. 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 shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and 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.
  2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
  3. 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, or
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, 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 on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of 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 that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
  - j. liquidated 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;
  - l. there are other items entitling 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 shall 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 shall be treated as an amount due as determined by Paragraph 15.01.C.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 seven 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 shall 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 seven 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 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 6.05 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 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall 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 disputes that Contractor believes are unsettled; 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 Application and Acceptance:***

1. 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 ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall 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. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. 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. *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.
- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

#### 15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- 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 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 terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then 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 other adjacent areas;
  - 2. correct such defective Work;
  - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, 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 therefrom.
- B. If 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 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 correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. 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.
- D. 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.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not 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, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall 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) ten 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) 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 seven 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 shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *Owner May Terminate For Convenience*

- A. Upon seven 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 on account of loss of anticipated overhead, profits, or revenue, 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 seven 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, seven 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; and
  - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising 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; or
  - 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 Documents requires the giving of written notice, it will be deemed to have been validly given if:
  - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
  - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

### **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 shall not constitute a waiver of that provision, nor shall 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 or completion of the Contract or termination 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 *Headings*

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



# SUPPLEMENTARY CONDITIONS



## **SUPPLEMENTARY CONDITIONS INDEX**

<b><u>SECTION</u></b>	<b><u>SUBJECT</u></b>	<b><u>PAGE</u></b>
SC-5.03	Subsurface and Physical Conditions	2
SC-5.05	Underground Facilities	2
SC-6.03	Contractor's Insurance	2

## **SUPPLEMENTARY CONDITIONS**

### **GENERAL**

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC-C-700, 2013 edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect. These Supplementary Conditions are arranged in the same order as the paragraphs in the General Conditions and the paragraphs herein bear comparable numbers to those of the General Conditions but with the prefix "SC".

### **SC-5.03 SUBSURFACE AND PHYSICAL CONDITIONS**

Section A "Reports and Drawings" shall be replaced with the following:

#### **A. Reports and Drawings**

1. Neither OWNER nor ENGINEER makes any warranties or representations about any subsurface conditions that may be encountered within the scope of the Work. The CONTRACTOR shall satisfy himself or subsurface conditions that may be encountered by performing on-site inspections, core drillings or other methods. The risk of encountering and correcting such subsurface conditions shall be borne solely by the CONTRACTOR, and the Contract Price shall include the cost of performing the work complete in place within the Contract Time and in accordance with the terms and conditions of the Contract Documents.

### **SC-5.05 UNDERGROUND FACILITIES**

Add the following paragraph to Section 5.05.A:

The CONTRACTOR shall abide by all applicable provisions of TCA, Chapter 31, "Underground Utility Damage Prevention" and all amendments thereto. Obtaining a permit does not relieve the CONTRACTOR of the responsibility of complying with this law. CONTRACTOR shall notify utilities 3-10 days prior to starting any work operation that includes but is not limited to excavation, trenching, boring, pile-driving, blasting or digging which might affect any adjacent utility. The designated toll free number for the Tennessee One-Call system for location of underground utilities is **1-800-351-1111**.

### **SC-6.03 CONTRACTOR'S INSURANCE**

Change the Section Title to CONTRACTOR'S LIABILITY AND RISK INSURANCE and add the following TO Section I.2

"The limits of liability for insurance required by paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation and related coverages under 6.03.A of the General Conditions:
  - a. State: Tennessee                      Statutory

- b. Applicable Federal (e.g. Longshoreman's): Statutory
  - c. Employer's Liability: \$2,000,000
  - Each Accident \$1,000,000
  - Disease – Policy Limit \$500,000
  - Disease – Each Employee \$100,000
  
- 2. Contractor's General Liability under paragraphs 6.03.B of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of the Contractor:
  - a. General Aggregate \$2,000,000
  - b. Products – Completed Operations Aggregate \$2,000,000
  - c. Personal and Advertising Injury \$1,000,000
  - d. Each Occurrence
    - (1) (Bodily Injury and Property Damage) \$1,000,000
  - e. Fire Damage (any one fire) \$1,000,000
  - f. Medical Expenses (any one expense) \$5,000
  - g. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable.
  - h. Excess or Umbrella Liability
    - (1) General Aggregate \$2,000,000
    - (2) Each Occurrence \$2,000,000
  
- 3. Automobile Liability under paragraph 6.03.D of the General Conditions:
  - a. Bodily Injury:
    - (1) Each Person \$1,000,000
    - (2) Each Accident \$1,000,000
  - b. Property Damage:
    - (1) Each Accident \$1,000,000
  - c. Combined Single Limit of: \$1,000,000
  
- 5. Builder's Risk Insurance – The Contractor shall carry Builder's Risk Insurance, including all-risk coverage, for an amount equal to the total value of the Contract.
  
- 6. The Contractor shall furnish the Owner with a Certificate of Insurance naming Owner as an additional insured on all casualty policies.



# **TECHNICAL SPECIFICATIONS & SPECIAL PROVISIONS**

## **INDEX OF TECHNICAL SPECIFICATIONS & SPECIAL PROVISIONS**

### **1.01 Technical Specifications**

1. Removal of Rigid Pavement, Sidewalk, etc.
2. Removal of Curb & Gutter
3. Concrete Sidewalk (4")
4. Concrete Curb Ramp
5. Traffic Control
6. Plastic Pavement Marking (Cross-Walk)
7. Plastic Pavement Marking (STOP line)
8. Plastic Pavement Marking (Turn Lane Arrow)
9. Plastic Word Pavement Marking (ONLY)
10. Spray Thermo P.M. (60 mil 4")
11. Mobilization

1. Removal of Old Curb Ramp, Sidewalk, etc.

This item shall be completed in accordance with the TDOT standard specification for item number 701-02.03.

2. Removal of Curb & Gutter

This item shall be completed in accordance with the TDOT standard specification for item number 701-02.03.

3. Concrete Sidewalk (4")

This item shall be completed in accordance with the TDOT standard specification for item number 701-01.01. This item shall include a 4" layer of base stone as shown in the typical section. Minimum 3,000 psi concrete is required.

4. Concrete Curb Ramp

This item shall be completed in accordance with the TDOT standard specification for item number 701-02.03.

5. Traffic Control

This item shall be completed in accordance with the TDOT standard specification for item number 712-01. Additional partial closures which are temporary (less than 1 day) shall be permitted individually and a separate traffic control plan shall be required. It shall be the contractor's responsibility to provide a traffic control plan. Traffic control shall be in accordance of the latest edition of the MUTCD.

6. Plastic Pavement Marking (Cross-Walk)

This item shall be completed in accordance with the TDOT standard specification for item number 716-02.03.

7. Plastic Pavement Marking (STOP line)

This item shall be completed in accordance with the TDOT standard specification for item number 716-02.05.

8. Plastic Pavement Marking (Turn Lane Arrow)

This item shall be completed in accordance with the TDOT standard specification for item number 716-02.06.

9. Plastic Pavement Marking (8" Dotted Line)

This item shall be completed in accordance with the TDOT standard specification for item number 716-02.08.

10. Mobilization

This item shall be completed in accordance with the TDOT standard specification for item number 717-01.

11. Ethernet Switch (Type A)

This item shall be hardened with minimum of two (2) small form-factor pluggable (SFP) ports as well as a minimum of six (6) gigabyte ethernet ports. SFP optical transceiver shall support up to 20km link lengths over LC duplex connector, with 1000Mbps data rate and be compatible with 1310 nm wavelength.

12. Fiber Optic Termination Cabinet (12 Fiber Termination Cabinet)

This item shall accept one (1) fiber adapter panel preloaded with 6 duplex LC singlemode connections and have the following dimensions: 1.5in. x 6.5in. x 7in. (LxWxH). LC-to-LC duplex patch cables are to be included with this item.

13. Cabinet (Eight Phase Base Mounted)

This item shall be a NEMA TS 2-Type 1 cabinet, have a photocell to operate the internally illuminated street name signs and not have a detector rack or harnesses.

## **TECHNICAL SPECIAL PROVISIONS**

### **PART 1      GENERAL REQUIREMENTS**

- 1.01    Standard Specifications
- 1.02    Manual on Uniform Traffic Control Devices
- 1.03    NEMA Standards Publication
- 1.04    Other Codes and Standards

### **~~PART 2      TDOT PRICE ADJUSTMENT INDEX~~**

- ~~2.01    Special Provision Regarding Payment Adjustment For Fuel~~
- ~~2.02    Special Provisions Regarding Price Adjustment For Bituminous Material~~

### **PART 3      TRAFFIC SIGNALS & ITS**

- 3.01    General
- 3.02    Traffic Signals
- 3.03    Intelligent Transportation Systems
- 3.04    Pole Structure
- 3.05    Conduit

### **PART 4      SUBMITTAL DATA**

- 4.01    Project Schedule
- 4.02    Tentative Working Schedule Submittal
- 4.03    Materials Submittal

### **PART 5      SPECIAL CONSTRUCTION REQUIREMENTS**

- 5.01    Recommended Construction Phasing
- 5.02    Work Zone Traffic Control
- 5.03    Special Notes



## **PART 1 GENERAL REQUIREMENTS**

All commands and references in, or in connection with, the text in this Technical Special Provisions (TSP) document are written to direct contractor responsibility or action unless otherwise specified. This section specifies the minimum general requirements for this contract. These section one general requirements apply to all aspects of the contract, including, but not limited to the materials, installation, measurement and payment requirements for all contract items. The contractor is responsible for all work in this document. All costs associated with the work in this contract shall be included in the contract unit price for items included in the bid items list for this project and no separate payment shall be made.

### **1.01 Standard Specifications**

Except as otherwise specifically required by the plans or specifications, all work on this project shall fully comply with the Tennessee Dept. of Transportation Standard Specifications for Road and Bridge Construction, Current Edition, (also referred to herein as the “Standard Specifications”), and the TDOT Standard and Structure Drawings (also referred to herein as the “Standard Drawings”).

### **1.02 Manual on Uniform Traffic Control Devices**

All traffic signal control equipment and the entire system shall conform to the requirements of the current Manual on Uniform Traffic Control Devices for streets and highways.

### **1.03 NEMA Standards Publication Number TS2-203**

All new controllers, cabinets and auxiliary equipment shall comply with the requirements set forth in NEMA Standards Publication Number TS2-203.

### **1.04 Other Codes and Standards**

All electrical equipment shall conform to the applicable standards of the Underwriters Laboratories, Inc. (UL), the Electronic Industries Association, (EIA), and the National Electrical Safety Code (NESC). All materials and workmanship shall conform to the requirements of the National Electrical Code (NEC), and the standards of the American National Standards Institute (ANSI).

**TSP 301**  
**SPECIAL PROVISIONS FOR TRAFFIC SIGNALS & ITS**  
**IN MARYVILLE & ALCOA, TN**

**PART 3.01 GENERAL**

1. Certification of Personnel
  - a. For installation of any traffic control device or equipment, or intelligent transportation systems (ITS) related equipment, an IMSA Level II (or higher) certified technician shall supervise and be present on site while work is being performed.
  - b. Proof of IMSA certification shall be required in the form of a certification card accompanied by photo ID.
2. Traffic signals and ITS includes but is not limited to: the furnishing and installation of poles, cabinets, foundations, conduit, fiber optic cable, conductor cables, electrical power service, and other required vendor software/hardware necessary to complete a fully functioning system.
3. All the equipment provided shall comply with the applicable industry approved standards for the subsystems and communications network. Use of approved industry standards and the National Transportation Communications for ITS Protocols (NTCIP) shall be required for the traffic signal and closed-circuit television (CCTV) devices.
4. All equipment and component parts that are furnished shall be new, with warranty and not used or refurbished, shall meet all requirements of this special provision, and shall be in an operable condition at the time of delivery. All parts shall be of high-quality workmanship and no part or attachment shall be applied contrary to the manufacturer's recommendations or standard practices. All materials and installation of all devices shall be in accordance with this special provision, plans, and with the manufacturer's recommendations for the exact intended application.
5. All electrical materials and work shall conform to the standards of the National Electrical Manufacturers Association (NEMA), the Underwriters' Laboratories Inc. (UL), the Electrical Testing Laboratories (ETL), the National Electrical Testing Association (NETA), International Municipal Signal Association (IMSA), Institute of Electrical and Electronics Engineers (IEEE) and the Electronic Industries Association (EIA), wherever applicable. In addition to the requirements of the approved shop drawings to be prepared by the Contractor, and these Special Provisions, all materials and workmanship shall

conform to the requirements of the National Electrical Code (NEC), National Electrical Safety Code (NESC) and applicable codes of governing jurisdictions. Unless specified, all standards used shall be the latest edition available.

## 6. Submittals

- a. Within 45 Days of Notice to Proceed, the Contractor shall submit to the Engineer for approval a submittal package containing equipment catalog cut sheets and technical specifications for all items listed in this special provision and any related items. The catalog cut sheets and technical specifications shall include all necessary information to clearly demonstrate that the proposed equipment meets the requirements of this special provision and the Plans. In addition, the equipment cut sheets shall include manufacturer's name, model number, and any other descriptive data as necessary to clearly evaluate the item. Interface Protocols for all devices and equipment should also be submitted.
- b. Materials shall not be ordered or released for fabrication without the approval of submittals by the Engineer.
- c. The review and approval of submittals by the Engineer is based on the information provided in the submittal and the conformance with the design concept of the project. Submittal reviews do not relieve the contractor of the responsibility for making the overall system conform to the requirements of the contract. Approvals at the submittal stage are always conditional upon demonstration that the equipment is fully compliant with the Contract including compatibility with all other equipment in the system.
- d. Within 90 days of Notice to Proceed the Contractor shall submit to the Engineer shop drawings and design calculations for all structural elements and attachments including, but not limited to; all sign structures, support poles, structure attachments and foundations.
- e. The Engineer will review and return submittals to the Contractor within 21 days of receipt. If additional information is requested or if a re-submittal is required, the Contractor is required to re-submit within 21 days of receipt of the Engineer's comments.

## **PART 3.02 TRAFFIC SIGNALS**

### **1. Traffic Signal Controller**

- a. The standard signal controller for use in the Cities of Maryville & Alcoa is the **ORIUX (PEEK) ATC-1000**, configured for use as a **TS2-Type 1** controller in a **TS2** cabinet.
- b. The traffic signal controller, **ORIUX (PEEK) ATC-1000**, shall have the following features:
  - Backlit LCD display
  - 2070 or 3000E compatible modem slot
  - Minimum of two (2) 10/100Base-T Ethernet ports w/ internal configuration
  - Minimum of two (2) high speed USB ports
  - Programmable via front panel, Spinnaker ATMS, IQ Central, Data Key, or USB thumb drive
  - Five (5) serial ports with RS485 SDLC support on one port
- c. The traffic signal controller, **ORIUX (PEEK) ATC-1000**, shall meet the following functional requirements:
  - Meets or exceeds ITE / AASHTO / NEMA ATC standards
  - Linux Operating System with memory management for process isolation
  - Compliant with NTCIP 1201 and 1202
  - 16MB SDRAM
  - 1MB SRAM
- d. It shall be the contractor's responsibility to ensure that the most current firmware is installed on the controller.
- e. Traffic signal controllers shall be replaced or repaired by the manufacturer if a controller fails to function as intended due to workmanship or material defects within the first 24 months from the date of being put into field operation at no cost (including shipping) to the Cities of Maryville & Alcoa.
- f. For each new controller furnished by the Contractor, one hard copy of the user's manual shall be provided by the Contractor and placed in the plastic envelope inside the cabinet.

### **2. Signal Monitor Unit**

- a. The standard conflict/malfunction monitor unit (CMU/MMU) shall be **ORIUX (PEEK) SG1000** configured for either 12-channel or 16-channel operation as necessary.

- b. The CMU/MMU, **ORIUX (PEEK) SG1000**, shall have the following features:
- Supports Flashing Yellow Arrow per amendment 4 of NEMA TS2-2016
  - Records high and low voltage conditions
  - Voltage measurement and display of all signal indicators for each channel and color input for TS1/TS2
  - 4 x 20 yellow OLED – fully operational over temperature without the need for backlight or contrast control
  - Event log – downloadable to USB flash drive or to PC through USB device port or optional serial/Ethernet port
  - Front panel Ethernet port, USB-D, and USB-H device ports
  - Dedicated RESET button
- c. The CMU/MMU, **ORIUX (PEEK) SG1000**, shall meet the following functional requirements:
- Meets or exceeds NEMA functional and environmental standards
  - Compatible with both NEMA TS-1 and TS-2 Standard compatibility programming cards
- d. It shall be the contractor's responsibility to ensure that the most current firmware is installed on the monitor.

3. Traffic Signal Controller Cabinet

- a. The cabinet shall be a TS2-Type 1, base-mounted, enclosure type P44. The cabinet shall be constructed from type 5052-H32 aluminum with a minimum thickness of 0.125 inches. The cabinet shall be supplied with a natural aluminum finish. Sufficient care shall be taken in handling to ensure that scratches are minimized. All surfaces shall be free from weld flash. Welds shall be smooth, neatly formed, free from cracks, blowholes and other irregularities. All sharp edges shall be ground smooth.
- b. The main door and police door-in-door shall close against a weatherproof and dust-proof, closed-cell neoprene gasket seal. The gasket material for the main door shall be a minimum of 0.250 inches thick by 1.00 inch wide. The gasket material for the police door shall be a minimum of 0.250 inches thick by 0.500 inches wide. The gaskets shall be permanently bonded to the cabinet. All enclosures must be constructed, approved and marked in accordance with the requirements for Type 1 Industrial Control Panel Enclosures contained in UL 508A, the Standard for Industrial Control Panels. Enclosure must meet NEMA 3R rating requirements and be marked with UL approval sticker.
- c. The main panel shall be constructed from 5052-H32 brushed aluminum of 0.125 inches minimum thickness and installed so as to minimize flexing when plug-in components are installed. All main panels are provided with a mounting mechanism

which allows easy access to all wiring on the rear of the panel. Lowering of the main panel can be accomplished without the use of hand tools. Complete removal can be accomplished by the use of simple hand tools.

- d. All logic-level, NEMA-controller and Malfunction Management Unit input and output terminations on the main panel shall be permanently labeled. Cabinet prints shall identify the function of each terminal position.
- e. All Terminals and Facilities configurations shall be provided with sufficient RS-485 Port 1 communication cables to allow for the intended operation of that cabinet. A SDLC Bus of a minimum of six (6) ports shall be provided to service all of the internal equipment.
- f. All wiring shall be neat in appearance. All cabinet wiring shall be continuous from its point of origin to its termination point. Butt type connections or splices are not acceptable.
- g. The power panel portion of the main panel shall include the following components:
  - A minimum of one (1) 40-amp main breaker for 16 position cabinets. This breaker shall supply power to the controller, MMU, signals, cabinet power supply and auxiliary panels. Breakers shall be at minimum, a thermal magnetic type, UL listed for HACR service, with a minimum of 10,000 amp interrupting capacity.
  - A minimum of one (1) 15-amp auxiliary breaker. This breaker shall supply power to the fan, light and GFI utility outlet.
  - A 50 amp, 125 VAC radio interference line filter.
  - A normally-open, 50-amp, Solid State Relay (SSR). Shall be Crydom Model Number HA4875H or approved equal.
  - A minimum of one (1) 8-position neutral bus bar is capable of connecting three #12 wires per position.
  - A minimum of one (1) 6-position ground bus bar capable of connecting three #12 wires per position.
  - A minimum of one (1) NEMA type 5-15R GFI utility outlet.
- h. The cabinet shall be provided with a thermostatically controlled (adjustable between 55-160 degrees Fahrenheit) ventilation fan in the top of the cabinet plenum. The fan plate shall be removable with the use of simple hand tools for serviceability. A minimum of one, maximum of two, exhaust fans shall be provided. The fan shall be a ball bearing type fan and shall be capable of drawing a minimum of 100 cubic feet of air per minute (CFM). The Fan / Thermostat assembly shall be connected to the power panel by means of a 4 position plug-in cable or hardwired to an appropriate circuit breaker.

- i. A 40-watt incandescent refrigerator lamp and socket mounted on an aluminum bracket shall be mounted in the cabinet to sufficiently illuminate the field terminals. The lamp shall be wired to either a 15-amp ON / OFF toggle switch mounted on the power panel or to a door activated switch mounted near the top of the door.
- j. The cabinet shall be furnished with the following:
  - Sixteen (16) loadswitches
  - Eight (8) flash transfer relays
  - Two (2) BIUs
  - 16-CH, SG1000 MMU w/ program card
  - Cabinet power supply
  - Flasher
  - KFC relay
- k. The cabinet foundation shall follow the Cities of Maryville's and Alcoa's cabinet foundation detail "MACTO CD 1.0\_Cabinet Detail"

#### 4. Battery Back-Up System

- a. This system shall be a **Myers Emergency Power Systems (or approved equivalent)**. This system shall be a separate base-mounted cabinet with nominal dimensions of 53" high x 24" wide x 14" deep. The cabinet shall house the batteries, wiring, related equipment, and the UPS, which includes converter/inverter/charger unit, power transfer relay, power management unit, manually operated power transfer switch and other control panels and wiring harnesses.
- b. The UPS cabinet door shall be hinged on the right side of the cabinet. Cabinet doors shall provide full access to the cabinet interior and shall have durable gaskets to ensure weatherproofing. The door shall be equipped with the Department's standard tumbler lock. Two keys for each cabinet shall be provided to the Engineer. Hinges shall be stainless steel and continuous. Doors shall have a doorstop arrangement that will allow it to be firmly positioned at 90 and 135 degrees,  $\pm 10$  degrees. The locking system for cabinets shall be a three-point draw roller system. Rollers shall be fabricated from nylon with a diameter of at least 8/10 inch. The door opening shall be double flanged on all four sides.
- c. Cabinet doors shall have a screened and louvered vent design to prevent rain entry, with a standard size furnace vent filter. The filter tray shall be sized to house and secure the filter in place. The screen shall be constructed from at least 0.031-inch aluminum with 1/8-inch diameter openings positioned on 3/16 inch staggered centers.

- d. The interior of cabinet shall be of sufficient size to provide adequate ventilation of the equipment housed therein. Cabinet shall contain at least three adjustable shelves or equivalent supports, with enough space to hold UPS, batteries, battery trays and brackets, wiring and related equipment. Vertical mounting channels for the shelves shall be continuous and shall allow for adjustable shelf placement ranging from 5 inches from the bottom to 5 inches from the top of the cabinet. Shelves and vertical mounting channels shall be heavy duty and have sufficient strength to hold the batteries without deforming, bending or breaking. Wiring panels and terminal blocks shall be neatly finished and clearly and permanently marked with identifications applied by silk screening. Conductors shall be neatly arranged and bundled in groups with cable ties. The bundled conductors shall not obstruct access to other circuits and terminals in the cabinet.
- e. This system shall consist of a true-on-line, power conditioner and digital signal processor based uninterruptible power system (UPS) designed for transportation and traffic applications. The inverter shall be in operation at all times capable of supplying clean regulated power (both voltage and frequency) to all loads at all times.
- f. This system must be fully power factor corrected and fully functional with any type of auxiliary power generator.
- g. The UPS shall meet or exceed NEMA temperature standards from -40° C to +74° C. The UPS shall be certified and field proven to meet or exceed NEMA temperature standards. A certificate of compliance shall be supplied with the Traffic UPS. The UPS internal component boards shall be conformal coated.
- h. The UPS system shall be installed in conformance with the Manufacturers recommendations and as specified herein.
- i. Alarm function monitoring through the UPS shall be through a standard DB-9F connector with open collectors (40V @ 20mA) indicating:
  - Loss of utility power
  - Inverter failure
  - Low battery
- j. Full interactive remote computer monitoring and control of the UPS functions are to be added via an external SNMP/HTTP adaptor with 10/100 auto-sense fast Ethernet port located on the front of the UPS.
- k. The Windows configuration software shall allow the user to monitor and control the following UPS functions through a direct connection to the USB Type B/Ethernet port on the UPS:



- Real time input/output status including frequency, voltage, current and power.
  - Real time battery status including charge type, on time totals, charge level, voltage, current and temperature.
  - Real time nominal output rating, nominal output power, nominal low battery time, audible alarm status and nominal battery life.
  - Active alarms – input bad, output bad, overload, bypass bad, output off, UPS shutdown and charger failure.
- l. Input Specification shall meet the following minimum requirements:
- Nominal Input Voltage: 120 VAC, Single Phase
  - Input Voltage Range: 100-130 VAC
  - Input Frequency: 60 Hz (+/- 3)
  - Input Step Load Response: ½ Cycle Full Recovery (Full resistive load)
  - Input Current: 30 Amp (Resistive)
  - Input Protection: 30 Amp circuit breaker
  - Input Battery String Voltage: 48 VDC (Four 12 VDC Battery)
- m. Output Specification shall meet the following minimum requirements:
- Nominal Output Voltage: 120 VAC, Single Phase
  - Power Rating, VA/W: 2000 VA / 1500 W
  - Output Power Factor: 0.75
  - Output Voltage Regulation: 100-130 (+/- 2) VAC (follows the input voltage) 120 VAC (+/- 5%)
  - Output Waveform: Sin Wave
  - Output Waveform THD: < 3% (resistive load)
  - Load Crest Factor: 3:1 (max)
  - Overload Capacity: 110% for 3 minutes
- n. The external battery system shall be certified and field proven to meet or exceed NEMA temperature standards from -40° C to +74° C. Batteries shall be the 105+ Ampere-Hour rating type. Batteries shall meet MIL SPEC B-8565J for hydrogen gas emissions. Batteries shall not exceed 2.25 square feet. Batteries shall be AGM design with epoxy sealed casing. Batteries shall have “P type terminal” power pole connectors.
- o. External battery system shall consist of a single string of four deep cycle, 105+ Ampere-Hour batteries which connects to the UPS without a hardware change to the UPS. The batteries shall be provided with appropriate interconnect wiring harness. This harness shall connect the battery pack to the UPS module.

5. Fisheye Video Detection System

- a. The video detection system shall be a **GRIDSMART** system configured to meet the intersection design and traffic signal cabinet requirements.
- b. This system shall come with software module enabling the capability for, but not limited to, collecting data performance metrics and live video streaming.
- c. The system shall meet all the supplier's requirements and best practices.
- d. Substitutions will be considered on a case-by-case basis.

6. Accessible Pedestrian System (APS)

- a. This APS shall be a **Polara iNavigator APS 3-wire System**.
- b. The button housing shall be yellow and include appropriate, compliant MUTCD's R10-3 sign series.
- c. Alternatives will be considered on a case-by-case basis.
- d. APS devices shall meet all ADA, PROWAG, and MUTC requirements.

7. Signal Displays

- a. All signal head assemblies shall include louvered, vacuum-formed ABS finished backplates or approved equivalent dull black backplates with 2" retroreflective border.
- b. Signal head assemblies shall be die-casted aluminum colored yellow (Federal Standard 595b-12538)
- c. Signal visors shall be yellow, aluminum tunnel visors unless specified otherwise.
- d. All signal displays shall be 12" clear, incandescent-look LED compliant with latest ITE VTCSH LED Circular/Arrow Signal Supplement
- e. Pedestrian signals shall be 16" yellow, cast aluminum alloy, clamshell housing mount with vantage visor.
- f. Pedestrian signal LED modules shall be the 16" X 18" countdown pedestrian signals compliant (for Full Hand/Full Person) with the latest ITE PTCSI LED signal modules.

## 8. Removal of Signal Equipment

- a. All signal-related equipment in need of removal from the site shall be returned to Maryville-Alcoa Central Traffic Operations (MACTO) unless otherwise specified.
- b. Removal of signal equipment includes removal of strain/mast arm poles, span wire, controller cabinets and foundations. Any concrete foundation shall be removed to a depth of 2' below finished grade.

## 9. New Traffic Signal Installations

- a. All new signal displays shall be covered with a durable black bag when not operational.
- b. It shall be the contractor's responsibility to ensure that signal displays remain covered and that covers do not become damaged before final removal.
- c. All new intersections will have a minimum flash operation period of 7 days to a maximum of 14 days.

# **PART 3.03 INTELLIGENT TRANSPORTATION SYSTEMS**

## 1. Video Standards and Protocols

- a. Digitization of the video signals for transmission shall utilize the H.264 standard, MPEG4, Part 10 Standard, MPEG2 as defined by the International Telecommunication Union (ITU) and Motion Picture Experts Group (MPEG).
- b. CCTV control protocol for pan, tilt, and zoom in addition to other camera controls shall meet NTCIP requirements.

## 2. Ethernet and IP Standards and Protocols

- a. The Ethernet communications system and all connected devices shall, as an entire interconnected system, completely implement and be compatible with IEEE 802.3 industry standards for Ethernet and NTCIP standards supporting Ethernet as applicable and required.

## 3. Fiber Optic Infrastructure

- a. Furnish fiber optic infrastructure materials that meet applicable industry standards including but not limited to:
  - EIA/TIA

- RUS
- IEEE
- ICEA
- Telecordia
- ASTM
- UL
- NEC
- NESC

#### 4. Fiber Optic Fusion Splice (FO Splice, Fusion)

- a. Provide fusion splices for splicing of all fibers on the project. Do not provide any other type of fiber splicing.
- b. Perform fusion splicing with a fully automatic portable fusion splicer that provides consistent low loss (max 0.10 dB) splices. Splicer shall provide three-axis fiber core alignment using light injection and loss measurement techniques. The fusing process shall be automatically controlled. The splicer shall provide splice loss measurements on an integral display, as well as a magnified image of the fiber alignment.

#### 5. Fiber Optic Connectors

- a. Provide fiber optic connectors compliant with this special provision for all fiber optic infrastructure including, but not limited to, fiber optic termination cabinets, fiber optic enclosure panels, and fiber optic patch cords.
- b. Provide only factory-installed keyed LC compatible connectors for all fiber optic infrastructure. Provide only factory-installed connectors of a type other than LC when required by the Network Switches. Do not use field-installed connectors. Do not use adapter couplers to change connector types.
- c. Use ceramic ferrule connectors factory-installed with a thermal-set heat-cured epoxy and machine polished mating face. Install connectors as per manufacturer application and recommendations, including proper termination to the outer-tubing (900 micron tubing, 3 mm fan out tubing, etc.) required for the application.
- d. Use connectors rated for an operating temperature of -40°C to +75°C.
- e. Provide connectors that have an installed insertion loss of less than 0.50 dB, a typical loss of 0.20 dB, and an optical return loss of less than 45 dB.

- f. Use simplex connectors for all male LC connectors. Provide latching cover for two male connectors being used in a duplex configuration. Female couplers may be duplex but must allow simplex mating connectors.
- g. Label each fiber position on panels and termination cabinets containing duplex couplers with the port/position ID as shown in the Plans.
- h. Provide dust caps for all exposed male connectors and female couplers at all times until permanent connector installation.
- i. LC connectors shall comply with TIA/EIA-4750000-C and TIA/EIA-604-10A.

#### 6. Fiber Optic Enclosure Panel

- a. Provide fiber optic wall-mount enclosure panels designed for outside plant use for terminating fiber optic pigtails and drop cables in equipment cabinets.
- b. Use fiber optic wall-mount enclosure panels that are fully compatible with all components of the fiber optic infrastructure as specified, including, but not limited to, fiber optic trunk cable, fiber optic enclosures, integrated fiber optic termination unit, fiber optic fusion splices, and fiber optic connectors.
- c. Use fiber optic patch panels with 12 fiber connectors (duplex LC).
- d. Use permanent labels on the enclosure panel with contrasting color to identify each connector body by its associated fiber number.
- e. Fiber connectors shall be arranged in rows of 1 duplex connector couplers. All fiber connectors shall be arranged on one of the long (vertical) faces of the enclosure.
- f. Provide an outer non-metallic cable strain-relief boot where the fiber pigtail/drop cable enters the fiber connector enclosure panel and that secures the cable and to the enclosure; the strain-relief boot shall fully encircle the cable for a minimum of 2 inches from the enclosure's outer surface.
- g. Use fiber connector patch panel on the enclosure panel that are no more than 2 inches wide and deep (the maximum dimension of the patch panel plus fiber connector body) and no more than 11 inches long.
- h. Provide a 0.125-inch thick aluminum mounting plate that secures to the fiber enclosure panel. The mounting plate shall have at least four mounting holes near the plate's corners that permit horizontal or vertical mounting flush to a panel, and

are spaced appropriately for vertical mounting to an EIA equipment rack rail using two of the mounting holes.

7. Fiber Optic Patch Cords

- a. Provide fiber optic patch cords consisting of a length of fiber optic cable terminated on both ends.
- b. All patch cords shall be factory preconnectorized assemblies adhering to all applicable cable and fiber specifications stated in this special provision.
- c. Provide patch cords of the appropriate length for the necessary connections, maintaining minimum bend radius, and with no residual strain at the connector or anywhere on the patch cord itself beyond self-support. Patch cords shall not have excess length beyond what is necessary for equipment connection and routing.
- d. All patch cords shall be duplex zip-cord fiber cable with simplex LC connectors, except as otherwise allowed in Part 3, Section 4.
  - The two connectors of each end of the patch cord shall be differentiated by different colors or with labels.
  - Provide sufficient flexibility at each end to disconnect one connector without disturbing the other, or to allow swapping of the two connectors within the same duplex coupler without disturbing the remainder of the patch cord.
  - Provide strain relief and reinforcement at the point where the duplex cable separates for the individual simplex connectors.
- e. Use yellow outer jackets for single mode fiber.
- f. No splices of any type are allowed within a patch cord assembly.

8. Network Switch (Type A) (L2 Field Ethernet Switch)

- a. Layer 2 (L2) Field Gigabit Ethernet Switches will be placed in locations shown on the Plans. L2 Field Switches fabricated for use in traffic signal controller cabinets shall meet or exceed NEMA TS- 2 requirements for temperature, shock, humidity, and vibration.
- b. Furnish L2 Field Gigabit Ethernet Switches that are din-rail mounted and come equipped with hardware to permit mounting on a din-rail in addition to placement on a cabinet shelf, and shall be optically compatible with the Layer 3 Traffic Operations Center (TOC) Switch at the Maryville City Government Center.

- c. Furnish Field Gigabit Ethernet switches with internal Power Supply meeting the following power supply requirements:
  - 85 to 264 Vac (50/60Hz)/ 88 to 300Vdc.
  - Power supply shall have two stage isolation accomplished via two transformers: first steps down from primary AC/DC to 48VDC; the second steps down from 48VDC to the final DC voltage required by the switch.
  - A power cord of not less than 5 feet in length shall be supplied.
- d. Furnish Field Gigabit Ethernet Switches that weigh no more than 3 lbs and are no more than 150 cubic inches in volume.
- e. Furnish hardened, ruggedized Field Gigabit Ethernet switches with the following minimum characteristics and features:
  - Minimum of Eight (8) 10BASE-T/100BASE-TX ports
    - i. RJ45 connectors
    - ii. Cable type: Category 5e/, unshielded twisted pair (CAT 5e/ UTP)
    - iii. Auto-negotiation support (10/100Mbps)
    - iv. Auto MDIX crossover capability
    - v. Full Duplex operation (IEEE 802.3x)
    - vi. SPD (Surge Protective Device) between Line +/-, Line +/-ground, and Line –ground to protect the circuitry
  - Minimum of two (2) 1000 BaseX Optical uplink ports that utilize SFP modules.
  - Furnish SFP modules rated to service the Field Ethernet to Field Ethernet optical uplinks and Field Ethernet to Gig-E Hub Uplink rated for optical attenuation required to service the link. Use SFP modules that are 20km+ LX or ZX and are matched and compatible with the SFP module it is mated with. Furnish attenuators if required to service link without saturating receiving optics.
  - Furnish SFP modules rated for use with the optical cable furnished within the project
  - Furnish SFP modules with LC connector or other connector approved by the Engineer
  - Furnish fiber optic patch cord with appropriate connectors to connect with switch and adjacent drop cable connectors and/or other switches.

## 9. CCTV Camera System

- a. CCTV Camera Assembly shall be **CostarHD RISE 4220HD series** or approved equivalent which includes, but not limited to, camera, lens, housing, pan/tilt/zoom unit, pole mounting adapter, power over ethernet injector (PoE), PoE repeater, and camera cabling.

- b. CCTV Camera Assemblies shall be compatible with the digital video management software (DVMS) at the TOC.
- c. The installation method for the CCTV poles and cameras shall be such that the camera can be rotated as needed around the pole for optimum placement.

#### 10. CCTV Ethernet Repeater

- a. Where Ethernet cable length exceeds 300 +/- feet, furnish and install field hardened, weatherproof Ethernet repeater capable of forwarding both power and data over CAT5e/6 gel-filled outdoor rated cable. The Power over Ethernet repeater shall meet the following minimum specifications:
  - Power consumption less than 2 watts (PoE)
  - Support for IEEE 802.3af and or IEEE 802.3at standards
  - Forward a minimum of 60 watts of PoE
  - Two independently auto-configuring 100BASE-T/1000BASE-T, full duplex Ethernet interfaces with RJ45 connectors
  - Ability to accept crossover or patch cable configuration
  - Capable of forwarding data at a minimum nominal speed of 100Mbps
  - Operating temperature rating of -40° F to 140° F
  - Operating humidity 90% non-condensing
  - Maximum dimensions 9.0 inches by 3.0 inches by 2.0 inches

#### 11. CCTV PoE Injector

- a. Furnish and install a PoE++ injector with the following minimum specifications:
  - Interfaces with RJ45 connectors
  - Data rate: 10/100/1000Mbps
  - Output power: 75W
  - Output voltage: 52-57 VDC
  - Input voltage: 100-240 VAC
  - AC current input: 1.5A @ 100-240 VAC
  - AC Hz: 50-60 Hz
  - Operating temperature rating: -40° F to 65° F
  - Operating humidity: Maximum 90%, non-condensing

#### 12. CCTV Pole and Structures

- a. CCTV pole (height as specified per Plan) and foundation with lowering device, conduit, connections, clamps, anchor bolts, shoe bases, and all other members shall be designed and fabricated in accordance with the Standards and requirements listed below. Design and materials documentation shall be furnished



as part of the approval request submittal. Certifications will be furnished upon request by the Engineer.

- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, current edition, including all interims and updates shall be met. Design life shall be 50 years for all poles. The “Fatigue Category”, “Galloping Loads” category and “Truck-Induced Gust Loads” would NOT apply to the poles but would apply to the sign structures.
- Shall be designed to withstand the specified forces including those produced by a 120-mph wind with a 1.14 gust effect factor.
- The Contractor shall submit the manufacturer’s shop drawings, layout drawings and specifications for equipment and appurtenances for the approval of the Engineer ninety (90) days after notice to proceed.
- Fabricator: The Fabricator shall be certified under Category I, “Conventional Steel Structures” as set forth by the American Institute of Steel Construction Quality Certification Program. Proof of this certification will be required.
- Welding: All welding shall be in accordance with Sections 1 through 8 of the American Welding Society (AWS) D1. 1 Structural Welding Code.
- Tackers and welders shall be qualified in accordance with the American Welding Society Structural Welding code.
- Tube longitudinal seam welds shall be free of cracks and excessive undercut, performed with automatic processes, and be visually inspected. Inspection records will be furnished to the Engineer.
- Longitudinal welds suspected to contain defects shall be magnetic particle inspected. All circumferential butt welded pole and arm splices shall be ultrasonically and radio graphically inspected. Inspection records will be furnished to the Engineer.
- Camera Pole System shall consist of a pole, anchor bolts, base plate, ground rod array, and communication and power conduits to nearest pull box, grounding conduit, spare conduit, and foundation.
- Design computations for the camera poles shall be complete and shall include but not be limited to the following:

- i. Consideration for all parts of the structure.
  - ii. Consideration for all possible loading combinations including wind and ice loads.
  - iii. Design stresses and allowable stresses for all components which comprise the proposed structure.
  - iv. The top of the pole deflection shall not exceed the following:
    - 1.5 inches deflection from center (3 inch deflection diameter) due to 30 mph (non-gust) winds for the CCTV poles.
  - v. All complete shop drawings and design computations shall bear the stamp of a registered Professional Engineer.
  - vi. Shop drawings shall be approved prior to fabrication. Approval of the shop drawings does not relieve the Contractor of responsibility for the design, fabrication, and erection of the structure.
  - vii. The Engineer reserves the right to reject a pole design if the calculated deflection exceeds that specified herein.
  - viii. The foundation design shall be based on actual soil conditions from soil borings conducted by the contractor. The cost of the soil borings shall be included in the cost of the pole.
- The calculations shall include a pole, base plate, and anchor bolt analysis. The pole calculations shall be analyzed at the pole base, 5 foot pole intervals, and at each slip joint splice.
- For each pole as shown in the plans, the following information shall be given:
  - i. The pole's diameter, thickness, section modulus, moment of inertia, and cross sectional area.
  - ii. The centroid, weight, projected area, drag coefficient, velocity pressure, and wind force of each trapezoidal pole segment.
  - iii. The axial force, shear force, primary moment, total moment, axial stress, bending stress, allowable axial stress, allowable bending stress, and combined stress ratio (CSR) at each elevation.
  - iv. The pole's angular and linear deflection at each elevation.
- Pole Mounted Cabinet Access Conduit Nipple
  - i. Each pole will be manufactured with a 2" diameter rigid threaded nipple for conduit connection to a pole mounted cabinet.
  - ii. The height of this nipple above the base of the pole shall be such that a cabinet mounting height of 3 feet above ground height can be achieved as shown in the typical details in the plans.

- Hand Holes
  - i. The hand hole openings are reinforced with 2" wide hot rolled steel bar. The opening shall be rectangular and 5" x 8" nominal.
  - ii. The cover shall be 11-gauge steel and shall be secured to a clip-on lock with a tamper-proof screw.
  - iii. The reinforcing rim shall be provided with a ½" tapped hole and ½" hex head cap screw for grounding.
  - iv. For poles with lowering devices two (2) hand holes shall be approximately 18" apart, center to center, or as recommended by the lowering device manufacturer.
  - v. The hand holes shall be fully compatible with the Camera Lowering Device and Portable Lowering Tool. If desired and compatible with the lowering device, one larger hand hole may be provided in place of two separate hand holes.
  - vi. Hand holes on poles with pole mounted cabinets and transformers shall be placed toward oncoming traffic. For all other poles, hand holes shall face away from traffic.
  - vii. Hand holes shall not be oriented on the same side of the pole as the CCTV camera.
  
- Pole Top Junction Box: All camera poles shall have a pole top connector box fastened to the pole top for cable strain relief.
  
- Cable Supports (J-Hooks & Eyelets): Top and bottom J-hooks and eyelets shall be located within the pole directly aligned with each other.
  
- Base Plate:
  - i. Base plates shall conform to ASTM A572.
  - ii. Plates shall be integrally welded to the tubes with a telescopic welded joint or a full penetration butt weld with backup bar.
  - iii. Plates shall be hot dip galvanized.
  
- Anchor Bolts:
  - i. Anchor bolts shall conform to the requirements of AASHTO M314-90 (105 ksi min. yield.) The upper 12" of the bolts shall be hot dip galvanized per ASTM A153.
  - ii. Each anchor bolt shall be supplied with two (2) hex nuts and two (2) hardened washers.
  - iii. The strength of the nuts shall equal or exceed the proof load of the bolts.
  - iv. The top nut shall be torqued so as to produce 60% yield stress of anchor bolt.

- v. The Contractor shall not grout between bottom of base plate and top of concrete foundation.

### 13. Camera Lowering Device Requirements for 50' Poles

- a. All poles shall have a heavy duty Camera Lowering Device(s) (CLD) with the design capabilities of supporting both IP Base and analog base CCTV cabling. The camera lowering system shall be designed to support and lower a Simultaneous DUAL Analog & IP closed circuit television camera, lens, housing, PTZ mechanism, cabling, connectors and other supporting field components without damage or causing degradation of camera operations. The camera lowering system device(s) and the pole are interdependent; and thus, must be considered a single unit or system. The lowering system shall consist of a pole, suspension contact unit, divided support arm, and a pole adapter for attachment to a pole top tenon, pole top junction box, conduit mount adapter and camera connection box. The CLD shall also meet the following requirements. The Camera Lowering Device shall be safely operable by one technician working alone, to lower the Camera Assembly to ground level for maintenance as necessary and return the Camera Assembly to the pole top mounting and secure it in place, eliminating the need for access by a bucket truck.
- b. The camera lowering device's contact block shall support 1000Base-T Ethernet communication.
- c. Weatherproof connectors (camera to the lowering device) shall allow for adaptation of the camera and the dome type housing for lowering and hoisting and be provided as an integral part of the design to provide a water resistant seal when the camera is raised and secured in place for surveillance operation.
- d. Lifting and lowering shall be done with a motorized gear box (winch).
- e. The CLD should be a stand-alone device mounted on a camera pole to be supplied by the Contractor and included in the cost of the associated pole.
- f. An integrated CLD with pole assembly may be procured provided it meets all specifications.
- g. The Camera Lowering Device shall be designed to preclude the lifting cable from contacting the power or video cabling. In the case where there is dual lowering devices the lifting cable shall not come in contact with the other CCTV's lifting cable, power and video cabling. The only cable permitted to move within the pole or lowering device shall be the stainless steel lowering cable(s). All other cables must remain secure and separate from the lowering cable.

- h. The Camera Lowering Device shall support the Camera Assembly a minimum of 20" from the pole.
- i. The composite cable between the camera and the CCTV cabinet will be a continuous run with available slack. No pole top interconnections or splices will be permitted.
- j. The tenon top shall be a plate mounted tenon that allows for field modification of the arm/camera orientation up to 360 degrees. The tenon shall have mounting holes and slots as required for the mounting of the CLD. Unless otherwise noted, when DUAL mount lowering devices, the mounting slots shall be 180 degrees apart.
- k. For dual lowering devices on the same pole the lowering devices shall be designed and installed to work independently of the other. The CLD shall be installed such that the cables from either CCTV will not come into contact with the other's cabling.

#### 14. Portable Camera Lowering Device Tool

- a. The Contractor shall furnish and test one Portable Lowering Tool capable of being operated by a hand winch and an electric drill motor, which is fully compatible with the Camera Lowering Device and the Steel Camera Pole and meets the following requirements:
  - The Portable Lowering Tool shall be one recommended by the manufacturer of the Camera Lowering Device.
  - The Portable Lowering Tool shall have a minimum load capacity of 200 pounds with a 4 to 1 safety factor.
  - The tool shall consist of a lightweight metal frame and winch assembly with cable, a quick release cable connector, an adjustable safety clutch, and a variable speed industrial duty electric drill motor.
  - This tool shall be compatible with the hand hole of the pole and the Camera Lowering Device inside the hand hole.
  - When attached to the hand hole, the tool will support itself and the load assuring lowering operations and provide a means to prevent freewheeling when loaded.
  - The Portable Lowering Tool shall be delivered to the Engineer upon project completion.
  - The Portable Lowering Tool shall have a reduction gear to reduce the manual effort required to operate the lifting mechanism.
  - The Portable Lowering Tool shall be provided with an adapter for operating the lowering device by a portable drill using a clutch mechanism. The Portable Lowering Tool shall be equipped with a positive

locking mechanism to secure the cable reel during raising and lowering operations.

#### 15. Suspension Unit

- a. The Contractor shall design the required pole mounting adapters, brackets, and mounting hardware.
- b. The Camera Lowering Device shall have a minimum load capacity of 200 pounds with a 4 to 1 safety factor.
- c. The enclosure receptacle and camera enclosure shall incorporate a mating device.
- d. The mating device shall have a minimum of 2 latching devices. These latching devices shall securely hold the camera housing and its control equipment free of vibration or motion between the enclosure receptacle and camera enclosure.
- e. The latching devices shall lock and unlock by alternately raising and lowering the camera enclosure.
- f. When the camera enclosure is latched, all weight shall be removed from the lowering cable.
- g. The enclosure receptacle and camera enclosure shall have a heavy-duty tracking guide.
- h. The tracking guide and latching devices shall lock the camera enclosure in the same position each time.
- i. Electrical contacts shall be provided to support all camera functions including both IP and analog based CCTVs. The electrical contacts shall be brass or copper and gold coated to prevent corrosion. The contacts shall be minimum 0.09” diameter, or as approved by the Engineer.
- j. Replaceable gaskets shall be provided to seal the electrical contacts and latching devices from moisture and dust.
- k. The only cable permitted to move within the pole or lowering device during lowering or raising shall be the stainless steel lowering cable. All other cables shall remain stable and secure during lowering and raising and shall be secured such that it will not come in contact with the steel lowering cable.
- l. The Camera Lowering Device shall be designed to permit a  $\pm 3$  degree of horizontal adjustment for leveling the dome enclosure.

- m. The lowering cable shall be a minimum 5/32" diameter stainless steel aircraft cable with a minimum breaking strength of 1740 pounds.
- n. Weights and/or counterweights shall be provided to assure the alignment pin and connectors for the camera connection can be raised into position without binding and that it can be lowered properly.

### **PART 3.04 POLE STRUCTURE**

Standards and posts for traffic signal and ITS device poles shall be installed as indicated on the Plans and shall conform to the following requirements:

- a. All poles shall be installed in accordance with the National Electric Safety Code and ASSHTO.
- b. Foundations:
  - The Contractor shall submit a design for pole foundations that has been sealed by a registered Professional Engineer.
  - The foundation design shall adhere to the prescribed loading and wind deflection as specified in TDOT Standards Specification.
  - The foundations shall be constructed in accordance with the TDOT Standard Specifications and shall adhere to the approved shop drawings for the loading specified.
  - In all soil conditions, a sonotube or other approved formwork shall be required with a minimum depth of 3 feet and minimum of 6 inches above the ground line or to be flush with sidewalk curbing or paved islands.
  - Base of pole shall remain open to permit drainage and air circulation. Finished ground profile should drain water away from foundation.
  - If soil conditions require the use of any shoring, casings, or sonotube for proper installation of the foundations, the cost of the shoring, casings or sonotube shall be included in the cost of the pole and foundation.
- c. The dimensions and reinforcing steel shall be in accordance with the requirements of Specifications.
- d. Cast-in-place concrete pole foundation shall cure a minimum of 7 days and reach desired compressive strength as specified in the Plans before any load is applied to the foundation.
- e. Concrete cylinder testing shall be done in accordance with TDOT Standard Specifications for Road and Bridge Construction for a 7-day and 28-day break result.

- f. Conduit shall be installed in the pole foundation for access and includes conduit to the nearest pull box as shown in plans.
- g. A minimum of one 2 inch spare conduit shall be installed in all pole foundations as shown in the Plans Typical Details. Spare conduits in pole foundations shall be sealed with blank duct plugs.
- h. Grounding System
  - The Contractor shall supply and install a grounding system with ground rod array at the base of all poles as shown on the Plans.
  - The ground rod array system shall be connected to the pole through an appropriate ground clamp.
  - A #6 AWG copper stranded bonding wire shall be installed between the pole and the field cabinet providing a common ground system for each site.
  - All ground bonding wires shall be unspliced.
- i. The installation method for the CCTV poles and cameras shall be such that the camera can be rotated as needed around the pole for optimum placement.

## **PART 3.05 CONDUIT**

### **1. Conduit Detection Wire**

- a. Conduit detection wire shall be #12 AWG high strength, copper-clad steel, 45 mil insulated orange tracer wire.
- b. Conduit detection wire is required with all underground conduits installed by any installation method, including trenching, directional boring, or plowing.
- c. Only one conduit detection wire is required per installed conduit segment regardless of the number of conduits installed in that segment.
- d. Conduit detection wire shall be installed inside of an empty conduit when possible.
- e. The conduit detection wire shall be continuous and unspliced between pull boxes and shall enter the pull boxes at the same location as the conduit with which it is installed.
- f. Coil and secure 4 ft. of conduit detection wire in each pull box or vault.



- g. Conduit detection wire is included in the cost of the conduit and will not be measured separately.

## 2. PVC Schedule 40/80 Conduit

- a. Conduit installation underground shall be at a minimum depth of 24 inches from the top of the conduit.
- b. Bushings shall be installed in conduit at all exposed conduit terminations for protection of the conductors.
- c. A minimum of one 2 inch spare conduit shall be installed in all pole and cabinet foundations to the nearest pullbox.

## 3. Rigid Galvanized Steel Conduit

- a. Exposed conduit runs shall be 2" rigid galvanized steel unless otherwise required by the Plans.
- b. All conduit runs on structures and poles shall be properly terminated into the respective device, or a weatherhead shall be installed so as to seal the conduit from moisture, insects, rodents and other foreign material.
- c. Bushings shall be installed in conduit at all exposed conduit terminations for protection of the conductors.

## **PART 4      SUBMITTAL DATA**

### **4.01    Working Schedule**

The work outlined in this contract shall be planned and scheduled in close coordination with City of Maryville Engineering & Public Works.

All lane closures/blockages will need City of Maryville Engineering & Public Works approval with a minimum of 24hr advance notice.

The order of operations and general work schedule will be up to the contractor to determine.

### **4.02    Tentative Working Schedule Submittal**

Given the above requirements, Contractor shall develop and submit to the engineer at the pre-construction meeting a tentative working schedule in bar chart form. Four (4) copies of the tentative working schedule shall be submitted on 11"x17" sheets. The tentative working schedule shall address all major activities, components, and milestones of the project, and shall at a minimum include the following:

- Major Construction Events
- Traffic Control Phasing
- Utility Relocations

### **4.03    Materials Submittals**

Materials which require approval include the following:

- Internally Illuminated Street Name Signs (#713-16.20)
- Ethernet Switch (#725-03.09)
- Mast arm shop drawings & calculations (#730-25.01-16)
- Pole foundations (to be included in #730-25.01-16)
- Pullboxes (#730-03.21-24)
- Fiber Optic Drop Cable (#730-03.54)
- Fiber Optic Termination Cabinet (#725-23.30)
- Fiber Optic Closure (#725-23.25)
- Signal Cable (#730-08.01-03)
- Conduit (#730-12.02-17)
- Riser Assembly (#730-11.10-11)
- Vehicle Detector (#730-13.14)
- Cabinet (#730-15.32)
- Controller (#730-16.04)
- Pedestal Pole (#730-23.29)
- Audible Push Buttons (#730-26.11)
- Signal heads (#730-02.09-17)
- Pedestrian Signals (#730-26.11)

- Battery Back-Up & Power Conditioner (#730-35.06)

## **PART 5      SPECIAL CONSTRUCTION REQUIREMENTS**

### **5.01    Special Notes**

- A) Contractor shall coordinate with the engineer on the location of the staging area. Staging area shall be returned to original condition upon completion of all work.
- B) Workers shall not park personal vehicles within 30 feet of any public right of way.
- C) No construction activities shall take place on national holidays.
- D) Normal hours for construction shall be weekdays from 8AM to 5PM for activities affecting traffic on Robert C. Jackson Dr. The contractor is encouraged to limit in-roadway activities after 3PM due to heavy traffic associated with shift changes within the industrial park.
- E) If night work is required, contractor shall submit the request to the city 72 hours in advance for proper review and approval of traffic control plan by the City of Maryville and TDOT.
- F) If night work is required, contractor shall be required to furnish and use auxiliary lighting to illuminate work zones and flagging operations.
- G) All traffic signal related items shall be inspected by Maryville-Alcoa Central Traffic Operations. Contact Jason Chai at 273-3521 for scheduling.
- H) Contractor shall closely coordinate all activities with representatives of Maryville Electric Department which may place equipment or workers in close proximity with the existing overhead power lines.
- I) The contact person for Maryville Electric Department is James Bond (865)-273-3326.