

SPECIFICATIONS & CONTRACT DOCUMENTS

**FOR
THE CONSTRUCTION OF
ELLISON STREET &
PARKING IMPROVEMENTS**

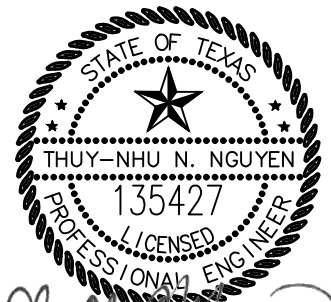
Prepared for

**THE CITY OF
BURLESON
TEXAS**

CITY PROJECT NO.: 21PW02

**THE CITY OF BURLESON, TX
141 W RENFRO STREET
BURLESON, TEXAS 75028-4296**

November 2023



Thuy-Nhu N. Nguyen
Nov 6, 2023



Janel Moody
Nov 6, 2023



DUNAWAY ASSOCIATES, LLC
550 Bailey Avenue, Suite 400
Ft. Worth, TX 76107
Office: 817-335-1121 / Fax: 817-335-7437
TX Reg F-1114

DA Project# B002519.007



Anita M. Beard
Nov 6, 2023

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

2L Construction, LLC
200 Boyd Business Pkwy
Boyd, TX 76023

SURETY:

(Name, legal status and principal place of business)

U.S. Specialty Insurance Company
13403 Northwest Freeway
Houston, TX 77040

OWNER:

(Name, legal status and address)

City of Burleson
141 W. Renfro St.
Burleson, TX 76028

BOND AMOUNT: Five Percent of Greatest Amount Bid (5% G.A.B.)

PROJECT:

(Name, location or address, and Project number, if any)

West Ellison Street & Parking Improvements / Proj #21PW02 / Concrete paving, asphalt, landscaping, electrical, earthwork

This document has important legal consequences.

Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and

provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 20th day of December, 2023

Katei Winkler
(Witness)

Crystal Langhorn
(Witness) Crystal Langhorn

2L Construction, LLC
(Contractor as Principal) (Seal)

Am. P. Ho
(Title) President

U.S. Specialty Insurance Company
(Surety) (Seal)

Kim Bracamonte
(Title) Kim Bracamonte, Attorney-in-Fact



**TOKIOMARINE
HCC**

POWER OF ATTORNEY

**AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY**

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Kim Bracamonte, Brad Johnson, Paul Fredette, Crystal Langhorn, Steven W. Lewis,
Andrea Nix, or Adam Syswerda of Grapevine, Texas

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed *****Fifteen Million***** Dollars (***\$15,000,000.00***).

This Power of Attorney shall expire without further action on April 23rd, 2026. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.

Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 18th day of April 2022.



**AMERICAN CONTRACTORS INDEMNITY COMPANY, TEXAS
BONDING COMPANY, UNITED STATES SURETY COMPANY,
U.S. SPECIALTY INSURANCE COMPANY**

By:

Daniel P. Aguilar
Daniel P. Aguilar, Vice President

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Los Angeles

On this 18th day of April 2022, before me, Sonia O. Carrejo, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

Sonia O. Carrejo

(seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this 20th day of December, 2023.

Bond No.

N/A

Agency No.

18799



Kio Lo
Kio Lo, Assistant Secretary

visit tmhcc.com/surety for more information

HCCSMANPOA07/2023

U.S. Specialty Insurance Company

TEXAS COMPLAINT NOTICE

IMPORTANT NOTICE	AVISO IMPORTANTE
<p>To obtain information or make a complaint:</p> <ol style="list-style-type: none">1. You may contact your agent.2. You may call the company's toll free telephone number for information or to make a complaint at: 1-800-486-66953. You may also write to the company at: U.S. Specialty Insurance Company 801 South Figueroa Street Suite 700 Los Angeles, CA 90017 USA4. You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights, or complaints at: 1-800-252-34395. You may write to the Texas Department of Insurance at: Consumer Protection (111-1A) P.O. Box 12030 Austin, Texas 78711-2030 Fax No. 512- 490-1007 Web: www.tdi.texas.gov E-mail: ConsumerProtection@tdi.texas.gov <p>PREMIUM OR CLAIM DISPUTES: Should you have a dispute concerning your premium or about a claim you should contact the agent or the company first. If the dispute is not resolved, you may contact the Texas Department of Insurance.</p> <p>ATTACH THIS NOTICE TO YOUR POLICY This notice is for information only and does not become a part or condition of the attached document.</p>	<p>Para obtener informacion o para someter una queja:</p> <ol style="list-style-type: none">1. Puede comunicarse con su agente.2. Usted puede llamar al numero de telefono gratis de la compania's para informacion o para someter una queja al: 1-800-486-66953. Usted tambien puede escribir a la compa��a: U.S. Specialty Insurance Company 801 South Figueroa Street Suite 700 Los Angeles, CA 90017 USA4. Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de companias, coberturas, derechos, o quejas al: 1-800-252-34395. Puede escribir al Departamento de Seguros de Texas al: Consumer Protection (111-1A) P.O. Box 12030 Austin, Texas 78711-2030 Fax No. 512- 490-1007 Web: www.tdi.texas.gov E-mail: ConsumerProtection@tdi.texas.gov <p>DISPUTAS SOBRE PRIMAS O RECLAMOS: Si tiene una disputa concerniente a su prima o a un reclamo, debe comunicarse con el agente o la compania primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI).</p> <p>UNA ESTE AVISO A SU POLIZA Esta aviso es solo para proposito de informacion y no se convierte en parte o condicion del documento adjunto.</p>



Andrea Anderson
Purchasing Agent
141 West Renfro
Burleson, TX 76028
817-426-9847

ADDENDUM 5:
ITB 2024-005 West Ellison Street & Parking Improvements

Any interpretations, corrections or changes to this ITB and Specifications will be made by addendum, unless otherwise stated. Submitting companies shall return and acknowledge receipt of all addenda when replying to this bid.

1. There is not a bid item for the vehicular brick paver crosswalks. I thought maybe it was covered in the pedestrian brick pavers, but there is not enough quantity. I came up with approx. 1,800 SF of vehicular brick pavers. What item should the vehicular brick paver crosswalks and concrete paver base be in?
2. Item 79 is for the pedestrian concrete, the bid item is for 14,087 SF, I came up with 11,630 SF. Is this item to include the paver base?
3. Item 80 is for pedestrian brick pavers, the bid item is for 4,413 SF, I came up with 5,330 SF. Is this item to include the concrete paver base?
4. There also doesn't seem to be enough quantity for concrete paving in the bid items. The plans do not clearly delineate between concrete pavement, concrete driveway, concrete valley gutter, and concrete curb & gutter, so it is hard to break it down like that. I came up with a total of 62,250 SF of 6" Paving (of which has 2,942 LF of monolithic curb) and 1,086 LF of separate curb & gutter
 - a. Item #28 – 6" Concrete Pavement – 5,001 SY = 45,009 SF
 - b. Item #32 – 6" Concrete Driveway – 1,567 SF
 - c. Item #36 – 6" Valley Gutter – 26 SY = 234 SFTOTAL 6" Paving = 46,810 SF.

Please see following revision summary page.

A signed copy of this addendum MUST be signed and included in any submittal that will be considered for award.

2L construction
Company Name

Harmon R. Fisher III
Authorized Representative

Harmon R. Fisher III
Print Signature and Title

12/21/2023
Date

940-433-2670
Phone

**ADDENDUM ITEMS
TO
ELLISON STREET & PARKING IMPROVEMENTS
December 19, 2023**

The following revisions are hereby made to the Contract Documents for this project:

Sheet L1.02, updated material schedule paver information as follows:

Brick Unit Paver Type A – 2 5/8" instead of 2 1/4"
Brick Unit Paver Type B – 2 5/8" instead of 2 1/4", color Maganese Ironspot
Brick Unit Paver Type C – 4"x8" instead of 6"x12"
Brick Unit Paver Type D – 4"x8" instead of 6"x12", color Maganese Ironspot

Technical Specification, Section 329113 Soil Preparation, section Products, additional information as follows:

Structural-Soil Type: Street Tree Conditions: CU-Structural Soil, Minick Materials, Tim Shanahan, tims@minickmaterials.com, 405-834-8280

Paving Questions:

1. 1,810 SF of vehicular pavers is under Item 80 Pedestrian Brick Pavers. However, quantity for Item 80 Pedestrian Brick Pavers is now 7,075 SF (this includes 1,810 for vehicular and 5,265 pedestrian)
2. Item #79 for Pedestrian Concrete includes the concrete paver base at pedestrian paver areas, this total is now 17,867 SF.
3. Concrete for underneath pavers is carried in Item #79 Pedestrian Concrete.
4. Additional clarifications on paving quantities:
 - a. Item #28 – 6" Concrete pavement, includes concrete base under vehicular pavers. 57,466 SF or 6,385 SY
 - b. No change in bid form quantity
 - c. No change in bid form quantity

By: Anita Beard, ASLA, Landscape Architect



Andrea Anderson
Purchasing Agent
141 West Renfro
Burleson, TX 76028
817-426-9847

ADDENDUM 4:
ITB 2024-005 West Ellison Street & Parking Improvements

Any interpretations, corrections or changes to this ITB and Specifications will be made by addendum, unless otherwise stated. Submitting companies shall return and acknowledge receipt of all addenda when replying to this bid.

- 1) The material schedule on the plans does not match the technical specs in the manual, for site furnishings. It shows same manufacturer but different model/pattern and color for the bench and trash cans. Also, the plans and material schedule shows 9 removable bollards, but there is not a bid item for them. In addition, the specs reference a bike rack, but the plans and material schedule do not show any.
Please see the revision narrative on the following page.

A signed copy of this addendum MUST be signed and included in any submittal that will be considered for award.

2L construction
Company Name

Harmon R. Fisher III
Authorized Representative

Harmon R. Fisher III President
Print Signature and Title

12/21/23
Date

940-433-2670
Phone



Andrea Anderson
Purchasing Agent
141 West Renfro
Burleson, TX 76028
817-426-9847

ADDENDUM 3:

ITB 2024-005 West Ellison Street & Parking Improvements

Any interpretations, corrections or changes to this ITB and Specifications will be made by addendum, unless otherwise stated. Submitting companies shall return and acknowledge receipt of all addenda when replying to this bid.

- 1) What is the required post mounting system for the Lane Control, Right Lane Must Turn Right, and the Keep Right street signs?
All mountings shall be old town sign post for all traffic control signs – refer to Bid Items 52 and 53.
- 2) In the Bid Form quantity sheet, I see that the ADA Parking Sign and Post call for an Estimated Quantity of 15. On the plans I can only find 7?
The design engineer has verified that 15 ADA signs are needed.

A signed copy of this addendum MUST be signed and included in any submittal that will be considered for award.

2L construction
Company Name

Harmon R. Fisher III
Authorized Representative

Harmon R. Fisher III President
Print Signature and Title

12/21/2023
Date

940-433-2670
Phone

**ADDENDUM ITEMS
TO
ELLISON STREET & PARKING IMPROVEMENTS
December 18, 2023**

The following revisions are hereby made to the Contract Documents for this project:

Sheet L1.02, updated material schedule quantities.

Page 14, Technical Specification, Bid Form, updated as follows:

Added line item 98. 9 EA Bollards

Technical Specification, Section 323300 Site Furnishings, section Summary and Products, updated as follows:

Removed Bike Racks from Summary

Removed Bick Racks from Products

Updated Bench and Trash Receptacle product and vendor contact information.

By: Anita Beard, ASLA, Landscape Architect

ADDENDUM NO. 2
TO
ELLISON STREET & PARKING IMPROVEMENTS
December 6, 2023

The following revisions are hereby made to the Contract Documents for this project:

Page 134 of 239, Technical Specification, Section 024116 Building Demolition, section Protection & Safety, shall be amended to read as follows:

2. An Asbestos Survey was prepared by Vantage Environment Services, LP. dated April 25, 2023 (Vantage Report No. 2023-1114). This survey indicated that regulated amounts of asbestos was found in one (1) of the fifty-four (54) bulk samples collected from the existing building located at 225 West Renfro Street, Burleson, TX 76028. ~~City will complete asbestos abatement by separate contract. When abatement is complete, the City will authorize the contractor to commence demolition of the building.~~

Page 135 of 239, Technical Specification, Section 024116 Building Demolition, section Environmental Regulations, shall be amended to read as follows:

2. The City has completed to perform a Phase I Environmental Study prior to Work commencement. The City will notify the Contractor when the building has been vacated to begin asbestos abatement. Other materials to be demolished may also be present such as lead paint and/or other Hazardous Materials, including but not limited to, transformers and/or other electrical equipment containing polychlorinated biphenyls which are located at the Site.

By: Thuy-Nhu Nguyen, P.E. Project Engineer



Andrea Anderson
Purchasing Agent
141 West Renfro
Burleson, TX 76028
817-426-9847

ADDENDUM ²
ITB 2024-005 West Ellison Street & Parking Improvements

Any interpretations, corrections or changes to this ITB and Specifications will be made by addendum, unless otherwise stated. Submitting companies shall return and acknowledge receipt of all addenda when replying to this bid.


There is a correction to Addendum 1:

- 4) What is the deadline for Phase 1 construction?
~~May 24th, 2024~~ **May 22nd, 2024**

Additionally, please see the summary of changes to the Technical Specifications on the following page.

A signed copy of this addendum MUST be signed and included in any submittal that will be considered for award.

2L construction
Company Name

Harmon R Fisher III 
Authorized Representative

Harmon R Fisher III
Print Signature and Title

12/21/2023
Date

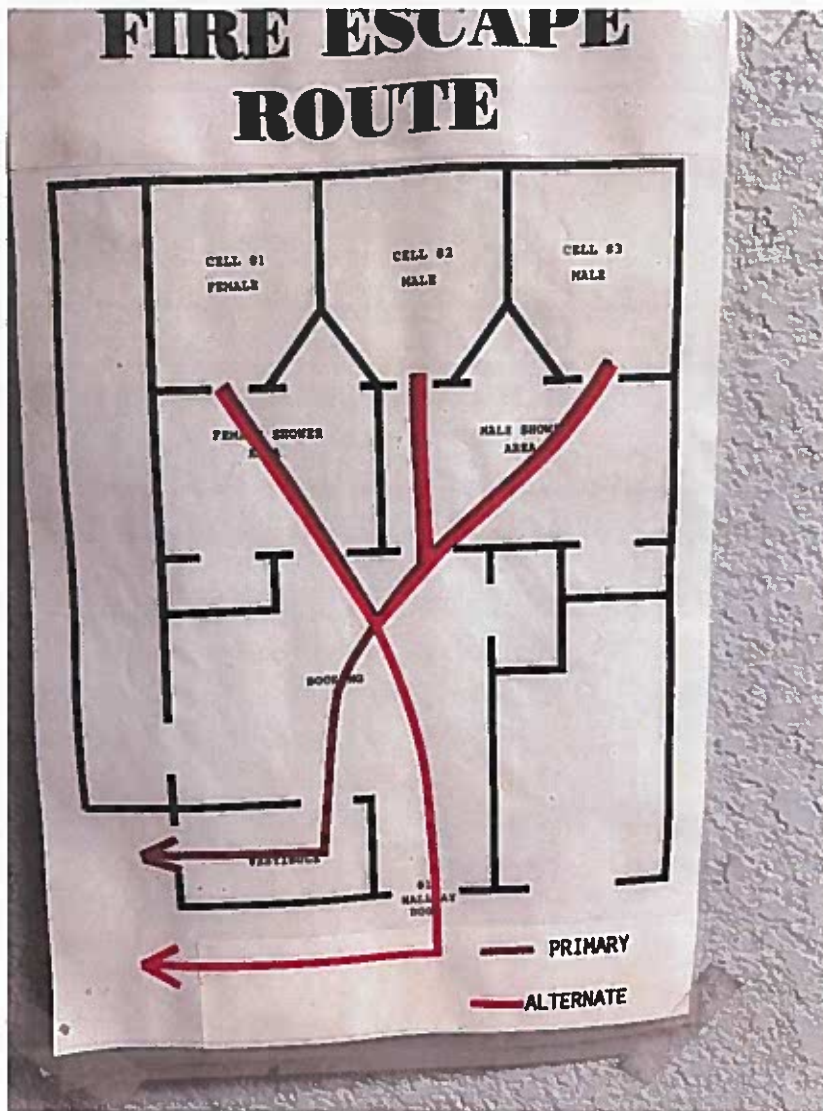
940-433-2670
Phone

ADDENDUM 1:
ITB 2024-005 West Ellison Street & Parking Improvements

Any interpretations, corrections or changes to this ITB and Specifications will be made by addendum, unless otherwise stated. Submitting companies shall return and acknowledge receipt of all addenda when replying to this bid.

- 1) What is the engineer's estimate for this project?
\$3,315,000
- 2) Is the City require a vibratory truss screed for street paving in lieu of a slip form paving machine?
A vibratory truss screed will not be allowed for street paving.
- 3) What is the anticipated date for a Pre-Construction meeting?
Contract is currently targeted for approval at the February 5th City Council meeting. Pre-Construction meeting can be scheduled for later that same week.
- 4) What is the deadline for Phase 1 construction?
May 24th, 2024.
- 5) If the second mobilization identified in the bid items is not needed by the schedule, can it still be billed to?
No, if the additional mobilization is not needed, then it will not be paid.
- 6) If construction activity is paused by the City between Phases, will the contract days be paused as well?
Yes, a delay by the City between the completion of Phases 1 & 2 and the start of Phases 3 & 4 will pause the allotted contract days.
- 7) Will the maintenance bond of Phase 1 begin once it is accepted for use by the City, or will the final acceptance of the complete project control?
City will provide an Acceptance Letter to the contractor for the completion of Phase 1 to allow for the earlier commencement of its maintenance period.
- 8) Contract demolition specification identifies that asbestos abatement is not part of the contract scope. Is this an error?
Yes, corrected specification details will be posted as soon as available. Asbestos abatement will be a part of this contract scope.
- 9) Will power and water be available at the building?
Information regarding power and water availability is included in the Asbestos Abatement Specifications section of the Project Manual.
- 10) 5. Is the consultant paid separately for air monitoring?
City has a separate contract with Vantage Environmental for air monitoring for the asbestos abatement portion of the contract.
- 11) Will street curb and gutter paving require a machine?
A paving machine will not be required for street curb and gutter paving.
- 12) How many jail cells are there in the building to be demolished?

The jail has 3 cells, please see below for a floorplan of the jail section of the building.



13) Can you please provide the sign-in sheet?

Sign-in sheet will be uploaded to Bonfire.

14) Is there an alternate for fully concrete street parking in place of the asphalt with concrete curb and gutter trim?

No, street parking must be constructed as shown in the construction plans.

15) Is the pad under the carpet the only asbestos in the building?

The asbestos identified was the black mastic under carpet.

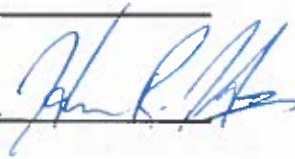
A signed copy of this addendum MUST be signed and included in any submittal that will be considered for award.

21 Construction

Company Name

Harmon R Fisher III

Authorized Representative



12/21/2023

Date

Harmon R Fisher III

President

Print Signature and Title

940-433-2670

Phone

CITY OF BURLESON, TEXAS
Ellison Street & Parking Improvements
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CONTRACTUAL DOCUMENTS

Notice to Bidders

Instructions to Bidders

Bid Form*

Bid Bond*

Form CIQ-Conflict of interest Questionnaire*

AGC Construction Contractor's Qualification Statement for Engineered Construction*

Acknowledgement of Insurance Requirements*

Disadvantaged Business Form*

Form 1295 – Certificate of Interested Parties*

Form TCG 2270 - Prohibition on Contracts with Companies Boycotting Israel*

Performance Bond

Payment Bond

Maintenance Bond

General Conditions of the Construction Contract

Supplementary Conditions

Consent of Surety Company to Final Payment

Contractors Affidavit of Final Payment

***Required to be submitted with the bid to be deemed a responsive bid. If these items are not submitted with the bid package, the bids will not be read publicly.**

SPECIAL OR TECHNICAL SPECIFICATIONS

024116 – Building Demolition

321724 – Supply and Installation of Ceramic and Acrylic Pavement Buttons

323300 – Site Furnishings

328400 – Planting Irrigation

329113 – Soil Preparation

329200 – Turfs and Grasses

329300 – Plants

Special Specification – Construction Pay Item Descriptions

Asbestos Abatement Specifications

CONSTRUCTION PLANS AND DETAILS

(Bound Separately)

ADVERTISEMENT FOR BIDS

City of Burleson, Texas

General Notice

The City of Burleson (Owner) is requesting Bids for the construction of the following Project:

WEST ELLISON STREET AND PARKING IMPROVEMENTS

City of Burleson Project No. 21PW02

Bids for the construction of the Project will be received electronically through the City's strategic sourcing platform, Bonfire, until December 20th, 2023 at 2:00 PM local time. At 3:00 pm local time the Bids received will be read via a publicly available online meeting, shared through the Bonfire platform.

A mandatory pre-bid meeting will be held December 1st ***at 10:00 am.***

The Project includes the following Work:

~10,105 SF of building demolition & asbestos abatement, ~5000 SY of off-street parking, on-street parking, 169 LF of 8" Water PVC, 119 LF of 6" water PVC, and streetscape elements.

The Project has an expected duration of 270 calendar days.

Obtaining the Bidding Documents

Information and Bidding Documents for the Project can be found at the following designated website:

<https://burlesontx.bonfirehub.com/portal/?tab=openOpportunities>

Specifications and Contract Documents for this project shall be available for viewing and download in electronic (PDF) format at the City of Burleson website (through <https://burlesontx.bonfirehub.com/login>) at no cost beginning November 9th, 2023.

Instructions to Bidders.

For all further requirements regarding bid submittal, qualifications, procedures, and contract award, refer to the Instructions to Bidders that are included in the Bidding Documents.

This Advertisement is issued by:

Owner: **City of Burleson, Texas**

By: **Andrea Anderson**

Title: **Purchasing Manager**

Date: **November 9th, 2023**

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS.

Terms used in these Instructions to Bidders which are defined in the Standard General Conditions of the Construction Contract have the meanings assigned to them in the General Conditions. The term "Bidder" means one who submits a Bid directly to Owner, as distinct from a sub-bidder, who submits a bid to a Bidder. The term "Successful Bidder" means the lowest, qualified, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award. The term "Bidding Documents" includes the Advertisement or Invitation to Bid, Instructions to Bidders, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

2. COPIES OF BIDDING DOCUMENTS.

2.1. Complete sets of the Bidding Documents in the number and for the sum, if any, stated in the Notice to Bidders may be obtained from Engineer.

2.2. Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assume 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.

3. QUALIFICATIONS OF BIDDERS.

No pre-qualifications of Bidders is required. However, to demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of Owner's request written evidence, such as financial data, previous experience, present commitments and other such data as may be called for below (or in the Supplementary Conditions). Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE.

4.1. It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the Work, (c) consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify Engineer of all conflicts, errors or discrepancies in the Contract Documents.

4.2. Information and data reflected in the Contract Documents with respect to Underground Facilities at or contiguous to the site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities or others, and Owner does not assume responsibility for the accuracy or completeness thereof.

4.3. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, Underground Facilities and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.02. and 4.03. of the General Conditions.

4.4. Before submitting a Bid each Bidder will be responsible to make or obtain such explorations, tests and data concerning physical conditions (surface, subsurface and Underground Facilities) at or contiguous to the site, or otherwise which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

4.5. On request in advance, Owner will provide each Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.

4.6. The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by Owner unless otherwise provided in the Contract Documents.

4.7. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

5. INTERPRETATIONS AND ADDENDA.

5.1. All questions about the meaning or intent of the Contract Documents are to be presented in writing to Engineer. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than 96 hours prior to the date and time for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

5.2. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.

5.3. The bid proposal as submitted by the bidder shall be so constructed as to include any addenda issued by the Engineer prior to 24 hours of the opening of bids, with the appropriate recognition of addenda so noted in the bid proposal.

6. BID SECURITY.

6.1. Each Bid must be accompanied by Bid security made payable to Owner in an amount of five percent of the Bidder's maximum Bid price and in the form of a certified or cashier's check or a Bid Bond issued by a surety meeting the requirements of Paragraph 5.01. 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 the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within fifteen days after the Award of Contract, Owner may annul the Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders 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 or the forty-sixth day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be returned within seven days after the Bid opening.

7. CONTRACT TIME.

The numbers of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the Contract Time) are set forth in the Bid Form and the Agreement.

8. LIQUIDATED DAMAGES.

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

9. SUBSTITUTE OR "OR EQUAL" ITEMS.

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or equal" items. Whenever 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, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement. The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in Paragraph 6.05.A, 6.05.B, 6.05.C, 6.05.D, 6.05.E, and 6.05.F of the General Conditions and may be supplemented in the Supplementary Conditions.

10. SUBCONTRACTORS, SUPPLIERS AND OTHERS.

10.1. Contractor shall not award Work to a subcontractor(s) that is (are) in excess of 50% of the total contract price without written approval of the Owner.

10.2. No Contractor shall be required to employ any subcontractor, supplier, other person or organization against whom Contractor has reasonable objection.

11. BID FORM.

11.1. The Bid Form is included with the Bidding Documents.

11.2. All blanks on the Bid Form must be completed by printing or typing in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item, alternative, and unit price item listed therein. In the case of optional alternatives, the words "No Bid," "No Change," or "Not Applicable" may be entered. Bidder shall state the prices, written in ink, or typed and signed, in both words and numerals, for which the Bidder proposes to do the work contemplated or furnish materials required. All prices shall be written legibly. In case of discrepancy between price in written words and the price in written numerals, the price in written words shall govern.

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 must be shown below the signature.

11.4. Bids by partnerships 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 acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

11.7. The address and telephone number for communications regarding the Bid must be shown.

12. SUBMISSION OF BIDS.

It shall be the Bidder's responsibility for the delivery of his proposal at the proper place by the time stated in the Notice to Bidders. The mere fact that a proposal was dispatched will not be considered. Proposals must be submitted at <http://burlesontx.bonfirehub.com>. The BIDDER shall acknowledge receipt of any addenda.

13. MODIFICATION AND WITHDRAWAL OF BIDS.

Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

14. OPENING OF BIDS.

Bids will be opened and (unless obviously non-responsive) read aloud publicly. An abstract of the amounts of the base Bids and major alternates (if any) will be made available to Bidders after the opening of Bids.

15. BIDS TO REMAIN SUBJECT TO ACCEPTANCE.

All bids will remain subject to acceptance for ninety (90) days after the day of the Bid opening, but Owner may, in its 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 informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, nonresponsive, unbalanced or conditional Bids. Also, Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of words.

16.2. In evaluating Bids, Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates as may be requested in the Bid Form or prior to the Notice of Award.

16.3. Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

16.4. 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 interests of the Project.

16.5. If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within forty-five days after the day of the Bid opening.

17. CONTRACT SECURITY.

Paragraph 5.01.A and 5.01.B of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to performance, payment and maintenance Bonds. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required Bonds.

18. SIGNING OF AGREEMENT.

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within ten days thereafter Contractor shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner with the required Bonds. Within ten days thereafter Owner shall deliver one fully signed counterpart to Contractor.

The Successful Bidder must also complete a Certificate of Interested Parties (Form 1295) to the Owner as required by Texas Government Code Chapter 2252 with the signed Agreement. A blank Form 1295 is provided for reference.

19. PREBID CONFERENCE.

A mandatory pre-bid conference will be held at 10:00 AM on Dec. 1, 2023 at 141 W. Renfro Burleson, TX, 76028. Representatives of the Owner and Engineer will be present to discuss the project. Engineer will distribute to prospective bidders of record such Addenda as Engineer considers necessary in response to discussions or inquiries arising at the conference.

20. SALES AND USE TAXES.

Owner is exempt from State of Texas Sales and Use Taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Contract Price. All other applicable taxes, fees, permits, etc., shall be the sole responsibility of the Contractor and the bid submitted shall reflect the costs for the same. Refer to Supplementary Conditions SC-6.10.A for additional information.

21. CONFLICT OF INTEREST QUESTIONNAIRE

Effective January 1, 2006, House Bill 914 requires any vendor that wishes to conduct business or to be considered for business with any political subdivision, to complete a "conflict of interest" questionnaire (attached). Please complete the attached questionnaire and return with the bid specifications. Additional information regarding this requirement may be obtained at www.ethics.state.tx.us.

22. DEBARMENT

By submitting a BID, the bidder certifies that it is not currently debarred from receiving contracts from any political subdivision or agency of the State of Texas and that it is not an agent of a person or entity that is currently debarred from receiving contracts from any political subdivision or agency of the State of Texas.

23. WAIVER OF SUBROGATION

The contractor and his subcontractors shall require their insurance carrier, with respect to all insurance policies, to waive all rights of subrogation against the City of Burleson, its commissioners, partners, officials, agents, and employees and against all other contractors and subcontractors.

25. IDENTIFICATION OF CONTRACTOR VEHICLES & EQUIPMENT

Contractor will be responsible for ensuring vehicles and equipment are clearly identified in a manner acceptable to the City, and be properly licensed and inspected in accordance with the State of Texas and JOHNSON County regulations.

26. EMPLOYEE SAFETY

Contractor must provide and enforce the use of appropriate safety equipment.

27. SUBSTANCE ABUSE

Possession, consumption of, and/or reporting for work under the influence of alcohol, controlled substances, and/or dangerous drugs by subcontractors, officers, or employees of the Contractor will not be tolerated. Enforcement of this policy is the responsibility of Contractor.

28. CUSTOMER RELATIONS

Contractor is responsible for ensuring that its subcontractors or employees conduct themselves in a courteous and professional manner when dealing with City employees, elected or appointed officials, residents, and/or customers of the City. The City reserves the right to reject any Contractor subcontractor or employee and/or request replacement at any time.

29. SALES TAXES

The City is exempt from most state and local sales taxes by state law. Therefore, the City does not possess a "tax exempt number." The City will provide a sales tax exemption certificate to the vendor upon request.

The total for each BID submitted must include any applicable taxes. It is suggested that taxes, if any, be separately identified, itemized, and stated on each BID. The City cannot determine for the bidder whether or not the item(s) requested in the BID are taxable to the City. The bidder, through the bidder's attorney or tax consultant, must make such determination. Bills submitted for taxes after the BIDs are awarded will not be honored.

30. TAXES, PERMITS, LICENSES

The Contractor shall obtain and pay for all licenses, permits and inspections required for the work. Upon written notification, the contractor shall provide notarized copies of all valid licenses, permits and certificates required for performance of the work. The notarized copies shall be delivered to the City of Burleson, Attn: Purchasing Division, Burleson, TX 76028-4296 within (10) days of notification.

31. CONFIDENTIALITY OF DOCUMENTS

In accordance with Local Government Code 252.049 trade secrets are confidential information in competitive sealed bids and are not open for public inspection.

After the BID opening, except for BID amounts, names, and addresses of contractors, all other BID documents and information will be deemed confidential during the evaluation process until formal action to award the BID or reject all BIDs has been taken by the City Council. Following award of the BID or rejection of all BIDs by the City Council, all BIDs shall then become public

documents, available for public view upon written request. Copies of BIDs may then be requested by interested contractors, citizens, or City officials.

32. IDENTICAL BIDS

In the event of two or more identical low BIDs, the BID will be awarded as prescribed by Section 271.901 of the Texas Local Government Code.

CONTRACTOR STATUS INFORMATION

Instructions:

Please fill in the appropriate section below, completing all blanks within the section. This information is necessary to ensure that the contract and bonds are in the correct form.

SECTION 1: If the contractor is a sole proprietor, fill in this section only:

Name: _____
First Middle Last

Name under which you are engaged in business (if operating under an assumed name):

Residence: _____
Street City County State ZIP

Business: _____
Street City County State ZIP

Principal place of business: _____
City County State ZIP

Contact Person: _____
Name Phone

SECTION 2: If the contractor is a partnership, fill in this section only:

Name of Partner: _____
First Middle Last

Residence: _____
Street City County State ZIP

Name of Partner: _____
First Middle Last

Residence: _____
Street City County State ZIP

Name under which contractor conducts business (if operating under an assumed name):

Business Address:

Street City County State ZIP

Principal place of business:

City County State Zip

Contact Person:

Name

Phone

SECTION 3: If the contractor is a corporation, fill in this section only:

Registered name of corporation: 21 construction LLC

Doing business as: _____

Date charter expires: _____

State of corporation: Texas

Date of corporation filing: 4/22/04 (If non-Texas corporation, date of Certificate of Authority Issuance).

Registered Agent: Harmon R Fisher III

First

Middle

Last

Address: 200 Boyd Business Pkwy Boyd Tx 76023 Wise Tx

Street

City

County

State

ZIP

Location of Corporation principal office:

200 Boyd Business Pkwy Boyd Wise Tx 76023

Street

City

County

State

ZIP

Person executing contract on behalf of corporation: (Please print)

Name: Harmon R Fisher III

First

Middle

Last

Title: President

Address: 200 Boyd Business Pkwy Boyd Wise Tx 76023

Street

City

County

State

ZIP

Telephone Number: 940-433-2670

BID FORM

**City of Burleson
Ellison Street & Parking Improvements
City Project No. 21PW02**

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Business Address: _____
Street City County State ZIP

Principal place of business: _____
City County State Zip

Contact Person: _____
Name Phone

SECTION 3: If the contractor is a corporation, fill in this section only:

Registered name of corporation: 21 construction LLC

Doing business as: _____

Date charter expires: _____

State of corporation: Texas

Date of corporation filing: 4/22/04 (If non-Texas corporation, date of Certificate of Authority Issuance).

Registered Agent: Harmon R Fisher III
First Middle Last

Address: 200 Boyd Business Pkwy Boyd Tx 76023 Wise Tx
Street City County State ZIP

Location of Corporation principal office:

200 Boyd Business Pkwy Boyd Wise Tx 76023
Street City County State ZIP

Person executing contract on behalf of corporation: (Please print)

Name: Harmon R Fisher III
First Middle Last

Title: President

Address: 200 Boyd Business Pkwy Boyd Wise Tx 76023
Street City County State ZIP

Telephone Number: 940-433-2670

- of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
 - G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
 - H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
 - I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
 - J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID


- 5.01 Bidder will complete the Work in strict accordance with the Contract Documents, Specifications and Construction Plans for the following price(s):

[Bid Form Inserted in Next Sheet]

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
REMOVAL				
1.	1 LS	Mobilization (Phase 1 & 2), ONE HUNDRED SEVENTY FIVE THOUSAND _____ Dollars and ZERO _____ Cents per Lump Sum	\$ 175,000.00	\$ 175,000.00
2.	1 LS	Mobilization (Phase 3 & 4), TEN THOUSAND _____ Dollars and ZERO _____ Cents per Lump Sum	\$ 10,000.00	\$ 10,000.00
3.	9,257 SF	Removal of Sidewalk, THREE _____ Dollars and ZERO _____ Cents per Square Foot	\$ 3.00	\$ 27,771.00
4.	41 SF	Removal of Step, EIGHT _____ Dollars and FIFTY _____ Cents per Square Foot	\$ 8.50	\$ 348.50
5.	3 EA	Remove ADA Ramp, SIX HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 600.00	\$ 1,800.00
6.	3,997 SF	Remove Concrete Drive, THREE _____ Dollars and ZERO _____ Cents per Square Foot	\$ 3.00	\$ 11,991.00
7.	3,110 SY	Remove Concrete Pavement, TWENTY EIGHT _____ Dollars and ZERO _____ Cents per Square yard	\$ 28.00	\$ 87,080.00
8.	3,560 SY	Remove Asphalt Pavement, TWENTY EIGHT _____ Dollars and ZERO _____ Cents per Square Yard	\$ 28.00	\$ 99,680.00
9.	1,520 LF	Remove Concrete Curb & Gutter, SEVEN _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 7.00	\$ 10,640.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
10.	43 SY	Remove Concrete Valley Gutter, THIRTY _____ Dollars and ZERO _____ Cents per Square	\$ 30.00	\$ 1,290.00
11.	1 EA	Salvage Fire Hydrant, TWO THOUSAND SEVEN HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 2,700.00	\$ 2,700.00
12.	1 LS	Site Clearing, FIFTY THOUSAND _____ Dollars and ZERO _____ Cents per Lump Sum	\$ 50,000.00	\$ 50,000.00
13.	14 EA	Remove Sign Panel & Post, TWO HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 200.00	\$ 2,800.00
14.	1 LS	Remove 1-Story Brick Building (Area~10,105 SF), FIFTY ONE THOUSAND _____ Dollars and ZERO _____ Cents per Lump Sum	\$ 51,000.00	\$ 51,000.00
15.	1 LS	Abatement and disposal of all asbestos containing material, including any National or State fees, FOURTEEN THOUSAND _____ Dollars and ZERO _____ Cents per Lump Sum	\$ 14,000.00	\$ 14,000.00
16.	1 LS	Remove 1-Story Wood Shed (Area~100 SF), ONE THOUSAND _____ Dollars and ZERO _____ Cents per Lump Sum	\$ 1,000.00	\$ 1,000.00
17.	1 EA	Remove Antenna Tower, FIVE HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 500.00	\$ 500.00
PAVING				
18.	380 CY	Borrow by Plan, THIRTY FIVE _____ Dollars and ZERO _____ Cents per Cubic Yard	\$ 35.00	\$ 13,300.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
19.	2,244 CY	Embankment by plan, FORTY _____ Dollars and ZERO _____ Cents per Cubic Yard	\$40.00	\$89,760.00
20.	99 TN	Hydrated Lime, THREE HUNDRED FORTY _____ Dollars and ZERO _____ Cents per Ton	\$ 340.00	\$ 33,660.00
21.	3,974 SY	6" Lime Treatment SEVEN _____ Dollars and TWENTY _____ Cents per Square Yard	\$7.20	\$28,612.80
22.	1,504 SY	8" Lime Treatment SEVEN _____ Dollars and THIRTY _____ Cents per Square Yard	\$ 7.30	\$10,979.20
23.	4,857 SY	6" Flexible Base, Type A, GR-1 FOURTEEN _____ Dollars and ZERO _____ Cents per Square Yard	\$14.00	\$67,998.00
24.	266 SY	8" Flexible Base, Type A, GR-1 EIGHTEEN _____ Dollars and ZERO _____ Cents per Square Yard	\$18.00	\$4,788.00
25.	1,484 SY	2" Asphalt Pavement Type D THIRTY FOUR _____ Dollars and ZERO _____ Cents per Square Yard	\$34.00	\$50,456.00
26.	466 SY	3" Asphalt Pavement Base Type B, FORTY _____ Dollars and ZERO _____ Cents per Square Yard	\$40.00	\$18,640.00
27.	1,018 SY	5" Asphalt Pavement Base Type B, SEVENTY SEVEN _____ Dollars and ZERO _____ Cents per Square Yard	\$77.00	\$78,386.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
28.	 6,385 SY	6" Concrete Pavement, SEVENTY TWO _____ Dollars and ZERO _____ Cents per Square Yard	\$72.00	\$459,720.00
29.	137 SF	Concrete Sidewalk, Adjacent to Retaining Wall, NINE _____ Dollars and ZERO _____ Cents per Square Foot	\$9.00	\$1,233.00
30.	60 SF	Concrete Retaining Wall Adjacent to Sidewalk, FORTY FIVE _____ Dollars and ZERO _____ Cents per Square Foot	\$45.00	\$2,700.00
31.	190 SF	Low Retaining Wall, FIFTY _____ Dollars and ZERO _____ Cents per Square Foot	\$50.00	\$9,500.00
32.	3,567 SF	6" Concrete Driveway, EIGHT _____ Dollars and ZERO _____ Cents per Square Foot	\$ 8.00	\$ 28,536.00
33.	26 SY	6" Valley Gutter, EIGHTY _____ Dollars and ZERO _____ Cents per Square Foot	\$80.00	\$ 2,080.00
34.	24 EA	Curb Ramp (ADA Compliant), TWO THOUSAND TWO HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$2,200.00	\$52,800.00
35.	1 EA	Ramp with Hand Rails, TWO THOUSAND FIVE HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$2,500.00	\$2,500.00
36.	51 LF	Handrail (per city detail), ONE HUNDRED TWENTY _____ Dollars and ZERO _____ Cents per Linear Foot	\$120.00	\$6,120.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
37.	1,473 LF	6" Concrete Curb & Gutter, THIRTY FIVE _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 35.00	\$ 51,555.00
38.	166 LF	2"-6" Concrete Curb at Back of Sidewalk, TEN _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 10.00	\$ 1,660.00
39.	40 LF	3" Mountable Curb, SIXTY _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 60.00	\$ 2,400.00
40.	16 LF	Steel Plate (over flume), TWO HUNDRED FIFTY _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 250.00	\$ 4,000.00
41.	1 LS	4" SLD Pavement Marking HAS (W) (Parking Striping), SIX THOUSAND FIVE HUNDRED _____ Dollars and ZERO _____ Cents per Lump Sum	\$ 6,500.00	\$ 6,500.00
42.	28 EA	Handicap Parking Symbol & No Parking Paint, TWO HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 200.00	\$ 5,600.00
43.	652 LF	Fire Lane Marking, ONE _____ Dollars and FIFTY _____ Cents per Linear Foot	\$ 1.50	\$ 978.00
44.	46 EA	Wheelstop, ONE HUNDRED FIFTY _____ Dollars and ZERO _____ Cents per Each	\$ 150.00	\$ 6,900.00
45.	3 EA	Blue Reflector, THIRTY _____ Dollars and ZERO _____ Cents per Each	\$ 30.00	\$ 90.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
46.	15 EA	ADA Parking Sign & Post, FIVE HUNDRED FIFTY _____ Dollars and ZERO _____ Cents per Each	\$ 550.00	\$ 8,250.00
TRAFFIC				
47.	35 LF	2" CONDT PVC SCH, THIRTY THREE _____ Dollars and ZERO _____ Cents per Linear Foot	\$33.00	\$ 1,155.00
48.	2 EA	Audible Pedestrian Pushbutton Station, NINE HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$900.00	\$ 1,800.00
49.	35 LF	3/C 14 AWG Multi- Conductor Cable, TWO _____ Dollars and ZERO _____ Cents per Linear Foot	\$2.00	\$70.00
50.	1 EA	Furnish/Install 5' Pedestrian Push Button Pole , TWO THOUSAND FIVE HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 2,500.00	\$ 2,500.00
51.	2 EA	RRFB Assembly Double Sided (Solar), EIGHTEEN THOUSAND _____ Dollars and ZERO _____ Cents per Each	\$18,000.00	\$36,000.00
52.	9 EA	Furnish/Install Alum Sign Ground Mount City Std., SIX HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$600.00	\$5,400.00
53.	1 EA	Install Alum Sign Ground Mount, SEVEN HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 700.00	\$ 700.00
54.	32 EA	REF PAV MRK TY I(W) 18" (YLD TRI) (100MIL), FIFTY _____ Dollars and ZERO _____ Cents per Each	\$ 50.00	\$ 1,600.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
55.	32 EA	PAVEMENT SEALER (YLD TRI), SIX _____ Dollars and ZERO _____ Cents per Each	\$6.00	\$ 192.00
56.	32 EA	PAV SURF PREP FOR MRK (18") (YLD TRI), SIX _____ Dollars and ZERO _____ Cents per Each	\$6.00	\$ 192.00
57.	88 LF	REFL PAV MRK TY I (W) 24" (SLD) (100 MIL), THIRTEEN _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 13.00	\$ 1,144.00
58.	88 LF	PAVEMENT SEALER 24", ONE _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 1.00	\$ 88.00
59.	88 LF	PAV SURF PREP FOR MRK (24"), ONE _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 1.00	\$ 88.00
60.	3 EA	REFL PAV MRK TY I(W) (ARROW) (100MIL), TWO HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$200.00	\$600.00
61.	3 EA	PAVEMENT SEALER (ARROW), TEN _____ Dollars and ZERO _____ Cents per Each	\$ 10.00	\$ 30.00
62.	3 EA	PAV SURF PREP FOR MRK (ARROW), TEN _____ Dollars and ZERO _____ Cents per Each	\$ 10.00	\$ 30.00
63.	1 EA	REFL PAV MRK TY I (W) (DBL ARROW)(100 MIL), TWO HUNDRED FIFTY _____ Dollars and ZERO _____ Cents per Each	\$ 250.00	\$ 250.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
64.	1 EA	PAVMENT SEALER (DBL ARROW), TEN _____ Dollars and ZERO _____ Cents per Each	\$ 10.00	\$ 10.00
65.	1 EA	PAV SURF PREP FOR MRK (DBL ARROW), TEN _____ Dollars and ZERO _____ Cents per Each	\$ 10.00	\$ 10.00
66.	35 EA	REFL PAV MRKR TY II-C-R, TEN _____ Dollars and ZERO _____ Cents per Each	\$ 10.00	\$ 350.00
67.	35 EA	TRAFFIC BUTTON TY W, TEN _____ Dollars and ZERO _____ Cents per Each	\$ 10.00	\$ 350.00
WATER				
68.	169 LF	8" PVC Water Pipe, NINETY _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 90.00	\$ 15,210.00
69.	119 LF	6" PVC Water Pipe, SEVENTY THREE _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 73.00	\$ 8,687.00
70.	3 EA	8" Gate Valve, FOUR THOUSAND ONE HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 4,100.00	\$ 12,300.00
71.	2 EA	6" Gate Valve, THREE THOUSAND FOUR HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 3,400.00	\$ 6,800.00
72.	1 EA	Fire Hydrant Assembly, FIFTEEN THOUSAND _____ Dollars and ZERO _____ Cents per Each	\$ 15,000.00	\$ 15,000.00
73.	1 EA	Salvage Existing 8" Gate Valve, THREE THOUSAND _____ Dollars and ZERO _____ Cents per Each	\$ 3,000.00	\$ 3,000.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
74.	1 EA	Salvage Existing 6" Gate Valve, THREE THOUSAND _____ Dollars and ZERO _____ Cents per Each	\$ 3,000.00	\$ 3,000.00
75.	9 EA	Adjust Existing Gate Valve to Final Grade, TWO THOUSAND EIGHT HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 2,800.00	\$ 25,200.00
76.	2 EA	Connect to Existing Water(4"-12") THIRTEEN THOUSAND _____ Dollars and ZERO _____ Cents per Each	\$ 13,000.00	\$ 26,000.00
77.	1 TON	Ductile Iron Fittings, FIVE THOUSAND _____ Dollars and ZERO _____ Cents per Ton	\$ 5,000.00	\$ 5,000.00
78.	288 LF	Trench Safety, FIFTY _____ Dollars and ZERO _____ Cents per Linear Foot	\$ 50.00	\$ 14,400.00
LANDSCAPE				
79.	17,867 SF	Pedestrian Concrete Pavement (5" Thick) NINE _____ Dollars and FIFTY _____ Cents per Square Foot	\$ 9.50	\$ 169,736.50
80.	7,075 SF	Pedestrian Brick Unit Pavers, TWENTY TWO _____ Dollars and ZERO _____ Cents per Square Foot	\$ 22.00	\$ 155,650.00
81.	774 SF	Decorative River Rocks, FORTEEN _____ Dollars and ZERO _____ Cents per Square Foot	\$ 14.00	\$ 10,836.00
82.	3,045 SF	Decomposed Granite, FIVE _____ Dollars and ZERO _____ Cents per Square Foot	\$ 5.00	\$ 15,225.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
83.	10,887 SF	Shrub Areas, SEVEN _____ Dollars and FORTY _____ Cents per Square Foot	\$7.40	\$80,563.80
84.	11,200 SF	Solid Sod Areas, ZERO _____ Dollars and NINETY _____ Cents per Square Foot	\$0.90	\$10,080.00
85.	557 LF	Steel Edging, THIRTEEN _____ Dollars and ZERO _____ Cents per Linear Foot	\$13.00	\$7,241.00
86.	30 EA	Large Trees, ONE THOUSAND FIVE HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$1,500.00	\$45,000.00
87.	16 EA	Ornamental Trees, NINE HUNDRED FORTY _____ Dollars and ZERO _____ Cents per Each	\$940.00	\$15,040.00
88.	76 EA	Irrigation - Tree Bubblers, SIXTY FIVE _____ Dollars and ZERO _____ Cents per Each	\$65.00	\$4,940.00
89.	11,200 SF	Irrigation - Spray, ONE _____ Dollars and EIGHTY _____ Cents per Square Foot	\$1.80	\$20,160.00
90.	10,887 SF	Irrigation - Drip, ONE _____ Dollars and EIGHTY _____ Cents per Square Foot	\$1.80	\$19,596.60
91.	2 EA	Irrigation Controler & Rain/Freeze Sensor, TWO THOUSAND FIVE HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$2,500.00	\$5,000.00
92.	33 EA	Light Poles, NINE THOUSAND NINE HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$9,900.00	\$326,700.00

ITEM NO.	ESTIMATED QUANTITY	NAME OF PAY ITEM WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE	AMOUNT BID
93.	1 LS	Electrical Improvements, ONE HUNDRED SEVENTY THOUSAND _____ Dollars and ZERO _____ Cents per Lump Sum	\$170,000.00	\$170,000.00
94.	3 EA	Litter Receptacle (Includes Installation), TWO THOUSAND _____ Dollars and ZERO _____ Cents per Each	\$ 2,000.00	\$ 6,000.00
95.	4 EA	Site Furniture, THREE THOUSAND _____ Dollars and ZERO _____ Cents per Each	\$ 3,000.00	\$ 12,000.00

MISC

96.	1 LS	SWPPP ≥ 1 Acre, TEN THOUSAND _____ Dollars and ZERO _____ Cents per Lump Sum	\$10,000.00	\$10,000.00
97.	1 LS	Traffic Control, THIRTY THOUSAND _____ Dollars and ZERO _____ Cents per Lump Sum	\$30,000.00	\$30,000.00
98.	9 EA	Bollards, ONE THOUSAND FIVE HUNDRED _____ Dollars and ZERO _____ Cents per Each	\$ 1,500.00	\$ 13,500.00

It is understood that the TOTAL BID for the ELLISON STREET & PARKING IMPROVEMENTS will only be used as a basis for comparison of bids and award of Contract. The total payment to the Successful Bidder will be the Amount Bid adjusted by additions and/or deletions of actual amounts or quantities used.

REMOVAL TOTAL	\$ 547,600.50
PAVING TOTAL	\$ 1,049,702.00
TRAFFIC TOTAL	\$ 52,559.00
WATER TOTAL	\$ 134,597.00
LANDSCAPE TOTAL	\$ 1,073,768.90
MISC TOTAL	\$ 53,500.00
PROJECT GRAND TOTAL	\$ 2,911,727.40

TOTAL of ALL EXTENDED PRICES FOR ESTIMATED QUANTITIES OF WORK \$ 2,911,727.40

CONTRACT TIME in CALENDAR DAYS: 270 Days

If awarded, a copy of this ARTICLE 5 form shall be included with the project specific proposal agreement for final signatures. Otherwise LEAVE BLANK and execute this bid form under ARTICLE 9.

Total Base Bid
Agreed by Bidder:
[Signature]

[Printed name]

Approved By:
[City of Burleson]

[Printed name]

Notes:

1. Bidder understands the Owner/Agent reserves the right to reject any irregular bids. The bidder agrees this bid shall be good and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving bids.
2. The bidder shall submit a unit price on all items of the proposal, failure to submit a unit bid price for any item in either bid schedule may result in a disqualification of the bidder.
3. If during the investigation of the submitted bid, the Engineer encounters computational errors, the total price for submitted item(s) will be evaluated by the Engineer using the Unit Price submitted and the quality shown on the proposal.
4. In the event that a discrepancy occurs between the number Unit Price and the worded Unit Price, the worded Unit Price will prevail.
5. The Owner/Agent reserves the right to award each bid schedule, alternate bid items, or combination of bid schedules and alternate bid items in the manner that is deemed to be most beneficial and advantageous to the Owner.
6. Base bid unit prices shall precede measure and payment directives in the technical specifications.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Contract.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. List of Project References;
 - B. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - C. Required Bidder Qualification Statement with supporting data;

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

BIDDER:

[Indicate correct name of bidding entity]

2L construction LLC

By:

[Signature]



[Printed name]

Harmon R. Fisher III

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature]



[Printed name]

Harmon R. Fisher III

Title:

President

Submittal Date:

12/22/2023

Address for giving notices:

PO Box 397, Rhame Tx 76078

Telephone Number:

940-433-2670

Fax Number:

940-433-2120

Contact Name and e-mail address:

Chip Fisher

chip@2lconstruction.com

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

Harmon Fisher / 2L Construction LLC

2 ☐ Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes

☒ No

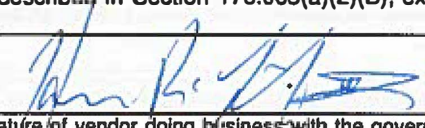
B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes

☒ No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7 
Signature of vendor doing business with the governmental entity

12/21/23
Date

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA



CONSTRUCTION CONTRACTOR'S QUALIFICATION STATEMENT FOR ENGINEERED CONSTRUCTION

This qualification statement was developed by AGC of America in cooperation with the Engineers Joint Contract Documents Committee (EJCDC) which recommend its use as a suggested generic prequalification statement or a contract-specific qualification statement. In the latter case, the owner or engineer may wish to make appropriate supplemental inquires.

The Engineers Joint Contract Documents Committee consists of representatives of the following organizations:

National Society of Professional Engineers
American Consulting Engineers Council
American Society of Civil Engineers
Construction Specifications Institute

The contents of this statement are **CONFIDENTIAL**.

Submitted by:

Name of Organization 2L Construction LLC

Name of Individual Harmon R. Fisher III

Title President

Address 200 Boyd Business Pkwy, Boyd, Tx 76023

Telephone 940-433-2670

Submitted to:

Name City of Burleson

Address 141 W. Renfro St, Burleson Tx 76107

Telephone 817-426-9646

Project Name and Description (if applicable)

West Ellison Street & Parking Improvements

Contractor's General Business Information

Check If:

☒ Corporation

☐ Partnership

☐ Joint Venture

☐ Sole Proprietorship

If Corporation:

a. Date and State of Incorporation

4/22/04 Texas

b. List of Executive Officers

Name

Title

Harmon. R. Fisher III

President

If Partnership:

a. Date and State of Organization

b. Names of Current General Partners

c. Type of Partnership

General

Publicly Traded

Limited

Other (describe): _____

If Joint Venture:

a. Date and State of Organization

b. Name, Address and Form of Organization of Joint Venture Partners: (Indicate managing partner by an asterisk *)

If Sole Proprietorship:

a. Date and State of Organization _____

b. Name and Address of Owner or Owners

1. On Schedule A, attached, list major engineered construction projects completed by this organization in the past five (5) years. (If joint venture list each participant's projects separately).

2. On Schedule B, attached, list current projects under construction by this organization. (If joint venture, list each participant's projects separately).

3. Name of surety company and name, address, and phone number of agent.

Box Bonding Agency 1200 S. Main St, Suite 1600
Grapevine, TX 76051 817-865-1515, Steven Lewis

4. Is your organization a member of a controlled group of corporations as defined in I.R.C. Sec. 1563? Yes ☒ No

If yes, show names and addresses of affiliated companies.

5. Furnish on Schedule C, attached, details of the construction experience of the principal individuals of your organization directly involved in construction operations.

6. Has your organization ever failed to complete any construction contract awarded to it? Yes ☒ No

If yes, describe circumstances on attachment.

7. Has any Corporate officer, partner, joint venture participant or proprietor ever failed to complete a construction contract awarded to him or her in their own name or when acting as a principal of another organization? Yes ☒ No

If yes, describe circumstances on attachment.

8. In the last five years, has your organization ever failed to substantially complete a project in a timely manner? Yes ☒ No

If yes, describe circumstances on attachment.

9. Indicate general types of work performed with your own work force.

Site demolition, earthwork, subgrade prep, concrete paving

10. If required, can your organization provide a bid bond for this project? ☒ Yes ☐ No

11. What is your approximate total bonding capacity?

\$500,000 to \$2,000,000

\$2,000,000 to \$5,000,000

\$5,000,000 to \$10,000,000

☒ \$10,000,000 or more

12. Describe the permanent safety program you maintain within your organization. Use attachment if necessary.

we follow a written safety program and have
weekly safety meetings

13. Furnish the following information with respect to an accredited banking institution familiar with your organization.

Name of Bank Frost

Address 1240 Keller Pkwy, Suite 100 Keller, TX 76248

Account Manager Travis Inge

Telephone 817-420-5122

I hereby certify that the information submitted herewith, including any attachment is true to the best of my knowledge and belief.

By: Harmon R. Fisher III

Title: President

Dated: 12/21/2023

SCHEDULE A

Name, Location and Description of Project	Owner	Design Engineer	Date Completed	Reference/Contract Include Address and Phone
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See Attached.

SCHEDULE B

Name, Location and Description of Project	Owner	Design Engineer	Date Completed	Contract Price	Amount Completed	Date of Scheduled Completion	Reference/Contract Include Address and Phone
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See attached



2L CONSTRUCTION, LLC

Reference - Experience

In Progress Projects

- **City of Fort Worth – 4/2023 - Present**
 - **Marine Creek Ranch Park and Trail**
 - 47 Sta Prep Right-of-Way
 - 1,755 SY Concrete Sidewalk Removal
 - 450 EA Tree Removal
 - 10,425 SF Concrete Parking Lot Removal
 - 4,875 LF Tree Protection Fencing
 - 2,840 LF Silt Fence
 - 9,716 CY Earthwork
 - 8,060 SY Concrete Trail/Sidewalk
 - 18,482 SF Concrete Parking Lot Paving w/ Lighting
 - 4,950 SF Concrete Basketball Court w/ Lighting & Bleachers
 - 1 EA 24' Dia Octagon Pavilion
 - 1 EA 4' 3-Sided Kiosk
 - 7,723 SF Playground w/ Associated Drainage
 - 2,050 SF Playground Perimeter Sidewalk w/ 313 LF Integral Concrete Beam
 - 1 EA 30' x 12' Pedestrian Bridge
 - 1 EA 70' x 12' Pedestrian Bridge
 - 1,600 SF Prefabricated Concrete Boardwalk System
 - 7,400 SY Block Sodding
 - 66,335 SY Hydroseeding
 - **Contract Value – \$ 2,816,947.60**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Helen Florez**
 - City of Fort Worth, 4200 South Freeway, Fort Worth, TX 76115
 - 817-392-7372
- **City of Fort Worth – 4/2022 - Present**
 - **Trail Gap Connections**
 - 91 Sta Prep Right-of-Way
 - 2,225 SY Concrete Sidewalk Removal
 - 114 EA Tree Removal

- 354 LF Concrete Curb Removal
- 188 LF Retaining Wall Removal
- 237 LF Fence Removal
- 4,590 LF Tree Protection Fencing
- 3,085 LF Silt Fence
- 4,515 CY Excavation
- 1,666 CY Embankment
- 831 CY Imported Fill
- 9,370 SY Concrete Sidewalk
- 360 LF Concrete Curb & Gutter
- 3,919 SF Concrete Edge/Wall
- 19 EA ADA Curb Ramps
- 22 EA 18" Dia x 20' Drilled Shafts
- 134 CY Cast in Place Concrete Sidewalk on Piers
- 100 LF Guardrail
- 6,435 SY Block Sodding
- 38,300 SF Hydroseeding & Soil Retention Blankets
- 40 LF Pedestrian Bridge (I-Beam w/ Composite Decking)
- 1 LS Intersection Pedestrian Signals
- 1 LS Intersection Striping & Street Signs
- **Contract Value – \$ 1,733,225.00**
- **Payment/Performance Bond Required- Yes**
- **Contact – Kevin Rodriguez**
 - City of Fort Worth, 4200 South Freeway, Fort Worth, TX 76115
 - 817-392-5746

Completed Projects

- **City of Denton – 8/2022 to 5/2023**
 - **North Texas Boulevard Widening & Improvements Project at Apogee Stadium**
 - 120 SY Pavement Removal
 - 1,170 LF Concrete Curb Removal
 - 280 SY Concrete Sidewalk Removal
 - 700 SY Asphalt Paving Removal
 - Roadway Illumination
 - 1,695 SY Type A Grade 1 Flex Base
 - 1,340 SY Asphalt Paving
 - 120 SY 8" Concrete Paving
 - 1,1440 LF Concrete Curb & Gutter
 - 3,750 SF Concrete Sidewalk
 - 6 EA ADA Ramps
 - 1,510 LF Thermoplastic Striping
 - 1 LS Irrigation System

- 3 EA Pedestrian Pushbutton Assemblies
 - PTZ Camera and Cabling
 - VIVDS Camera and Cabling
 - 1 EA Traffic Signal Pole and Arm (48')
 - **Contract Value – \$ 764,586.50**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Robin Davis**
 - City of Denton, Project Manager, 901-B Texas Street, Denton, TX 76209
 - 940-349-7713
- **City of Burleson – 3/2023 to 5/2023**
 - **City Hall West Parking Lot**
 - 2,014 SY Asphalt Parking Lot Removal
 - 2,079 6" Lime Stabilized Subgrade
 - 1,781 SY 2" Ty D Asphalt Paving
 - 1,781 SY 4" Ty B Asphalt Paving
 - 182 SY 6" Concrete Paving
 - 216 SY 4" Concrete Sidewalk
 - Parking Lot Striping and Signage
 - 2 EA Relocate Existing Light Pole
 - 4 EA Paint Existing Light Poles
 - **Contract Value – \$ 418,594.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Travis Rosenbaum**
 - City of Burleson, Public Works Civil Engineer, 414 W. Renfro St, Burleson, TX 76028
 - 817-426-9620
- **City of Plano – 8/2022 to 8/2022**
 - **Legacy Trail Railing at McDermott Road**
 - 135 LF 48" TXDOT Pedestrian Railing (TY PR11)
 - **Contract Value – \$ 44,550.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Lance Knox**
 - City of Plano, Senior Park Planner, 5901 Los Rios Blvd, Plano, TX 75074
 - 972-941-7532
- **City of Burleson – 3/2022 – 8/2022**
 - **Prairie Timber Park Sidewalk and Drainage Improvements**
 - 680 SY Remove Concrete Sidewalk
 - 800 CY Imported Fill
 - 790 SY 4" Concrete Sidewalk
 - 154 LF 18" RCP
 - 20 EA Safety End Treatments

- 3 EA Concrete Sidewalk Bridge
 - 1 EA Metal Concrete Flume
 - 140 SY 4" Concrete Rip Rap
 - **Contract Value – \$ 221,295.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – David Lopez**
 - City of Burleson, Deputy Director of Parks, 141 W Renfro Street, Burleson, TX 76028
 - 817-426-9297
- **City of Plano – 9/2021 to 6/2022**
 - **Preston Ridge Trail Connector**
 - 400 SY Remove Concrete Sidewalk
 - 260 SY Remove Concrete Median Nose
 - 2,100 SY Block Sod
 - 1,115 CY Unclassified Excavation
 - 70 SY Cement Treated Base at Railroad Crossing
 - 255 SY 7" Concrete Trail
 - 1,590 SY 6" Concrete Trail
 - 2 EA Median Nose
 - 140 SY Asphalt Paving at Railroad Crossing
 - 8 EA ADA Ramps
 - 1 LS Intersection Striping and Crosswalks
 - 112 LF 42" Bicycle Railing
 - 502 LF 3-Strand Barbed Wire Fencing
 - 35 LF 18" RCP at Railroad Crossing
 - 40 LF 42" RCP at Railroad Crossing
 - 1 EA 18" Type B Headwall at Railroad Crossing
 - 1 EA 42" Type B Headwall at Railroad Crossing
 - 2 EA 4' Wye Inlet at Railroad Crossing
 - Railroad Coordination and Flagging
 - 600 SF Concrete Retaining Wall w/ Stone Veneer
 - **Contract Value – \$ 510,764.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Lance Knox**
 - City of Plano, Senior Park Planner, 5901 Los Rios Blvd, Plano, TX 75074
 - 972-941-7532
- **Town of Northlake – 1/2021 – 4/2022**
 - **Canyon Falls and Dale Earnhardt Way Pavement Repairs**
 - 39,690 SF Concrete Street Removal
 - 4,840 SY 6" Type A Grade 1 Flex Base
 - 2,810 SY 6" Concrete Street Paving
 - 1,600 SY 8" Concrete Street Paving

- 8,731 CY Sanitary Sewer Trench Excavation and Recompaction
- **Contract Value – \$ 601,687.00**
- **Payment/Performance Bond Required- Yes**
- **Contact – Eric Tamayo**
 - Town of Northlake, 1400 FM 407, Northlake, TX 76247
 - 940-242-5704
- **City of Fort Worth – 12/2020 - 12/2021**
 - **South Stayton Street Realignment**
 - 1,262 SY Removal of Concrete Street Paving
 - 5 EA Tree Removal
 - 895 CY Unclassified Excavation
 - 1,390 SY 6" Type A Grade 1 Flex Base
 - 1,346 SY 6" Concrete Street Paving
 - 5 EA ADA Ramps
 - 6,679 SF Clay Brick Pavers
 - 4 EA Pedestrian Push Button Stations
 - 4 EA Hybrid Detection System
 - 3 EA Traffic Signal Pole and Arm
 - 6 EA Roadway Illumination Poles and Fixtures
 - 1 LS Intersection Striping, Crosswalks and Turn Lanes
 - **Contract Value – \$ 840,250.64**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Leon Wilson**
 - City of Fort Worth, PE Public Works, 200 Texas Street, Fort Worth, TX 76102
 - 817-392-6591
- **City of Denton – 10/2020 – 5/2022**
 - **West Hickory Street Paving, Lighting & Drainage Improvements**
 - 3,133 LF Concrete Curb & Gutter Removal
 - 12,975 SF Concrete Sidewalk Removal
 - 7,999 SF Concrete Driveway Removal
 - 500 CY Flowable Fill Removal
 - 9,300 SY Asphalt Street Paving Removal
 - 9,800 SY 12" Lime Stabilization
 - 9,600 SY Asphalt Street Paving
 - 15,695 4" Concrete Sidewalk
 - 3,418 LF Concrete Curb & Gutter
 - 26 ADA Ramps
 - 64 SY 8" Valley Gutter
 - 791 SY Concrete Driveway Approach
 - 2,533 SY Block Sod
 - 2,118 LF Pavement Striping
 - 190 LF Stop Bar Striping

- 446 LF Pedestrian Crosswalk Striping
- 2,005 LF Bike Lane Striping
- 12 EA Water Service Lowering
- 51 EA New Water Meter Boxes
- 8 EA Sanitary Sewer Service Lowering
- 750 LF Removal of Storm Drain Pipe
- 6 EA Remove Storm Drain Structures
- 47 LF 15" RCP
- 85 LF 18" RCP
- 381 LF 24" RCP
- 22 LF 30" RCP
- 545 LF 4'x3' RCB
- 6 EA 10' Curb Inlet
- 1 EA 12' Curb Inlet
- 1 EA 14' Curb Inlet
- 1 EA 15' Curb Inlet
- 5 EA Cast In Place Junction Boxes
- Contract Value – \$ 2,139,047.00
- Payment/Performance Bond Required- Yes
- Contact – Kyle Pedigo
 - City of Denton, Project Manager, 901-B Texas Street, Denton, TX 76209
 - 940-349-8425
- City of Plano (TxDOT) – 11/2018 to 10/2020
 - Plano Transit Village Veloweb
 - 52 Sta Prep Right-of-Way
 - 580 SY Concrete Rip Rap Removal
 - 1,025 CY Excavation (Roadway)
 - 3,179 CY Embankment (TY B)
 - 7,036 SY Block Sodding
 - 2,280 VF 24" Drill Shaft
 - 13,880 SF Cast-In-Place Concrete Retaining Wall
 - 157 CY Concrete Rip Rap
 - 60 LF 18" RCP
 - 20 LF 30" RCP
 - 109 LF 36" RCP
 - 26 LF 60" RCP
 - 4 EA Drainage Inlets
 - 18 MO Traffic Control
 - 3,402 LF Erosion Control
 - 77 SY 4" Concrete Sidewalks
 - 6,580 SY 6" Concrete Sidewalks
 - 13 EA ADA Ramps
 - 1,679 LF 6' Chain Link Fencing

- 48 EA Install Small Road Signs
 - 2,835 LF Pavement Striping
- **Contract Value – \$ 2,310,212.00**
- **Payment/Performance Bond Required- Yes**
- **Contact – Lance Knox**
 - City of Plano, Senior Park Planner, 5901 Los Rios Blvd, Plano, TX 75074
 - 972-941-7532
- **City of Fort Worth (TxDOT) – 4/2018 to 11/2020**
 - **Trinity Trails East**
 - 70 Sta Prep Right-of-Way
 - 50 SY Concrete Paving Removal
 - 3,127 CY Excavation
 - 10,683 CY Embankment (TYC)
 - 510 CY Backfill Pavement Edges (TY A)
 - 3,817 SY Block Sodding
 - 10,543 SY Broadcast Seeding (Bermuda)
 - 5,524 SY Broadcast Seeding (Native)
 - 18,231 SY Rework Base (8")
 - 88 VF 24" Drilled Shaft
 - 43 CY Class C Concrete Abutment
 - 50 CY Approach Slab
 - 34 CY 12" Rip Rap
 - 128 CY 24" Rip Rap
 - 668 LF Railing (TY E)
 - 24 LF 5' x 4' Box Culvert
 - 4 EA 24" Headwalls
 - 2 EA 6' Wing Walls
 - 10 MO Traffic Control
 - 15,224 LF Erosion Control
 - 18,231 SY 5" Concrete Sidewalk
 - 36 EA Install Small Road Signs
 - 1 EA 80' Prefabricated Steel Truss Bridge
 - 176 LF Precast Concrete Boardwalk System
 - **Contract Value – \$ 2,277,943.30**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Clarence Bryant**
 - City of Fort Worth, Project Manager, 4200 South Freeway, Suite 2200, Fort Worth, TX 76115
 - 817-392-5609
- **City of Fort Worth (TxDOT) – 4/2017 to 4/2021**
 - **Trinity Trails East Bank Extension**
 - 4,372 Excavation and Embankment

- 2,436 SY Block Sod
- 1,218 SY Soil Retention Blanket
- 12,604 LF Soil Nail Anchors
- 5,405 SF Cast-In-Place Retaining Wall
- 9,427 SF Soil Nail Wall w/ Cast-In-Place Wall Fascia
- 382 CY 12" Rip Rap
- 430 LF Concrete Mow Strip
- 2,819 LF Pedestrian Rail
- 172 LF 18", 24" & 36" RCP
- 4 EA Cast-In-Place Inlets
- 2 EA Safety End Treatments
- 398 SY Remove Stone Rip Rap
- 3,625 SY 4" Concrete Sidewalk
- 36 EA LED Step Lights
- 5 EA Bridge Flood Lights
- 1 LS Electrical Service
- 5 EA Road Signs
- 4,101 LF Pavement Striping
- 182 SY Decomposed Granite
- Contract Value – \$1,875,324.65
- Payment/Performance Bond Required- Yes
- Contact – Clarence Bryant
 - City of Fort Worth, Project Manager, 4200 South Freeway, Suite 2200, Fort Worth, TX 76115
 - 817-392-5609
- City of Arlington – 2/2017 to 11/2017
 - Eden Road Park Improvements
 - 1,275 SY 7" Parking Lot
 - 22,935 SF 6" Concrete Trail (8' wide)
 - 2,589 SF 6" Concrete Trail (6' Wide)
 - 2,450 SF 6" Misc Concrete
 - 390 LF Concrete Playground Perimeter Beam
 - 30' Hexagonal Pavilion and Slab
 - 9 EA Picnic Tables
 - 1 EA Drinking Fountain
 - 6 EA Benches
 - 3 EA BBQ Grills
 - 145 LF Concrete Mow Strip
 - 1 LS Landscape and Irrigation
 - 170 LF Water Service Line
 - 1 LS Electrical Service, pavilion electrical and Parking Lot Lighting
 - 565 LF Split Rail Fence
 - 7 EA Trash Receptacles

- 3 EA Pet Waste Station
 - 1 EA Motorized Access Gate
- **Contract Value – \$1,020,742.00**
- **Payment/Performance Bond Required- Yes**
- **Contact – Eric Seebock**
 - **City of Arlington, Parks Planner, 717 W Main St, Arlington, TX 76013**
 - **817-459-5489**
- **City of Bridgeport (TxDOT) – 10/2017 to 8/2018**
 - **17th Street Sidewalk Improvements**
 - 75 LF Remove Curb & Gutter
 - 270 SY Remove Asphalt Pavement
 - 1,842 SY 4" Compost and Block Sodding
 - 270 SY 6" Flexbase
 - 19 TN Asphalt Pavement
 - 270 SY 6" Concrete Pavement
 - 244 SF Integral Sidewalk Retaining Wall
 - 30 LF Pedestrian Rail
 - 470 LF Monolithic Curb
 - 29 EA Curb Ramps
 - 1,562 SY 4" Concrete Sidewalk
 - 1,213 LF 12" & 24" Pavement Markings
 - 3 EA Road Signs
 - 1 EA Metal Sidewalk Drain
 - **Contract Value – \$273,503.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Jesica McEarchen**
 - **City of Bridgeport, City Manager, 900 Thompson Street, Bridgeport, TX 76426**
 - **940-683-3402**
- **City of Lewisville (Federally Funded) – 7/2017 to 11/2017**
 - **Poydras and Decker Lane Road Improvements**
 - 1,178 SY 4" Topsoil
 - 478 SY Sodding
 - 990 SF Remove Concrete Paving
 - 28,130 SF Remove Asphalt Paving
 - 159 CY Roadway and Channel Excavation
 - 113 SY Flexbase
 - 20 SY Asphalt Pavement
 - 3,651 SY 7" Concrete Roadway Pavement
 - 52 LF Curb & Gutter
 - 40 SY Concrete Sidewalk
 - 2 EA Fire Hydrant Relocations
 - 4 EA Water Service Relocations

- **Contract Value - \$396,446.30**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Toby McGuire**
 - **City of Lewisville, Operations Supervisor, 151 W. Church St., Lewisville, TX 75057**
 - **972-219-3511**
- **City of Arlington – 4/2016 to 8/2017**
 - **Julia Burgen Park Development**
 - **6,566 LF concrete curb & gutter removal**
 - **126,416 SF asphalt paving removal**
 - **14,359 SF concrete paving removal**
 - **1 LS miscellaneous utility removal**
 - **7,950 CY Earthwork**
 - **64,869 SF 10' Wide Concrete Trail**
 - **16,697 SF 6" parking lot & driveway**
 - **1,612 LF concrete curb & gutter**
 - **8,700 SF 6" asphalt paving**
 - **628 LF 8" concrete mowstrip**
 - **9 EA Park Benches**
 - **4 EA Picnic Tables**
 - **8 EA trash receptacles**
 - **1 EA bike rack**
 - **1 EA water fountain**
 - **1 LS 2 to 5 year old playground**
 - **1 LS 5 to 12 year old playground**
 - **1 LS freestanding swing equipment**
 - **628 LF Split Rail Cedar Fence w/ electronic entry gate**
 - **1 EA 40' hexagonal pavilion with electrical, masonry, slab, etc**
 - **340,236 SF irrigation system**
 - **20 EA trees**
 - **Contract Value – \$1,734,689.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Mitali Mandlekar**
 - **City of Arlington, Parks Project Manager, 717 W Main St, Arlington, TX 76013**
 - **817-459-5478**
 - **City of Boyd – 11/2015 to 10/2016**
 - **2015 Knox Street Paving Improvements**
 - **8,478 SY remove asphalt and flex base paving**
 - **686 LF pipe culvert removal**
 - **1,148 CY earthwork**
 - **7,842 SY 2" asphalt surface overlay**
 - **7,842 SY 6" crushed rock base**

- 5,066 LF 8" x 8" concrete pavement edge
 - 8,991 SF concrete sidewalk
 - 900 LF 12" . 15" and 18" RCP
 - 58 EA 12", 15" and 18" TY II safety end treatment
- **Contract Value - \$546,212.00**
- **Payment/Performance Bond Required- Yes**
- **Contact – Greg Arrington**
 - City of Boyd, City Administrator, PO Box 216, Boyd, TX 76023
 - 940-433-5166
- **City of Keller – 12/2015 to 10/2016**
 - **Bear Creek Park Renovations - 2015**
 - 1,000 SF demo existing CMU pavilion
 - 5,950 SF remove concrete paving
 - 41,540 SF remove asphalt paving
 - 2,925 LF remove bollard fence
 - 6,771 LF concrete curb & gutter
 - 5,176 SY 8" asphalt paving
 - 2,800 SY cement stabilize existing paving & overlay w/ 4" asphalt
 - 9,529 SY 2" asphalt overlay
 - 3,820 SY concrete trail
 - 4 EA water fountains
 - 4 EA removable bollards
 - 640 LF pipe rail barrier
 - 1 EA 30' pavilion
 - 1 EA 60' x 40' pavilion
 - 1 EA masonry dumpster enclosure
 - 5 EA backstops
 - 2 EA full court basketball courts with goals
 - 4 EA pickle ball courts with nets
 - 34 EA trees
 - 51,370 SY landscaping
 - 1 LS renovation of existing historical wood pedestrian bridge
 - **Contract Value - \$1,745,410.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Gary Davis**
 - City of Keller, Park Maintenance & Development Manager, 1100 Bear Creek Parkway, Keller, TX 76244
 - 817-743-4057
- **City of Highland Village – 10/2014 to 9/2015**
 - **Lakeside Community Park**
 - 1,560 SY 6" Concrete Parking Lot
 - 1,413 SY 5" Concrete Trail & Sidewalk

- 1 EA Prefabricated Restroom Building including Subgrade Preparation
 - 1 EA 30' x 30' Pavilion Shelter including Foundation, Electrical & Masonry
 - 1 EA 20' x 30' Pavilion Shelter including Foundation, Electrical & Masonry
 - 155 SF Detectable Warning Strips
 - 1 EA Sewer Service to Restroom
 - 1 EA Water Service to Restroom and both Pavilions
- Contract Value - \$625,044.00
- Payment/Performance Bond Required- Yes
- Contact – Fince Espinoza
 - City of Highland Village, Recreation and Park Project Superintendent, 1000 Highland Village Rd., Highland Village, TX 75077
 - 972-317-7430
- Town of Flower Mound – 6/2015 to 2/2016
 - Heritage Park Phase 2 Dog Park
 - 3 AC Clear and Grubb Heavy Trees
 - 2,500 CY Earthwork
 - 187,359 SF Solid Sod
 - 8,546 SF Concrete Parking Spaces
 - 12,848 SF Concrete Fire Lane
 - 10,362 SF Concrete Sidewalk
 - 2,018 LF 6' Galvanized Chain Link Fencing
 - 1,344 LF 6' Black Vinyl Chain Link Fencing
 - 14 EA 6' Chain Link Gates
 - 2,792 LF 12" Concrete Mow Strip
 - 5 EA Concrete ADA Ramps
 - 502 LF Copper Water Service Line
 - 3 EA Water Fountains
 - 2 EA Pet Wash Hydrant
 - 1 EA Pedestrian Bridge
 - 365 LF 8" and 12" Storm Drain Line
 - 2 EA 12" Grate Inlets
 - 1 EA 5' Curb Inlet
 - 1 EA Headwall
 - 554 CY Engineered Wood Fiber
 - 1 EA Custom Masonry & Steel "Dog Bone" Park Sign
 - Contract Value - \$877,311.50
 - Payment/Performance Bond Required- Yes
 - Contact – David Bauer
 - Town of Flower Mound, Construction Manager, 2121 Cross Timbers Rd, Flower Mound, TX 75028
 - 972-874-6308
- City of Frisco – 7/2015 to 4/2016

- **Cottonwood Creek Trail**
 - 2,435 CY Earthwork
 - 7,858 SY Concrete Trails
 - 2 EA Rest Station w/ Concrete Wall & Masonry Veneer
 - 1 EA Trail Overlook w/ Concrete Wall & Masonry Veneer
 - 1 EA 60' Pedestrian Bridge
 - 746 SF Concrete Retaining Wall w/ Masonry Veneer
 - 3 EA Low Water Trail Crossing
 - 320 LF Steel Fence w/ Mowstrip
 - 82 LF Custom Heavy Duty Pedestrian Rail
 - 38,090 SF Sod
 - 200 TN River Rock under Bridge
 - 3 EA Emergency Trail Markers
- **Contract Value - \$752,266.00**
- **Payment/Performance Bond Required- Yes**
- **Contact – Ryan Cheff**
 - City of Frisco, Senior Park Planner, 6726 Walnut St, Frisco, TX 75033
 - 972-292-6503
- **Town of Flower Mound – 4/2016 to 7/2016**
 - **2013 & 2014 Sidewalk Links Project**
 - 3,647 SY Concrete Sidewalk
 - 75 SY 6" High-Early Strength Concrete Paving
 - 260 LF 6" High-Early Strength Concrete Curb
 - 3 EA Handicap Ramps
 - 90 LF Steel Pedestrian Handrail
 - **Contract Value - \$213,838.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Matt Hotelling, PE**
 - Town of Flower Mound, Traffic Engineer, 1001 Cross Timbers Suite 2330, Flower Mound, TX 75028
 - 972-874-6303
- **City of Plano – 5/2015 to 5/2016**
 - **BNSF Railroad Right-Of-Way Drainage Improvements**
 - 2,000 CY General Excavation
 - 1 EA Remove Grate Drop Inlet
 - 1 EA Remove 42" Headwall
 - 10 LF Remove 42" RCP
 - 312 LF 42" RCP
 - 25 LF 18" RCP
 - 1 EA 42" Headwall
 - 1 EA 18" Headwall
 - 3 EA Storm Drain Manhole

- 1 EA 8' Curb Inlet
 - 95 CY 3'x3' Gabion Structure
 - 90 CY 1.5'x3' Gabion Structure
 - 35 CY 12" Gabion Mattress
 - 155 CY Concrete Pilot Channel
 - 1,500 SY Permanent Erosion Matting
 - 2 EA Cattle Guards
 - 900 LF Livestock Fencing
 - 4,400 SY Temporary Construction Access Drive
 - 2,200 SY Hydromulch
 - 80 Days BNSF Flagging
 - **Contract Value - \$510,050.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Husain Hamza, PE**
 - City of Plano, Engineer II, 1520 K Avenue, Suite 250, Plano, TX 75074
 - 972-941-7152
- **City of Plano – 2/2015 to 2/2016**
 - **Plano Richardson Murphy Trail Connection, Phase 2, Breckinridge Trail**
 - 3,270 CY Earthwork
 - 6,668 SY 12' Wide Concrete Trail
 - 201 SY 8' Wide Concrete Trail
 - 1 LS Subsurface Drainage Structure
 - 264 SF Stone Retaining Wall
 - 1 LS Trail Signage & Striping
 - 11,000 SY Native Grass Seeding
 - **Contract Value – \$545,983.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Renee Jordan**
 - City of Plano, Chief Park Planner, 5901 Los Rios Blvd, Plano, TX 75074
 - 972-941-7267
- **City of North Richland Hills (TxDOT) – 7/2013 to 3/2015**
 - **John Barfield and Calloway Branch Multi-use Trails**
 - 30,194 SY 10' Wide Concrete Trail
 - 4 EA Pedestrian Bridges (30', 40', 100' and 120' spans)
 - 6 EA Culvert Crossing from 18" RCP to 10'x5' RCB
 - 42,200 SY Sod and Seed Installation
 - 1 LS Trail Signage and Striping
 - 31,160 CY Earthwork and Excavation
 - 1,250 SY Landscape Pavers
 - 1,500 SF Concrete Retaining Wall with Stone Veneer
 - 960 CY 18" Stone Rip Rap Protection
 - **Contract Value – \$2,692,872.00**

- **Payment/Performance Bond Required- Yes**
 - **Contact – Joe Pack**
 - City of North Richland Hills, Parks Department, 7301 NE Loop 820, North Richland Hills, TX 76180
 - 817-427-6622
-
- **City of Bedford – 8/2014 to 5/2015**
 - **Meadow Park Trail Extension**
 - 2,330 SY 6" Concrete Trail
 - 7 EA Intersection Handicap Ramps
 - 100 LF Block Landscape Wall System
 - **Contract Value - \$153,522.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Don Henderson**
 - City of Bedford, Parks Superintendent, 2140 L. Don Dodson, Bedford, TX 76021
 - 817-952-2308
-
- **City of Arlington – 6/2014 to 12/2014**
 - **High Oak Park Improvements**
 - 3,158 SY 5" Concrete Trail (10' & 8' wide)
 - 125 LF Concrete Retaining Wall with Formliner Face
 - 505 LF Stone Retaining Wall
 - 1,605 LF Treated Two Rail Perimeter Fence
 - 90 LF Stockade Fence
 - **Contract Value – \$329,018.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – De'Onna Garner**
 - City of Arlington, Parks Planning Manager, 717 W Main St, Arlington, TX 76013
 - 817-459-6937
-
- **City of Lewisville – 4/2014 to 8/2014**
 - **Walters Street Parking Lot**
 - 3,900 SY 6" Concrete Parking Lot
 - 125 SY 8" High-Early Strength Concrete Drives
 - 320 SF 4" Concrete Sidewalk
 - 6 EA Parking Lot Pole Lights
 - 1 LS Irrigation System
 - 1 LS Trees, Shrubs, Steel Edging, Decomposed Granite & Boulders
 - 302 LF 6' Stockade Cedar Fence
 - **Contract Value - \$306,488.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Jeff Kelly**

- City of Lewisville, Assistant City Engineer, 151 W. Church St., Lewisville, TX 75057
 - 972-219-3492
- City of Highland Village – 3/2014 to 6/2014
 - Brazos Park Parking Lot Project
 - 2,362 SY 7" Concrete Parking Lot and Drives
 - 77 SY 9" Concrete Drive Approach
 - 3,974 SF 4" & 5" Concrete Trail & Sidewalk
 - 1,111 LF 6" Concrete Curb (parking lot)
 - 42 LF 18" RCP
 - 1 EA 10' Curb Inlet
 - 1 LS Irrigation System & Sodding
 - 7 EA Bollard Lights
 - 313 LF Remove Concrete Curb & Gutter
 - 289 SY 9" Concrete Turn Lane
 - 230 LF 6" Concrete Curb (street)
 - 1 LS Roadway Striping & Signage
 - Contract Value - \$257,757.00
 - Payment/Performance Bond Required- Yes
 - Contact – Fince Espinoza
 - City of Highland Village, Recreation and Park Project Superintendent, 1000 Highland Village Rd., Highland Village, TX 75077
 - 972-317-7430
- Denton County Fresh Water District – 11/2013 to 7/2014
 - Artesia Subdivision Pavement Repair
 - 11,039 SY Removal of Existing 6" Roadway Pavement
 - 11,039 SY Scarified and Compacted Subgrade
 - 11,039 SY 8" Concrete Roadway Pavement w/ Monolithic Curb
 - Contract Value – \$741,338.72
 - Payment/Performance Bond Required- Yes
 - Contact – Jim Koehler
 - Graham Associates Inc, Senior Project Manager, 600 Six Flags Dr, Suite 500, Arlington, TX 76011
 - 817-640-8535
- City of Arlington (TxDOT) – 3/2013 to 3/2014
 - Bowman Branch Trail
 - 17,522 SY 12' Wide Concrete Trail
 - 4,520 CY Earthwork
 - 1 EA Pedestrian Bridge (30' span)
 - 6 EA Park Benches
 - 4 EA Picnic Tables

- 884 SF Interlocking Articulating Concrete Blocks
 - 2 EA Intersection Signals including VIVDS Cameras and Pedestrian Poles
 - 378 LF Split Rail Cedar Fence
 - 1 EA Trail Head Map Pedestal including Masonry
 - Contract Value – \$1,284,299.30
 - Payment/Performance Bond Required- Yes
 - Contact – De’Onna Garner
 - City of Arlington, Parks Planning Manager, 717 W Main St, Arlington, TX 76013
 - 817-459-6937
- Denton County – 3/2013 to 7/2013
 - Old Alton Drive Culvert Replacement
 - 40 LF Removal of 3 Barrel 60” CMP
 - 80 LF 10’ x 6’ Cast-In-Place Box Culvert
 - 2 EA Concrete Headwalls with Parallel Wings
 - 165 SY 18” Grouted Stone Rip Rap
 - 120 LF Waterline Relocation
 - 65 LF 18” RCP
 - 1 EA Type H Drop Inlet
 - 183 SY 8” HMA Paving
 - 39 SY 4” HMA Mowstrip
 - Contract Value – \$266,697.00
 - Payment/Performance Bond Required- Yes
 - Contact – Bennett Howell
 - Denton County, Director of Public Works, 1505 E McKinney St, Suite 175, Denton, TX 76209
 - 940-349-3250
- City of Burleson – 2/2013 to 3/2013
 - Clubhouse Drive Waterline Relocation Project
 - 1 LS De-chlorination of 12” Waterline
 - 250 LF 12” DR-18 Waterline by Open Cut
 - 133 LF 21” Bore with Steel Casing
 - 2 EA Special Waterline Connections (Cut line & install tees and valves within 6 hour window. Waterline was only line feeding subdivision and golf course)
 - 2 EA Cut, Plug and Block Existing 12” Waterline
 - 148 SY Remove & Replace 6” Concrete Pavement with Monolithic Curb
 - Contract Value – \$101,100.00
 - Payment/Performance Bond Required- Yes
 - Contact – Lance Barton
 - City of Burleson, Project Engineer, 141 W Renfro, Burleson, TX 76028
 - 817-426-9621
- City of Fort Worth (TxDOT) – 2/2013 to 10/2013

- **Trail Drivers Park Trail Connection**
 - 2.198 SY 10' Wide Concrete Trail
 - 270 LF Concrete Curb and Gutter
 - 1 EA Portable Toilet Enclosure Including Masonry and Ornamental Steel
 - 1 LS Landscape and Irrigation
 - 1 LS Trail Signage
 - 959 CY Earthwork and Excavation
- **Contract Value – \$268,326.70**
- **Payment/Performance Bond Required- Yes**
- **Contact – Scott Penn**
 - City of Fort Worth, Parks Department District Superintendent, 4200 South Freeway, Suite 2200, Fort Worth, TX 76115
 - 817-392-5750
- **City of Sanger – 11/2012 to 12/2012**
 - **5th Street & Keaton Road Sidewalk & Drainage Improvements**
 - 8,720 SF 4' & 5' Sidewalk
 - 396 LF 24" HDPE Pipe
 - 9 EA 24" Catch Basin
 - 18 LF 10' x 3' Concrete Box Culvert
 - **Contract Value – \$129,165.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Robert Woods**
 - City of Sanger, Public Works Director/City Engineer, 201 Bolivar St., Sanger, TX 76266
 - 940-458-2571
- **City of Aurora (Federally Funded) – 12/2012 to 4/2013**
 - **SH 114 12" Waterline**
 - 3,281 LF of 12" DR18 Waterline
 - 7 EA 12" Gate Valve
 - 7 EA Fire Hydrant Assembly
 - 5 EA Residential 1" Service Line Connection
 - **Contract Value – \$225,080.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Mike Anderson**
 - Belcheff & Associates, City Engineer, 100 Trophy Club Dr, Ste 103, Trophy Club, TX 76262
 - 817-491-2776
- **City of Joshua – 9/2012 to 2/2013**
 - **Detention Pond for Joshua Station**
 - 24,270 CY unclassified pond excavation and grading
 - 500 LF of 6' wide concrete flume

- 92 LF 48" RCP
 - 2 EA cast-in-place 42" concrete headwall, 2 EA cast-in-place 21" concrete headwall
 - 590 SY sod, 16,390 SY hydromulch seeding, 6,225 SY curlex fibernet blanket
- **Contract Value – \$210,232.75**
- **Payment/Performance Bond Required- Yes**
- **Contact – Mike Peacock**
 - City of Joshua, Director of Operations, 101 South Main St., Joshua, TX 76058
 - 817-558-7447
- **City of Mansfield – 6/2012 to 12/2012**
 - **Hogpen Branch Linear Detention Facility-Pond B**
 - 320 SY of concrete paving removal
 - 775 CY excavation and construction of imported clay keyway
 - 6,000 CY of berm excavation and fill
 - 270 CY of cast-in-place concrete outfall structure
 - 700 SY of 18" gabion mattress and 302 CY of 3' x 3' gabion basket
 - 2,770 SY of slope protection matting and hydromulch seeding
 - **Contract Value – \$340,270.50**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Gus Chavarria**
 - City of Mansfield, Project Manager, 1200 E. Broad St., Mansfield, TX 76063
 - 817-276-4235
- **City of Sanger – 6/2012 to 12/2012**
 - **Sims St. & 4th St. Drainage Improvements**
 - 94 LF of 8'x5', 7'x3', and 4'x2' reinforced concrete box culvert
 - 155 LF of 36", 30", 24", and 18" RCP
 - 99 LF of concrete headwalls and wingwalls
 - 445 SY concrete channel paving
 - 4 EA concrete inlets and junction boxes
 - **Contract Value – \$243,152.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Robert Woods**
 - City of Sanger, Public Works Director/City Engineer, 201 Bolivar St., Sanger, TX 76266
 - 940-458-2571
- **City of Denton – 6/2012 to 3/2013**
 - **Hickory Street Sidewalks & Enhancements**
 - 605 SY of asphalt and concrete paving demolition
 - 1,250 LF of concrete curb & gutter
 - 11,345 SF of 6" and 9" concrete sidewalk
 - 220 LF of 18" RCP

- 8 EA cast-in-place concrete inlets and junction boxes
 - 1 LS miscellaneous site amenities including benches, trash cans, etc
 - 1 LS landscaping including 12 trees w/ bubbler irrigation system and sub drain system
 - Installation of street lighting system including 2 bores under street
 - Installation of pedestrian signal system including 2 bores and one open cut street crossing
- **Contract Value – \$404,269.14**
- **Payment/Performance Bond Required- Yes**
- **Contact – Herman Lawson**
 - City of Denton Facilities Management, Special Projects Manager, 869 S. Woodrow, Denton, TX 76205
 - 940-349-7200
- **City of Haslet – 1/2012 to 1/2013**
 - **Buffalo Creek Sanitary Sewer Line**
 - 9,364 LF of 8" to 15" SDR 35
 - 36 LF of 18" bore and casing
 - 29 EA 5' diameter manholes
 - 1 EA abandon existing lift station
 - **Contract Value – \$503,330.80**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Roman Boitsov**
 - Belcheff & Associates, City Engineer, 100 Trophy Club Dr, Ste 103, Trophy Club, TX 76262
 - 817-491-2776
- **City of The Colony – 6/2012 to 12/2012**
 - **Bill Allen Memorial Park Erosion Control Project**
 - 1 EA demolition of existing box culvert bridge and headwalls
 - 1 EA 37' long pedestrian bridge
 - 1,080 SF concrete sidewalks & bike trail
 - 105 CY 18" gabion mattress, 200 CY 3' x 3' gabion basket
 - 1 EA installation of existing street light on new foundation
 - **Contract Value – \$196,122.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Ron Hartline**
 - City of The Colony, City Engineer, 6800 Main St., The Colony, TX 75056
 - 972-624-3148
- **Mansfield Independent School District – 6/2012 to 10/2012**
 - **6th Avenue Transportation Facility Parking Lot Expansion**
 - 2,520 CY excavation and embankment
 - 5,285 SY of 6" flexbase subgrade

- 4,433 SY of 7" concrete bus parking lot
 - 852 SY of 5" concrete vehicular parking lot
 - 335 LF of double barrel 30" RCP
 - 2 EA double barrel 30" cast-in-place concrete headwall with baffles
- **Contract Value – \$324,007.25**
- **Payment/Performance Bond Required- Yes**
- **Contact – Randy Jandrucko**
 - Huckabee Project Management, Project Manager, 1016 Magnolia St, Bldg 400, Mansfield, TX 76063
 - 817-299-6396
- **Town of Flower Mound - 6/2011 to 8/2012**
 - **Wilson-Carmel Park Phase I**
 - Clear and grub 9 acres of heavily wooded trees
 - Approximately 20,000 cy of earthwork
 - Installation of 55' long pedestrian bridge
 - Installation and foundation for modular restroom building
 - Installation and foundation for pre-fab 'T-shaped' pavilion
 - Construction of amphitheater foundation
 - 9,805 sy of concrete parking and roadway with associated lime subgrade stabilization
 - Construction of two deceleration lanes and one turn lane on existing roadway
 - 8,750 lf of 8' and 6' concrete trails
 - 1,315 lf of 18", 21", 24" and 30" reinforced concrete pipe
 - Construction of 17 cast in place concrete structure including headwalls, grate inlets, storm drain manholes, and curb inlets
 - Installation of 2,350 lf of 6" and 8" water main line
 - Installation of 4 fire hydrants, 10 gate valves and 2 water services
 - Installation of 254 lf of 8" sanitary sewer line with two manholes
 - Miscellaneous masonry including 3,800 sf of retaining wall, 1 entry monument sign, modular restroom brick veneer, brick columns at pavilion, 2 dumpster enclosures, and miscellaneous landscape items
 - Landscaping including 70,000 sy hydromulch, 3,200 sy sod, 596 small plants
 - Site electrical including parking lot lighting, services to amphitheater and restroom, pavilion lighting and electrical
 - **Contract Value – \$2,045,751.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – David Bauer**
 - Town of Flower Mound, Construction Manager, 2121 Cross Timbers Rd, Flower Mound, TX 75028
 - 972-874-6308
- **Collin County – 11/2011 to 5/2012**
 - **CR 134 over Honey Creek Bridge**

- 1,166 CY of roadway and channel excavation
 - 261 CY of Cast-in-place 24' x 12' clear span box culvert
 - 120 LF of 120" CMP removal
 - 2 EA 12' wingwalls
 - 819 SY of 8" flex base under roadway
 - 71 tons asphalt paving
 - Miscellaneous striping, guardrail, and fencing
- Contract Value – \$267,750.70
- Payment/Performance Bond Required- Yes
- Contact – Jeff Durham
 - Collin County, Parks and Project Manager, 825 N McDonald, Ste 145, McKinney, TX 75069
 - 972-548-3723
- City of Corinth – 8/2011 to 12/2011
 - Elm Fork Elevated Walkway
 - 102 CY of walkway and trail Prep on core of engineers property
 - 140 LF of 24" drill shaft
 - 2 EA concrete bridge abutments
 - 1 EA installation of prefabricated steel truss equine/pedestrian bridge
 - Contract Value – \$136,440.00
 - Payment/Performance Bond Required- Yes
 - Contact – Daniel Tremper
 - Freese and Nichols Inc, Project Engineer, 2220 San Jacinto Blvd, Ste 330, Denton, TX 76205
 - 940-220-4352
- Texas Woman's University – 3/2011 to 8/2011
 - TWU Parking Lot at Former Reagan Houston Site
 - Demolition of 2,000 SY of Existing Concrete Paving
 - Remove and Salvage of 6 Light Poles
 - 1,800 CY of Imported Fill
 - 9,815 SY of 6" Stabilized Subgrade (10% Cement/Roadbond)
 - 8,330 SY of 5" Concrete Paving
 - 1,485 SY of 6" Concrete Paving
 - 1,240 SF 4" Sidewalk
 - 326 LF of 12" and 24" RCP
 - 3 EA 12" and 24" Headwalls
 - 14 EA Light Poles and 1 EA Code Blue Emergency Pole
 - Contract Value – \$658,806.50
 - Payment/Performance Bond Required- Yes
 - Contact –
 - Alex Thomas, Texas Woman's University, Project Manager, 940-898-3147
 - Jason Faigle, Allison Engineering Group, Project Engineer, 940-380-9453

- **City of Haslet – 2/2011 to 6/2011**
 - **Gammil to Community Park Sidewalk and Handicap Ramp Project**
 - 266 SY 6" Concrete Pavement
 - 332 SY 6" Concrete Parking Lot
 - 287 SY 8" Lime Stabilization
 - 353 SY 6" Flex Base Subgrade
 - 473 SY 4" Concrete Sidewalk
 - 4 EA 4" Concrete Curb Ramp
 - 32 SY 5" Concrete Driveway
 - 10 SY 5" Drainage Flume
 - **Contract Value – \$60,209.00**
 - **Payment/Performance Bond Required- No**
 - **Contact – Mike Anderson**
 - Belcheff & Associates, City Engineer, 100 Trophy Club Dr, Ste 103, Trophy Club, TX 76262
 - 817-491-2776
- **Tarrant County Community Development Division (Federally Funded) – 2/2011 to 6/2011**
 - **First Street Reconstruction & Sidewalk Project in the City of Haslet**
 - 621 SY 8" Lime Stabilized Subgrade
 - 575 SY 6" Concrete Pavement
 - 32 SY 5" Concrete Driveway
 - 221 SY 4" Concrete Sidewalk
 - 100 LF 8" Water Line Lowering
 - 1 EA ¾" Water Service
 - **Contract Value – \$50,380.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Mike Anderson**
 - Belcheff & Associates, City Engineer, 100 Trophy Club Dr, Ste 103, Trophy Club, TX 76262
 - 817-491-2776
- **City of Burleson – 1/2011 to 6/2011**
 - **Meadow Crest Park Project**
 - Installation of 1,306 SY of 6" concrete pavement for parking lot
 - 1,398 SY of 8" Lime Stabilized subgrade
 - 2,300 CY of unclassified excavation
 - Relocate 2 EA water services
 - Install 1 new fire hydrant
 - **Contract Value – \$131,781.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Lance Barton**
 - City of Burleson, Engineer, 141 West Renfro, Burleson, TX 76028

- 817-426-9621
- **City of Justin – 8/2010 to 10/2011**
 - **Justin Community Park**
 - Clear and Grubb of 20 acres
 - Excavation of Approximately 27,000 CY of Dirt
 - Installation of one softball field, one baseball field, and two soccer fields including fencing, dugouts, clay infield, turf, and sports lighting
 - Associated water and sewer service to future concession stand
 - Installation of Approx 36,500 SF of Concrete Trails and Fire Lane
 - Installation of Playground and Safety Surfacing
 - Installation of Approx 354,000 SF irrigation system with associated turf establishment
 - **Contract Value-\$1,125,933.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact-Mike Anderson**
 - Belcheff & Associates, City Engineer, 100 Trophy Club Dr, Ste 103, Trophy Club, TX 76262
 - 817-491-2776
- **City of Arlington – 5/2009 to 8/2010**
 - **Vandergriff Park Roadway and Paving Improvements**
 - Removal of Approximately 26,000 SY of Pavement
 - Excavation of Approximately 5,600 CY of Dirt
 - Lime Stabilization of Approximately 23,000 SY
 - Installation of Approx 4,000 SY of 6" Asphalt Paving
 - Installation of Approx 20,000 SY of 6" Concrete Paving
 - **Contract Value-\$1,257,826.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact-Jason Landrem**
 - City of Arlington, Parks Department Manager, 717 W Main St, Arlington, TX 76107
 - 817-459-5489
- **City of Fort Worth – 4/2009 to 4/2010**
 - **Oakmont and Clear Fork Park Improvements**
 - Construction of approx 6,000 SY of Concrete Parking and Sidewalks
 - Installation of 120' Prefabricated Steel Arch Bridge
 - Install 1,490 SFF of C.I.P. Retaining Walls associated with Steel Bridge
 - Installation of 80' Prefabricated Concrete Arch Bridge
 - Install 1,441 SFF of C.I.P. Retaining Walls associated with Concrete Bridge
 - Furnish and Install 3 Polygon Shelters
 - Furnish and Install Gametime Playground and Surfacing

- Installation of 9,365 SY of Sod, Hydromulch, and Curlex Blanket
- **Contract Value-\$1,157,901.60**
- **Payment/Performance Bond Required- Yes**
- **Contact-Joel McElhany**
 - **City of Fort Worth Parks and Community Services Department, 4200 South Freeway, Suite 2200, Fort Worth, TX 76115**
 - **817-392-5723**
- **Tarrant County College District – 12/2009 to 8/2010**
 - **South Campus Jogging Trail & Detention Pond Ph 2**
 - **Remove and replace concrete trail**
 - **Placement of 5'X2' Box culverts**
 - **Install five concrete fitness equipment pads**
 - **Installation of fitness equipment**
 - **Contract Value - \$ 139,808.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact – Jonathan Oltmann**
 - **The Projects Group + PARSONS, 420 Throckmorton, Suite 620 | Fort Worth, Texas 76102**
 - **817-255-2727**
- **Mansfield ISD – 6/2010 to 9/2010**
 - **Mary Jo Sheppard Elementary School Road Extension**
 - **Construction of approx 1,975 SY concrete drive**
 - **135 LF of 27" and 30" RCP, with two concrete inlets**
 - **Landscaping and irrigation including tree transplanting and new irrigation system**
 - **Contract Value-\$193,761.00**
 - **Payment/Performance Bond Required-Yes**
 - **Contact-Mickey Thomas**
 - **MJ Thomas Engineering, 3400 Hulen, Suite 100, Fort Worth, TX 76107**
 - **817-732-9839**
- **City of North Richland Hills – 1/2010 to 5/2010**
 - **Walker Creek Dredging**
 - **1,000 linear feet of channel grading**
 - **Contract Value – \$90,201.00**
 - **Payment/Performance Bond Required-Yes**
 - **Contact – Glenn Smith, P.E.**
 - **City of NRH, 7301 N. E. Loop 820, NRH, TX 76180**
 - **817-427-6400**
- **Denton County – 10/2009 to 3/2010**

- **South County Line Bridge**
 - Removal of existing roadway bridge
 - Set three barrel run of 10X7 Box culvert
 - Cast in place two 90 foot by 15 foot Headwalls
 - Asphalt roadway atop bridge
- **Contract Value - \$ 209,800.00**
- **Payment/Performance Bond Required-Yes**
- **Contact – Gary Vickery**
 - Teague Nall and Perkins, 235 W. Hickory St. S-100, Denton, TX 76201
 - 940-383-4177
- **City of Cleburne – 3/2009 to 9/2009**
 - **2008 Drainage Improvements**
 - Installation of Approximately 200 LF of Precast Box Culvert
 - Installation of Approximately 10,350 SF of Concrete Channel Lining
 - Installation of Approximately 250 LF of 10" Sanitary Sewer
 - Installation of Approx 900 SY of 6" Asphalt Paving
 - **Contract Value-\$443,5416.00**
 - **Payment/Performance Bond Required- Yes**
 - **Contact-Robert T. Childress III**
 - Childress Engineers, 211 N Ridgeway Dr, Cleburne, TX 76033
 - 817-645-1118
- **City Of Plano**
 - **Cottonwood Creek Greenbelt Improvements**
 - Furnish and Install Playground Equipment and Accessories
 - Furnish and Install Pavilion on Concrete Slab
 - Install Misc Concrete Items
 - **Contract Value-\$236,282.90**
 - **Payment/Performance Bond Required- Yes**
 - **Contact-Ron Underwood**
 - City Of Plano-P.O. Box 860358 Plano, TX 75086
 - 972-208-8134
- **City of Richardson**
 - **Alley Reconstruction Phase 11**
 - Install 297 LF of 36" RCP
 - Remove and Replace 3,900 SY of 5" Alley Paving
 - **Contract Value-\$357,286.10**
 - **Payment/Performance Bond Required- Yes**
 - **Contact-David McFadden**
 - City of Richardson-411 W Arapaho Rd, Suite 204, Richardson, TX 75080
 - 972-744-4280

- **City of Wylie – 2/2009 to 6/2009**
 - **Spinnaker Way 12" Water Line and Newport Harbor Pump Station Conduits**
 - Installation of Approximately 800 LF of 12" Water Line
 - Install 65 LF 18" RCP
 - 310 LF of double 4" Electrical Conduits
 - Demo 993 SY Concrete Pavement
 - Construct 270 SY Concrete Sidewalk
 - Construct 703 SY 6" Concrete Pavement
 - Install Wiring, Equipment, and Appurtenances to Transfer Pump Station Electrical Service to Pad Mounted Transformer
 - **Contract Value-\$140,654.50**
 - **Payment/Performance Bond Required- Yes**
 - **Contact-Chris Holsted**
 - City of Wylie, 2000 South Highway 78 North, Wylie, TX 75098
 - 972-442-8109
- **Town of Trophy Club**
 - **Harmony Park Expansion**
 - Relocate irrigation lines and water line relocation
 - Site Grading
 - 2,666 SY of 5" Concrete Parking Lot
 - **Contract Value-\$211,110.00**
 - **Contact-Tom Rutledge**
 - Teague, Nall & Perkins, 1100 Macon Street, Fort Worth, TX 76102
 - 817-336-5773
- **City of Roanoke**
 - **The Parks of Hillsborough-August 2008**
 - Remove 300 LF of 5'x3' RCB
 - Install New 5'x3' RCB
 - Repaving of asphalt street
 - 100,000 LF ditch grading
 - Involved coordination and work amongst existing houses and coordinating traffic control , detours and road closures in a residential area
 - **Contract Value-\$317,000**
 - **Contact-Shawn Wilkinson**
 - City of Roanoke-108 South Oak Street, Roanoke, TX 76262
 - 817-491-6099
- **Tarrant County Community College**
 - **South Campus Jogging Trail and Detention Pond-May 2008**
 - Construct approx 10,000 SF Concrete parking lot

- Construct approx 17,500 SF 7' wide Concrete Jogging Path
 - Excavate approx 8,000 CY Retention Pond
 - Import and Compact approx 13,000 CY of Fill
- Contract Value-\$368,000
- Contact-Tom Green
 - Huitt-Zollars-500 W 7th St, Suite 300, Fort Worth, TX 76102
 - 817-335-3000
- Eagle Mountain-Saginaw Independent School District
 - Wayside Middle School-August 2007
 - 650 LF of Concrete Retaining Wall
 - Approx 9,500 SF of 6" Concrete Channel
 - Contract Value-\$340,000
 - Contact-Christian Schnitger, P.E.
 - Scrickel, Rollins & Associates, INC.-1161 Corporate Dr., Arlington, TX 76006
 - 817-649-3216

Chip Fisher, Project Manager



SCHECULE C - PERSONNEL

Name	Position	Date started in this organization	Date started in construction	Prior positions and experience in construction
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chip Fisher	president	04/22/04	06/01/2001	Foreman, Superintendent, project manager, operations manager
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Juan Molina	General Superintendent	03/11/2013	06/18/1996	Foreman, Superintendent
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CITY OF BURLESON
ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS

I acknowledge that by submitting a bid for this project, I am aware of the insurance requirements outlined in these specifications. If I am awarded the bid, I will comply with all insurance requirements within 10 working days of the bid award, including providing proof that I have insurance which may include, but not be limited to, true and accurate copies of the policies. If I fail to forward all insurance requirements within the 10 working days of the award of the bid, I understand my bid bond will be forfeited.


Signature

Harmon Fisher
Printed name

Name of Company: 2L Construction, LLC

Address of Company: 200 Boyd Business Pkwy

City, State & Zip: Boyd, Tx 76023

Telephone Number: (940) 433-2670 Date: 12/21/2023

****THIS PAGE MUST BE COMPLETED OR BID WILL BE REJECTED****



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	NAIC #	
	INSURER A:	
INSURED	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY						EACH OCCURRENCE	\$
	<input type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
	<input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR						MED EXP (Any one person)	\$
							PERSONAL & ADV INJURY	\$
							GENERAL AGGREGATE	\$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	\$
	<input type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC							\$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	\$
	<input type="checkbox"/> ANY AUTO						BODILY INJURY (Per person)	\$
	<input type="checkbox"/> ALL OWNED AUTOS	<input type="checkbox"/> SCHEDULED AUTOS					BODILY INJURY (Per accident)	\$
	<input type="checkbox"/> HIRED AUTOS	<input type="checkbox"/> NON-OWNED AUTOS					PROPERTY DAMAGE (Per accident)	\$
								\$
	UMBRELLA LIAB	<input type="checkbox"/> OCCUR					EACH OCCURRENCE	\$
	EXCESS LIAB	<input type="checkbox"/> CLAIMS-MADE					AGGREGATE	\$
	DED <input type="checkbox"/> RETENTION \$							\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						WC STATUTORY LIMITS	OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? <input type="checkbox"/> Y/N <input type="checkbox"/> N/A						E.L. EACH ACCIDENT	\$
	(Mandatory in NH)						E.L. DISEASE - EA EMPLOYEE	\$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - POLICY LIMIT	\$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

1 of 1

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY CERTIFICATION OF FILING

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2L Construction LLC
Rhome, TX United States

Certificate Number:
2023-1106588

Date Filed:
12/21/2023

Date Acknowledged:

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Burleson

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

21PW02
West Ellison Street and Parking Improvements

4	Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
			Controlling	Intermediary
	Fisher, Harmon	Boyd, TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is Harmon Fisher, and my date of birth is

My address is 200 Boyd Business Pkwy, Boyd, TX, 76023, USA
(street) (city) (state) (zip code) (country)

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

Executed in Wise County, State of TEXAS, on the 21st day of December, 2023.
(month) (year)

Harmon Fisher

Signature of authorized agent of contracting business entity
(Declarant)

Form TCG 2270
VERIFICATION REQUIRED BY TEXAS GOVERNMENT CODE CHAPTER 2279

Contract identifier: _____

Department: _____

By signing below, Company hereby verifies the following:

1. Company does not boycott Israel; and
2. Company will not boycott Israel during the term of the contract.

SIGNED BY: _____

Print Name of Person: _____
Signing, Title, and
Company _____

Date signed: _____

STATE OF TEXAS §
COUNTY OF _____ §

BEFORE ME, the undersigned Notary Public on this day personally appeared _____ (Name), on behalf of _____ (Company) who being duly sworn, stated under oath that he/she has read the foregoing verification required by Texas Government Code Section 2270.002 and said statements contained therein are true and correct..

SWORN AND SUBSCRIBED TO before me, this _____ day of _____, 20____.

NOTARY OF PUBLIC,
FOR THE STATE OF TEXAS

My Commission Expires:

Government Code § 2270.002. Provision Required in Contract

Effective: September 1, 2017

A governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that it:

- (1) does not boycott Israel; and
- (2) will not boycott Israel during the term of the contract.

The following definitions apply:

(1) "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

(2) "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company, or affiliate of those entities or business associations that exists to make a profit.

(3) "Governmental entity" means a state agency or political subdivision of this state.

State law requires verification from a Company for contracts involving goods or services (regardless of the amount) before the City can enter into the contract.

STANDARD FORM OF AGREEMENT

STATE OF TEXAS

§

COUNTY OF JOHNSON

§

§

THIS AGREEMENT is dated as of the _____ day of _____

in the year 20____ by and between _____ City of Burleson

(hereinafter called OWNER) and **2L Construction, LLC**

(hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK.

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ELLISON STREET & PARKING IMPROVEMENTS, 21PW02

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

ELLISON STREET & PARKING IMPROVEMENTS, 21PW02

Article 2. ENGINEER.

The Project has been designed by:

DUNAWAY ASSOCIATES, LCC
550 Bailey Avenue, Suite 400
Fort Worth, TX 76107
TX Reg No. F-1114
Office: 817-335-1121

Dunaway Associates, LLC is hereinafter called ENGINEER and is to act as OWNER's representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Article 3. CONTRACT TIME.

3.1. GRAND TOTAL CONTRACT TIME – All sections of work, as identified in the Bid Form, will be completed within **270** Calendar Days from the date when the Contract Time commences to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraphs 14.07.B and 14.07.C of the General Conditions within **30** calendar days from the date when the Contract is complete.

3.2. Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 3.1. above plus any extensions thereof allowed in accordance with Article 12.02 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time.

Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER Five Hundred dollars (\$ 500.00) for each day that expires after the time specified in paragraph 3.1. for Substantial Completion until the Work is substantially complete. After Substantial Completion if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER Five Hundred dollars (\$ 500.00) for each day that expires after the time specified in paragraph 3.1 for completion and readiness for final payment.

Article 4. CONTRACT PRICE.

4.1. OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents in current funds as follows:

TOTAL BID OF \$ **2,911,727.40** AS IDENTIFIED IN THE BID FORM
CONTAINED HEREIN.

Article 5. PAYMENT PROCEDURES.

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

5.1. Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER, on or about the 25th day of each month during construction as provided below. All progress payments will be on the basis of the progress of the Work measured by the schedule of values established in paragraph 2.07 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Conditions.

5.1.1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 15.01.C.5 of the General Conditions.

95 % of Work completed. If Work has been 50% completed as determined by ENGINEER, and if the character and progress of the Work have been satisfactory to OWNER and ENGINEER, OWNER on recommendation of ENGINEER, may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no additional retainage on account of Work completed in which case the remaining progress payments prior to Substantial Completion will be in an amount equal to 100% of the Work completed.

95 % of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to OWNER as provided in paragraph 14.02.A of the General Conditions).

5.1.2. Upon Substantial Completion, in an amount sufficient to increase total payments to CONTRACTOR to 95 % of the Contract Price, less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 15.01.C.5 of the General Conditions.

5.2. Final Payment. Upon final completion and acceptance of the Work in accordance with section 15.06 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said section 15.06.

Article 6. INTEREST.

All moneys not paid when due as provided in Article 15 of the General Conditions shall bear interest at the maximum rate allowed by law at the place of the Project.

Article 7. CONTRACTOR'S REPRESENTATIONS.

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

7.1. CONTRACTOR has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.

7.2. CONTRACTOR has studied carefully all reports of explorations and tests of subsurface conditions and drawings of physical conditions which are identified in the Supplementary Conditions as provided in paragraph 5.03.A and 5.03.B of the General Conditions.

7.3. CONTRACTOR has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports and studies (in addition to or to supplement those referred to in paragraph 7.2 above) which pertain to the subsurface or physical conditions at or contiguous to the site or otherwise may affect the cost, progress, performance or furnishing of the Work as CONTRACTOR considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraphs 5.03 and 5.04 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by CONTRACTOR for such purposes.

7.4. CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 5.05 of the General Conditions.

7.5. CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

7.6. CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

Article 8. CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work consist of the following:

- 8.1. This Agreement.
- 8.2. Performance, Payment, and Maintenance Bonds as contained herein.
- 8.3. Certificate of Insurance.
- 8.4. General Conditions.
- 8.5. Supplementary Conditions.
- 8.6. Specifications bearing the title **CONTRACT DOCUMENTS AND SPECIFICATIONS FOR ELLISON STREET & PARKING IMPROVEMENTS, 21PW02**
- 8.7. Drawings bearing the following general title:
ELLISON STREET & PARKING IMPROVEMENTS, 21PW02
- 8.8. Addenda numbers 1 to 5, inclusive.
- 8.9. CONTRACTOR's Bid Form as contained herein.
- 8.10. Documentation submitted by CONTRACTOR prior to Notice of Award (pages n/a to , inclusive).
- 8.11. The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying, or supplementing the Contract Documents.

Article 9. MISCELLANEOUS.

9.1. Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

9.2. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law) and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.3. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement will be effective on _____, 20__.

OWNER:
City of Burleson

CONTRACTOR:

By _____
(Print Name)

By _____
(Print Name)

(CORPORATE SEAL)

(CORPORATE SEAL)

Attest _____

Attest _____

Address for giving notices:

Address for giving notices:

141 W. Renfro

Burleson, TX 76028

SECTION 8

THE STATE OF TEXAS §

Performance Bond

COUNTY OF JOHNSON §

KNOW ALL BY THESE PRESENTS:

THAT

_____ of the City of _____, County of _____

State of _____ hereinafter referred to as "PRINCIPAL," and

_____, a corporate surety/sureties organized under the laws of the State of _____ and authorized to do business in the State of Texas, hereinafter referred to as "SURETY," (whether one or more), are held and firmly bound unto the **CITY OF BURLESON, TEXAS**, a municipal corporation located in Johnson County, Texas, hereinafter referred to as "CITY," in the amount of TWO MILLION NINE HUNDRED ELVEN THOUSAND SEVEN HUNDRED AND TWENTY SEVEN DOLLARS AND FORTY CENTS (\$2,911,727.40), lawful money of the United States, to be paid in Burleson, Johnson County, Texas, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, assigns, administrators and successors, jointly and severally; and firmly by these presents, the condition of this obligation is such that,

WHEREAS, PRINCIPAL entered into a certain written Contract with the City of Burleson dated the _____ day of _____, 20____, a copy of which is attached hereto and made a part hereof, to furnish all materials, equipment, labor, supervision, and other accessories necessary for the construction of:

Ellison Street and Parking Improvements

City of Burleson Project No. 21PW02

in the City of Burleson, Texas, as more particularly described and designated in the above referenced contract such contract being incorporated herein and made a part hereof as fully and to the same extent as if written herein word for word:

NOW THEREFORE,

If PRINCIPAL shall well, truly and faithfully perform and fulfill all of the undertakings, covenants, terms, conditions and agreements of the above referenced Contract in accordance with the plans, specifications and Contract documents during the original term thereof, and any extension thereof which may

be granted with or without notice to SURETY, and during the life of any guaranty required under the Contract, and shall also well and truly perform and fulfill all the covenants, terms, conditions and agreements of any and all authorized modifications of such Contract that may hereafter be made, notice of which modifications to SURETY being hereby waived, then this obligation shall be void, otherwise to remain in full force and effect; and in case PRINCIPAL shall fail to do so, it is agreed that CITY may do such work and supply such materials and charge the same against PRINCIPAL and SURETY on this obligation, and PRINCIPAL and SURETY hereon shall be subject to the liquidated damages mentioned in the Contract for each day's failure on its part to comply with the terms and provisions of such Contract.

Provided, further, that if any legal action be filed on this Bond, venue shall lie in Johnson County, Texas.

And, 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 performed thereunder, or the plans, specifications, drawings, etc., accompanying 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 to be performed thereunder.

The undersigned and designated agent is hereby designated by SURETY as the agent resident in either Tarrant or Johnson County to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

IN WITNESS WHEREOF, this instrument is executed on this the _____ day of _____, 20____.

WITNESS

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

PRINCIPAL

Company

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

WITNESS

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

SURETY

Company

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

SECTION 9

THE STATE OF TEXAS §

Payment Bond

COUNTY OF JOHNSON §

KNOW ALL BY THESE

PRESENTS:

THAT _____

of the City of _____, County of _____

State of _____ hereinafter referred to as "PRINCIPAL," and

_____, a corporate surety/sureties organized under the laws of the State of _____ and authorized to do business in the State of Texas, hereinafter referred to as "SURETY," (whether one or more), are held and firmly bound unto the **CITY OF BURLESON, TEXAS**, a municipal corporation located in Johnson County, Texas, hereinafter referred to as "CITY," and unto all persons, firms and corporations who may furnish materials for or perform labor upon the buildings, structures or improvements referred to in the attached Contract, in the penal sum of TWO MILLION NINE HUNDRED ELEVEN THOUSAND SEVEN HUNDRED TWENTY SEVEN DOLLARS AND FORTY CENTS (\$2,911,727.40), lawful money of the United States, to be paid in Burleson, Johnson County, Texas, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally; and firmly by these presents, the condition of this obligation is such that,

WHEREAS, PRINCIPAL entered into a certain Contract with City of Burleson, dated the _____ day of _____, 20____, a copy of which is attached hereto and made a part hereof, to furnish all materials, equipment, labor, supervision, and other accessories necessary for the construction of:

Ellison Street and Parking Improvements

City of Burleson Project No. 21PW02

NOW THEREFORE,

If PRINCIPAL shall well, truly and faithfully perform its duties and make prompt payment to all persons, firms, subcontractors, corporations and claimants supplying labor and materials in the prosecution of the work provided for in the above referenced Contract and any and all duly authorized modifications of such Contract that may hereafter be made, notice to SURETY of such modifications being hereby waived, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, further, that if any legal action be filed on this Bond, venue shall lie in Johnson County, Texas.

And, that such 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 performed thereunder, or the plans, specifications, drawings, etc. accompanying 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 to be performed thereunder.

This Bond is given pursuant to the provisions of Chapter 2253 of the Government Code, as amended. The terms "payment bond beneficiary," "public work labor," and "public work material," as used herein, are in accordance with and as defined in the relevant provisions of Chapter 2253 of the Government Code.

The undersigned and designated agent is hereby designated by SURETY herein as the resident agent in either Tarrant or Johnson Counties to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

IN WITNESS WHEREOF, this instrument is executed on this the _____ day of _____, 20____.

WITNESS

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

PRINCIPAL

Company

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

WITNESS

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

SURETY

Company

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

The Resident Agent of the SURETY in either Tarrant or Johnson County, Texas,
for delivery of notice and service of process is:

NAME _____

ADDRESS _____

NOTE: Date of Payment Bond must NOT be prior to date of Contract.

SECTION 10

THE STATE OF TEXAS §

Maintenance Bond

COUNTY OF JOHNSON §

KNOW ALL BY THESE

PRESENTS:

THAT _____

of the City of _____, County of _____

State of _____ hereinafter referred to as "PRINCIPAL," and

_____, a corporate surety/sureties organized under the laws of the State of _____ and authorized to do business in the State of Texas, hereinafter referred to as "SURETY," (whether one or more), are held and firmly bound unto the **CITY OF BURLESON, TEXAS**, a municipal corporation located in Johnson County, Texas, hereinafter referred to as "CITY," in the amount of TWO MILLION NIN HUNDRED ELEVEN THOUSAND SEVEN HUNDRED TWENTY SEVEN DOLLARS AND FORTY CENTS (\$2,911,727.40), lawful money of the United States, to be paid in Burleson, Johnson County, Texas, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, assigns, administrators and successors, jointly and severally; and firmly by these presents, the condition of this obligation is such that:

WHEREAS, PRINCIPAL entered into a certain written Contract with City of Burleson, dated the _____ day of _____, 20____, a copy of which is attached hereto and made a part hereof, to furnish all materials, equipment, labor, supervision, and other accessories necessary for the construction of:

Ellison Street and Parking Improvements

City of Burleson Project No. 21PW02

in the City of Burleson, Texas, as more particularly described and designated in the above referenced contract such contract being incorporated herein and made a part hereof as fully and to the same extent as if written herein word for word:

NOW THEREFORE,

If PRINCIPAL will maintain and keep in good repair the work herein contracted to be done and performed for a period of two (2) years from the date of acceptance and perform all necessary work and repair any defective condition growing out of or arising in any part of the construction of said improvement, it being understood that the purpose of this section is to cover all defective conditions arising by reason of defective materials, work or labor performed by PRINCIPAL; then this obligation shall be void, otherwise it shall remain in full force and effect; and in case PRINCIPAL shall fail to do so, it is agreed that CITY may do such work and supply such materials and charge the same against PRINCIPAL and SURETY on this obligation, and in addition, PRINCIPAL and SURETY herein shall be subject to the liquidated damages as provided in the Contract referred to herein for each day's failure on its part to comply with the terms and provisions of such Contract.

Provided, further, that if any legal action be filed on this Bond, venue shall lie in Johnson County, Texas.

And, 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 performed thereunder, or the plans, specifications, drawings, etc., accompanying 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 to be performed thereunder.

The undersigned and designated agent is hereby designated by SURETY as the resident agent in either Tarrant or Johnson County to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

IN WITNESS WHEREOF, this instrument is executed on this the _____ day of _____, 20____.

WITNESS

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

PRINCIPAL

Company

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

WITNESS

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

SURETY

Company

By _____
Signature

Typed/Printed Name

Title

Address

City State Zip

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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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. §§5101 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.I 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 for whom the Owner is responsible 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 11.04.C.2.a and 11.04.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 additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

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

ARTICLE 2 – PRELIMINARY MATTERS

Delete Paragraphs 2.01 B. and C. in their entirety and insert the following in their place:

- B. Evidence of Contractor’s Insurance:** When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies of insurance (including all endorsements, and identification of applicable self-insured retentions and deductibles) required to be provided by Contractor in Article 6. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- C. Evidence of Owner’s Insurance:** After receipt from Contractor of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner under Article 6 (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

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

SC 5.03 Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

- A.** No reports of explorations or tests of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

SC 5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

- A.** No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B.** Not Used.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:

- 1.** Contractor may obtain worker’s compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the project is located, (b) is certified or authorized as a worker’s compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker’s compensation insurance for similar projects by the state within the last 12 months.

SC 6.03 Add the following new paragraph immediately after Paragraph 6.03.J:

- K.** The limits of liability for the 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 Paragraphs 6.03.A.1 and A.2 of the General Conditions:**

State:	<u>Statutory</u>
Federal, if applicable (e.g., Longshoreman's):	<u>Statutory</u>

Employer's Liability:

Bodily injury, each accident	\$ <u>1,000,000</u>
Bodily injury by disease, each employee	\$ <u>1,000,000</u>
Bodily injury/disease aggregate	\$ <u>1,000,000</u>

Foreign voluntary worker compensation	<u>Statutory</u>
---------------------------------------	------------------

2. **Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:**

General Aggregate	\$ <u>4,000,000</u>
Products - Completed Operations Aggregate	\$ <u>4,000,000</u>
Personal and Advertising Injury	\$ <u>2,000,000</u>
Each Occurrence (Bodily Injury and Property Damage)	\$ <u>2,000,000</u>

3. **Automobile Liability under Paragraph 6.03.D. of the General Conditions:**

Bodily Injury:

Each person	\$ <u>1,000,000</u>
Each accident	\$ <u>2,000,000</u>

Property Damage:

Each accident	\$ <u>1,000,000</u>
---------------	---------------------

[or]

Combined Single Limit of	\$ <u>2,000,000</u>
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4. **Excess or Umbrella Liability:**

Per Occurrence	\$ <u>2,000,000</u>
General Aggregate	\$ <u>4,000,000</u>

5. Contractor's Pollution Liability:

Each Occurrence	\$ 2,000,000
General Aggregate	\$ 4,000,000



If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract

7. Contractor's Professional Liability:

Each Claim	\$ 2,000,000
Annual Aggregate	\$ 4,000,000

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

SC-7.02.B. Amend the first and second sentences of Paragraph 7.02.B to state "...all Work at the Site shall be performed during regular working hours, [7 AM] through [6 PM]. Contractor will not perform Work on a [Saturday], [Sunday], or any legal holiday, unless permission is given by the Project Engineer and Chief Inspector and upon payment of the city inspector's overtime costs. Normal working hours for city construction inspectors is between 7 am and 4 pm."

SC 7.09 Add a new paragraph immediately after Paragraph 7.09.A:

- B. Owner is exempt from payment of sales and compensating use taxes of the State of Texas and of cities and counties thereof on all materials to be incorporated into the Work.
1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

SC-9.13 Add the following new paragraph immediately after Paragraph 9.12 of the General Conditions:

SC-9.13 Owner will furnish an "Owner's Site Representative" to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner's Site Representative is not Engineer's consultant, agent, or employee. Owner's Site Representative will be City of Burleson Personnel. The authority and responsibilities of Owner's Site Representative shall be to verify construction activities adhere to Plans, Specs, and Details.

ARTICLE 10 – ENGINEER’S STATUS DURING CONSTRUCTION

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

B. On this Project, by agreement with the Owner, Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC 13.03.E Delete Paragraph 13.03.E in its entirety and insert the following in its place:

- E. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:**
- 1. if the extended price of a particular item of Unit Price Work amounts to 5% percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 25% percent from the estimated quantity of such item indicated in the Agreement; and**
 - 2. if there is no corresponding adjustment with respect to any other item of Work; and**
 - 3. if Contractor believes that Contractor has incurred additional expense as a result thereof, Contractor may submit a Change Proposal, or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, Owner may make a Claim, seeking an adjustment in the Contract Price.**

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

SC 15.03.B Add the following new subparagraph to Paragraph 15.03.B:

- 1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.**

SECTION 10A.1
CONSENT OF SURETY COMPANY TO FINAL PAYMENT

Project Name: Ellison Street and Parking Improvements
Project Number: 21PW02
Owner: City of Burleson, Texas
Contractor: 2L Construction
Engineer: Dunaway Associates

The Surety Company, on bond of the Contractor listed above for the referenced project, in accordance with the Contract Documents, hereby approves final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to the Owner under the terms of the Contract and as set forth in said Surety Company's bond.

In witness whereof, the Surety Company has hereunto set its hand this _____ day
of _____ 20____

Surety Company

By _____
Authorized Representative

Title

Address

City State Zip

Attach Power of Attorney

SECTION 10A.2
CONTRACTOR'S AFFIDAVIT OF FINAL PAYMENT

THE STATE OF TEXAS
COUNTY OF JOHNSON

§ CONTRACTOR'S AFFIDAVIT OF
§ FINAL PAYMENT AND RELEASE

BEFORE ME, the undersigned authority, on this day personally appeared _____

("Affiant"), who, after being by me duly sworn, deposes and says that he is _____

, a _____ (corporation, partnership, trade name)
of _____ (County, State of Texas) the ("Contractor"), which said Contractor
was awarded the contract dated the _____ day of _____, for the construction of **Ellison Street and
Parking Improvements** (the "Work"), for a total consideration of **TWO MILLION NINE HUNDRED ELEVEN THOUSAND
SEVEN HUNDRED TWENTY SEVEN DOLLARS AND FORTY CENTS (\$2,911,727.40)** to be paid to the said Contractor (the
"Contract"), and the Affiant has full power of authority to make this affidavit.

That CITY OF BURLESON (the "Owner") has received the request for final payment on said Work, and that the said contractor has fully satisfied and paid any and all claims that may be covered by Chapter 53 of the Texas Property code, and Article 510 of the Revised civil Statues of the State of Texas, or any other applicable statues or charter provisions, and that all just bills for labor and materials have been paid and charged by said Contractor insofar as they pertain to the Work in question.

That in addition to any funds which may have been previously paid by the Owner, the Contractor hereby accepts the amount of _____ Dollars as FULL AND FINAL PAYMENT under the aforementioned contract, and hereby waives and releases any right against the Owner arising out of or in any manner connected with the performance of the work and/or his Contract, including but not limited to claims of third parties that supplied material and/or labor for the Work for or through the Contractor ("Subcontractors"), as well as claims for delay, additional compensation or for recovery of liquidated damages which may have been withheld by the Owner. The Contractor shall defend, hold harmless and indemnify the Owner from any such claims of such Subcontractors. The contractor further releases the Owner from any claim or liability arising from any act or neglect of the Owner related to or connected with the contract and shall not be deemed or alter or modify the terms and provisions of said Contract.

By _____
(Affiant)

(Printed Name)

SUBSCRIBED AND SWORN TO BEFORE ME, THIS THE _____ day of _____, 20____.

(Notary Public, in and for the State of Texas)

(Printed Name of Notary)

My Commission expires: _____

TECHNICAL SPECIFICATIONS

All construction shall be in accordance with the preceding specifications contained within; the "Public Works Construction Standards, Specifications and Drawings, Fifth Edition, November 2017 for the North Central Texas Council of Governments"; the latest edition of the "Texas Manual of Uniform Traffic Control Devices for Streets and Highways", and the City of Burleson Design Standards Manual approved by City Council October 23rd, 2008, by Resolution R-1136-08 for construction related standards.

SECTION 024116 – BUILDING DEMOLITION

Work under these pay items shall be performed in accordance with the following provisions:

Scope of Work

These items shall include the following -

- Standard Demolition Agreement
 - Removal of building foundation(s)
 - Removal of a one-story wood building
 - Removal of a one-story brick building
1. This section specifies the labor, materials, equipment, and incidentals required for the demolition, relocation, and/or disposal of all structures, building materials, equipment, and accessories to be removed as shown on the construction plans and as specified herein.
 2. Existing foundation, pit, well or cistern shall be removed to an elevation of three feet (3') below the existing grade and all material remaining shall be removed from the voids to present a neat appearance for inspection, prior to backfilling.
 3. Concrete slabs more than three feet (3') below grade shall be broken; all others shall be broken and removed.
 4. Existing utilities to the structures shall be disconnected. Water and sewer utilities shall be plugged at the service connection in accordance to City specifications.
 5. The Contractor shall examine the various drawings, visit the site, determine the extent of work, the extent of work affected therein, and all conditions under which he/her is required to perform the various operations.
 6. Demolition Includes:
 - 1) Complete demolition and removal of above and below ground structures, concrete slabs, foundations, vaults, and underground utilities (water, wastewater, electrical, etc.) related to the structures as shown on the plans.
 - 2) All material, equipment, rubble, debris, and other products of the demolition shall become the property of the Contractor for his/her disposal off-site in accordance with all applicable laws and ordinances at the Contractor's expense. The sale of salvageable materials by the Contractor shall only be conducted off-site. The sale of removed items on the site is prohibited by the City.
 7. The Contractor shall fill and compact all voids left by the removal of foundations, pipe, structures etc. with materials described herein to a grade that will provide for positive drainage of the disturbed area to drain run-off in direction consistent with the surrounding area. Compaction of fill shall match the compaction of adjacent undisturbed material.

Quality Assurance

1. Notices: Contractor shall issue written notices of planned demolition to companies owning utility conduit, wires, or pipes running to or through the project site. Copies of said notices shall be submitted to the City.
2. Utility Services: Contractor shall notify utility companies or local authorities furnishing gas, water, electrical, telephone, or sewer service to remove any equipment in the structures to be demolished and to remove, disconnect, cap, or plug their services to facilitate demolition.

Site Conditions

1. The City assumes no responsibility for the actual condition of the structures to be demolished or relocated.
2. Conditions existing at the time of inspection for bidding purposes will be maintained by the City insofar as practicable. However, variations within each site may occur prior to the start of demolition work.
3. No additional payment will be made for pumping or other difficulties encountered due to water.
4. Certain information regarding the reputed presence, size, character and location of existing underground structures, pipes and conduit has been shown on the construction plans. There is no certainty of the accuracy of this information, and the location of underground structures shown may be inaccurate and other obstructions than those shown may be encountered. The Contractor hereby distinctly agrees that the City is not responsible for the correctness or sufficiency of the information given; that in no event is this information to be considered as a part of the Contract; that he shall have no claim for delay or extra compensation on account of incorrectness of information regarding obstructions either revealed or not revealed by the construction plans; and that he shall have no claim for relief from any obligation or responsibility under this Contract in case the location, size, or character of any pipe or other underground structure is not as indicated on the construction plans, or in case any pipe or other underground structure is encountered that is not shown on the construction plans.
5. Prior to issuance of the Notice to Proceed with Demolition, Contractor shall ensure that all meters, service loops, lines, cables and instruments shall be disconnected, abandoned and/or removed prior to commencement of any demolition and/or site clearance. If Contractor finds that any such items have not been disconnected, abandoned and/or removed. Contractor shall notify the Owner and contact the utility to have such items disconnect, abandoned, and/or removed. The Contractor shall not proceed with demolition and/or site clearance until such items are disconnected, abandoned, and/or removed.

Restrictions

1. No building or structure, or any part thereof, shall be demolished until an application has been filed by the Contractor with the Building Department Inspector and a permit issued if a permit is required. The fee for this permit shall be the Contractor's responsibility. Demolition shall be in accordance with applicable provisions of the Building Code of the State of Texas.
2. No Explosives shall be used at any time during the demolition. No burning of combustible material will be allowed.
3. Conduct work to ensure minimum interference with on-site and off-site roads, streets, sidewalks, and occupied or used facilities. Do not close or obstruct streets, sidewalks, or other occupied or used facilities without permission from the City. Provide alternate routes around closed or obstructed traffic in access ways.

Disposal of Material

1. All material not retained by the City shall become the Contractor's property and shall be removed off-site.
2. The on-site storage of removed items is prohibited by the City.
3. Contractor shall have salvage rights to all components of the improvements to the Site, subject to the Contract provisions, except any asbestos containing materials, equipment containing polychlorinated bi-phenyls or any other Hazardous Materials, which must be disposed of as provided for herein.
4. Off-site sale of salvageable material by the Contractor is acceptable.

Protection & Safety

1. Conduct operations to minimize damage by falling debris or other causes to adjacent buildings, structures, roadways, other facilities, and persons. Provide interior and exterior shoring, bracing, or support to prevent movement or settlement or collapse of structures to be demolished and adjacent facilities to remain.
2. An Asbestos Survey was prepared by Vantage Environment Services, LP. dated April 25, 2023 (Vantage Report No. 2023-1114). This survey indicated that regulated amounts of asbestos was found in one (1) of the fifty-four (54) bulk samples collected from the existing building located at 225 West Renfro Street, Burleson, TX 76028.
3. The contractor shall protect adjacent properties from dust and materials resulting from the demolition operations. The contractor shall develop a protection plan and submit it to the City for approval.

Damage

1. Promptly repair damage caused to adjacent facilities by demolition operations as directed by the City at no cost to the City.

Utilities

1. Do not interrupt existing utilities serving occupied or operational facilities, except when authorized by City. Provide temporary services during interruptions to existing utilities as acceptable to the City.
2. The Contractor shall cooperate with the City to shut off utilities serving structures of the existing facilities as required by demolition operations.
3. The Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the interruption of all public and private utilities or services.

Pollution Control

1. For pollution control, use water sprinkling, temporary enclosures, and other suitable methods necessary to limit the amount of dust rising and scattering in the air to the lowest level of air pollution practical for the conditions of work. The Contractor shall comply with the governing regulations.
2. Clean adjacent structures and improvements of all dust and debris caused by demolition operations as directed by the City. Return areas to conditions existing prior to the start of Work.

Environmental Regulations

1. Contractor shall abide by all applicable environmental laws in performance of the demolition services and related to hazardous materials. Contractor shall take no action or inaction that exposes the City to liability or non-compliance or other findings or damages, penalties or fines related thereto. In the event a regulatory agency assesses either a monetary or non-monetary fine or penalty for Contractor's noncompliance, the Contractor shall reimburse the City for all associated costs. Contractor shall remove all hazardous material and waste upon completion of the contract. Abandoned waste shall be managed as "unknown waste", and the Contractor shall bear the cost of any analytical, disposal, or other costs incurred. The City of Burleson landfill does not accept asbestos containing materials and the Contractor is responsible for disposing of the material at an approved disposal facility.
2. The City has completed to perform a Phase I Environmental Study prior to Work commencement. The City will notify the Contractor when the building has been vacated to begin asbestos abatement. Other materials to be demolished may also be present such as lead paint and/or other Hazardous Materials, including but not

limited to, transformers and/or other electrical equipment containing polychlorinated biphenyls which are located at the Site. If the Contractor encounters Hazardous Materials or if Contractor or anyone for whom the Contractor is responsible creates a Hazardous environmental condition, Contractor shall immediately secure or otherwise isolate such conditions, stop all Work in connection with such condition and in any area affected thereby (except in an emergency) and notify the City immediately (and promptly thereafter confirm in writing). Contractor shall be responsible for Hazardous environmental conditions created with any materials brought to the Project by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible. Receiving of a report from the City, whether oral or written, regarding the presence or absence of asbestos or other Hazardous Materials, receiving no report, or receiving an incomplete report, does not alleviate Contractor of this duty. Contractor shall warrant to the City that it has experience in handling Hazardous Materials, has inspected the Site for the presence of Hazardous Materials and has included the cost of remediation and disposal of such Hazardous Materials in the Contract Price.

3. Contractor shall abide by all EPA regulations to prevent emissions of particulate asbestos material to the outside air. Prior to the start of work, Contractor shall provide the City with a copy of Contractor's asbestos removal procedure. Contractor shall provide all personal protective equipment, as required by OSHA Standards 29 C.F.R. §§ 1910.1001, for its employees. Contractor shall provide all personal protective equipment to City's personnel who may be required to inspect the work. Contractor shall immediately report a release to all appropriate agencies and to the City in the event a release occurs during the performance of the Work that requires immediate reporting to one or more federal, state or local agencies pursuant to applicable law including but not limited to the Emergency Planning and Community Right-To-Know Act of 1986, CERCLA (Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. § 9601, et seq.), the Clean Water Act and the Oil Pollution Act of 1990. The term, "immediate reporting" shall mean those instances where reporting is required within 15 minutes of the incident such that it is not practical to contact the City prior to making such report. Otherwise, Contractor shall promptly advise the City in writing of any condition which it reasonably believes requires reporting. Contractor shall, subject to City review, make such reports and shall provide the City with copies of any such reports.
4. "Applicable Environmental Laws" means any federal, state or local statute, law, rule, regulation, ordinance, code, policy or rule of common law of any Governmental Entity now in effect and in each case as amended from time to time, and any judicial or administrative interpretation thereof, including any judicial or administrative order, consent decree, or judgment, relating to the environment, human health or hazardous materials, including, without limitation, CERCLA; The Hazardous Materials Transportation Act of 1994, as amended, 49 U.S.C. § 5101, et seq.; the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. §6901, et seq.; the Federal Water Pollution Control Act, as amended, 33 U.S.C. §1201, et seq.; the Toxic Substances Control Act, 15 U.S.C. §2601, et seq.; the Clean

Air Act, 42 U.S.C. § 7401, et seq.; the Safe Drinking Water Act, 42 U.S.C. §300(f), et seq., the Federal Insecticide, Fungicide and Rodenticide Act, as amended, 7 U.S.C. §136, et seq., the Occupational Safety and Health Act of 1970, 29 U.S.C. §651, et seq., orders, rules and regulations issued by the Texas Commission on Environmental Quality, and the ordinances, rules, and permits of the City of Burleson, Texas, and any other similar federal, state or local laws, or any federal, state, or local laws relating to the environment or to hazardous or waste materials.

5. "Hazardous Materials" means: (A) any substance, material, or waste that is included within the definitions of "hazardous substances", "hazardous materials", "hazardous waste", "toxic substances", "toxic materials", "toxic waste", or words of similar import in any Environmental Law; (B) the substances listed as hazardous substances by the United States Department of Transportation (or any successor agency) (49 C.F.R. 172.101 and amendments thereto) or by the EPA (40 C.F.R. 302 and amendments thereto); and (C) any substance, material, or waste that is petroleum, petroleum related, or a petroleum by-product, asbestos or asbestos containing material, lead or lead containing materials, polychlorinated biphenyls, flammable, explosive, or radioactive materials, Freon gas, radon, or a pesticide, herbicide, or any other agricultural chemical.

Measurement and Payment

Measurement and payment for all work described above shall be at the unit price per lump sum per each building and associated foundation to be demolished and removed.

SECTION 321724

SUPPLY AND INSTALLATION OF CERAMIC AND ACRYLIC PAVEMENT BUTTONS

PART 1 - MATERIALS AND INSTALLATION SPECIFICATIONS

The TxDOT Standard Specifications for the Construction of Highways Streets and Bridges (1993), Item 672 shall be the construction specifications for this project, except as modified below, or as modified by the City of Burleson Standard Construction Details and the City of Burleson Construction Specifications.

- 1.1 CONTRACTOR shall be responsible for providing all ceramic buttons and acrylic pavement markers, epoxy, labor, surface preparation, epoxy mixing and installation equipment, and traffic control devices including, warning signs, electronic arrow boards and barricades in accordance with the Texas Manual of Uniform Traffic Control Devices, Section VI most recent addition and the City of Burleson, Standard Construction Details.

PART 2 - MATERIALS

- 2.1 Pavement Markers and Buttons – The pavement markers and buttons shown on the TxDOT “Materials Producer List, Section 32 Pre-qualified Pavement Markers, Traffic Buttons, and Jiggle Bars” are the only approved materials.
- 2.1.1 The following buttons are required in the City of Burleson, all other markers or buttons required by construction plans shall comply with DMS – 4200 & 4300.
 - A. High Volume Reflectorized Pavement Markers complying with TxDOT DMS – 4200.
 1. Type IC, 4” Square Acrylic, 1 way White Reflective, White or Silver-white Body
 2. Type II/AA, 4” Square Acrylic, 2 way Amber Reflective, Yellow Body
 3. Type II-C-R, 4” Square Acrylic, 2 way White Reflective on one side and Red Reflective on the other side, White or Silver-white Body
 4. Type Blue, 4” Square Acrylic, 2 way Blue Reflective, Blue Body
 - B. Traffic Buttons complying with TxDOT DMS – 4300
 1. Type W, 4” White Round Ceramic Buttons
 2. Type Y, 4” Yellow Round Ceramic Buttons
- 2.2 Type II Medium Setting Epoxy Adhesive complying with TxDOT DMS – 6100 and listed on the TxDOT “Materials Producer List, Section 46 “Pre-qualified Warehouses for Epoxy (Other than Paint)” list of approved vendors.
- 2.3 CONTRACTOR shall provide written documentation that the above materials meet TxDOT Material Specifications or were purchased from an approved vendor.

PART 3 - INSTALLATION

- 3.1 The CONTRACTOR shall only use enough adhesive such that the adhesive doesn’t extend more than ½” around the button or marker, but sufficient quantity to ensure that 100% of the bonding area of the marker or button shall make contact with the adhesive. Pavement markings shall be placed immediately after the adhesive is applied and shall be firmly bonded to the pavement. No part of the button or marker shall

be in direct contact with the pavement. CONTRACTOR shall protect the buttons and markers until adhesive has completely set.

- 3.2 Temperature of the air and pavement for placement of marking shall be 60° F or higher.
- 3.3 CONTRACTOR shall maintain alignment with existing pavement markings. Any buttons or markers placed out of alignment or knocked out of alignment before adhesive has set shall be removed and replaced by the CONTRACTOR at his own expense.

PART 4 - OBSERVATION AND WARRANTY PERIOD

- 4.1 OBSERVATION PERIOD – Prior to consideration or final acceptance of all work completed for pavement marking buttons and markers, there shall be a 60 calendar day observation period beginning upon the satisfactory completion of all work required and opening to traffic.
- 4.2 During the 60 calendar day observation period, the CONTRACTOR shall replace markers or buttons installed under this contract that have come loose and/or are missing from the pavement.
- 4.3 At the end of the 60-day observation period, the pavement buttons will be still subject to the one-year warranty period. The CONTRACTOR shall be required to replace or renew without cost to the City, those pavement markers and buttons which have not remained to perform useful service for warranty period. Prior to expiration of the warranty period, the City shall inspect the sections of roadway buttoned and notify the CONTRACTOR of any deficiencies.

END OF SECTION

DOCUMENT 000107E

PROFESSIONAL SEALS PAGE

The specification sections listed below were prepared by or under the direct supervision of the Civil Engineer:

DUNAWAY ASSOCIATES, LP
550 Bailey Ave, Suite 400
Fort Worth, Texas 76107

SEAL

DIVISION 32 – EXTERIOR IMPROVEMENTS

323300	Site Furnishings
328400	Planting Irrigation
329113	Soil Preparation
329200	Turfs and Grasses
329300	Plants



END OF DOCUMENT

SECTION 323300
SITE FURNISHINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Bench
 - 2. Bicycle racks
 - 3. Trash receptacles

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified (PDF Format).

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance data.

PART 2 - PRODUCTS

2.1 BENCH

- A. Product: Landscape Forms, Lakeside, Grass backed, 25" x 67" x 35", 197 lbs
- B. Pattern: Grass
- C. Finish: Powdercoated Metal
 - 1. Color: Silver
- D. Mount: Surface Mount
- E. Sales Rep: Patti Redd, 214.212.5659, pattir@landscapeforms.com

2.2 BICYCLE RACKS

- A. Product: Landscape Forms, Ride Bike Rack, 3.3" x 28" X 26", 50 lb
- B. Finish: Powdercoated Metal
 - 1. Color: Silver
- C. Mount: Surface Mount

- D. Sales Rep: Patti Redd, 214.212.5659, pattir@landscapeforms.com

2.3 TRASH RECEPTACLES

- A. Product: Landscape Forms, Lakeside grass side-opening, 30 gal. 21" opening, 36" ht, 101 lb
- B. Pattern: Grass
- C. Finish: Powdercoated Metal
1. Color: Silver
- D. Mount: Surface Mount
- E. Sales Rep: Patti Redd, 214.212.5659, pattir@landscapeforms.com

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.
- B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.
- C. Install site furnishings level, plumb, true, and securely anchored in locations indicated on Drawings.
- D. Post Setting: Set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.
- E. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site furnishings and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

END OF SECTION

SECTION 328400
PLANTING IRRIGATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Piping.
 - 2. Manual valves.
 - 3. Automatic control valves.
 - 4. Automatic drain valves.
 - 5. Sprinklers.
 - 6. Quick couplers.
 - 7. Controllers.
 - 8. Boxes for automatic control valves.

1.2 PERFORMANCE REQUIREMENTS

- A. Irrigation zone control shall be automatic operation with controller and automatic control valves.
- B. Location of Sprinklers and Specialties: Design location is approximate. Make minor adjustments necessary to avoid plantings and obstructions such as signs and light standards. Maintain 100 percent irrigation coverage of areas indicated.
- C. Minimum Working Pressures: The following are minimum pressure requirements for piping, valves, and specialties unless otherwise indicated:
 - 1. Irrigation Main Piping: 200 psi.
 - 2. Circuit Piping: 150 psi.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

1.4 INFORMATIONAL SUBMITTALS

- A. Zoning Chart: Show each irrigation zone and its control valve.
- B. Controller Timing Schedule: Indicate timing settings for each automatic controller zone.
- C. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.6 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

- A. Comply with requirements in the piping schedule for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.
- B. Galvanized-Steel Pipe: ASTM A53/A53M, Standard Weight, Type E, Grade B.
 - 1. Galvanized-Steel Pipe Nipples: ASTM A733, made of ASTM A53/A53M or ASTM A106/A106M, Standard Weight, seamless-steel pipe with threaded ends.
 - 2. Galvanized, Gray-Iron Threaded Fittings: ASME B16.4, Class 125, standard pattern.
 - 3. Malleable-Iron Unions: ASME B16.39, Class 150, hexagonal-stock body with ball-and-socket, metal-to-metal, bronze seating surface, and female threaded ends.
 - 4. Cast-Iron Flanges: ASME B16.1, Class 125.
- C. Ductile-Iron Pipe with Push-on Joint: AWWA C151, with push-on-joint bell and spigot ends.
 - 1. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
 - a. Gaskets: AWWA C111, rubber.
- D. Soft Copper Tube: ASTM B88, Type L, water tube, annealed temper.
 - 1. Copper Pressure Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper solder-joint fittings. Furnish wrought-copper fittings if indicated.
 - 2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end.
 - 3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.
- E. Hard Copper Tube: Type C, water tube, drawn temper.
 - 1. Copper Pressure Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper solder-joint fittings. Furnish wrought-copper fittings if indicated.
 - 2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end.
 - 3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.
- F. PE Pipe with Controlled ID: ASTM F771, PE 3408 compound.
 - 1. Insert Fittings for PE Pipe: ASTM D2609, nylon or propylene plastic with barbed ends. Include bands or other fasteners.
- G. PVC Pipe: ASTM D1785, PVC 1120 compound, Schedule 40.
 - 1. PVC Socket Fittings: ASTM D2466, Schedule 40.
 - 2. PVC Threaded Fittings: ASTM D2464, Schedule 80.
 - 3. PVC Socket Unions: Construction similar to MSS SP-107, except both headpiece and tailpiece shall be PVC with socket ends.

- H. PVC Pipe, Pressure Rated: ASTM D2241, PVC 1120 compound.
 - 1. PVC Socket Fittings: ASTM D2467, Schedule 80.
 - 2. PVC Socket Unions: Construction similar to MSS SP-107, except both headpiece and tailpiece shall be PVC with socket or threaded ends.

2.2 PIPING JOINING MATERIALS

- A. Pipe-Flange Gasket Materials: AWWA C110, rubber, flat face, 1/8 inch thick unless otherwise indicated; full-face or ring type unless otherwise indicated.
- B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.
- C. Brazing Filler Metals: AWS A5.8/A5.8M, BCuP Series, copper-phosphorus alloys for general-duty brazing unless otherwise indicated.
- D. Solder Filler Metals: ASTM B32, lead-free alloys. Include water-flushable flux according to ASTM B813.
- E. Solvent Cements for Joining PVC Piping: ASTM D2564. Include primer according to ASTM F656.
- F. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer unless otherwise indicated.

2.3 MANUAL VALVES

- A. Curb Valves:
 - 1. Description:
 - a. Standard: AWWA C800.
 - b. NPS 1 (DN 25) and Smaller Pressure Rating: 100 psi minimum.
 - c. NPS 1-1/4 to NPS 2 (DN 32 to DN 50) Pressure Rating: 80 psi
 - d. Body Material: Brass or bronze with ball or ground-key plug.
 - e. End Connections: Matching piping.
 - f. Stem: With wide-tee head.
- B. Curb-Valve Casing:
 - 1. Standard: Similar to AWWA M44 for cast-iron valve casings.
 - 2. Top Section: Telescoping, of length required for depth of burial of curb valve.
 - 3. Barrel: Approximately 3-inch diameter.
 - 4. Plug: With lettering "WATER."
 - 5. Bottom Section: With base of size to fit over valve.
 - 6. Base Support: Concrete collar.
- C. Shutoff Rods for Curb-Valve Casings: Furnish steel, tee-handle shutoff rod(s) with one pointed end, stem of length to operate deepest buried valve, and slotted end matching curb valve for Project.
- D. Brass Ball Valves:
 - 1. Description:
 - a. Standard: MSS SP-110.
 - b. SWP Rating: 150 psi.
 - c. CWP Rating: 600 psi.
 - d. Body Design: Two piece.

- e. Body Material: Forged brass.
- f. Ends: Threaded or solder joint if indicated.
- g. Seats: PTFE or TFE.
- h. Stem: Brass.
- i. Ball: Chrome-plated brass.
- j. Port: Full

E. Bronze Ball Valves:

1. Description:

- a. Standard: MSS SP-110.
- b. SWP Rating: 150 psi.
- c. CWP Rating: 600 psi.
- d. Body Design: Two piece.
- e. Body Material: Bronze.
- f. Ends: Threaded or solder joint if indicated.
- g. Seats: PTFE or TFE.
- h. Stem: Bronze.
- i. Ball: Chrome-plated brass.
- j. Port: Full

F. Iron Ball Valves:

1. Description:

- a. Standard: MSS SP-72.
- b. CWP Rating: 200 psi.
- c. Body Design: Split body.
- d. Body Material: ASTM A126, gray iron.
- e. Ends: Flanged.
- f. Seats: PTFE or TFE.
- g. Stem: Stainless steel.
- h. Ball: Stainless steel.
- i. Port: Full.

G. Plastic Ball Valves:

1. Description:

- a. Standard: MSS SP-122.
- b. Pressure Rating: 125 psi. minimum
- c. Body Material: PVC.
- d. Type: Union.
- e. End Connections: Socket or threaded.
- f. Port: Full.

H. Iron Gate Valves, Resilient Seated:

1. Description:

- a. Standard: AWWA C509.
- b. Pressure Rating: 200 psi minimum.
- c. Body Material: Ductile or gray iron with bronze trim.
- d. End Connections: Mechanical joint or push-on joint.
- e. Interior Coating: Comply with AWWA C550.
- f. Body Design: Nonrising stem.
- g. Operator: Stem nut.
- h. Disc: Solid wedge with resilient coating.

I. Iron Gate Valve Casings:

1. Standard: AWWA M44 for cast-iron valve casings.
2. Top Section: Adjustable extension of length required for depth of burial of valve.
3. Barrel: Approximately 5-inch diameter.
4. Plug: With lettering "WATER."
5. Bottom Section: With base of size to fit over valve.
6. Base Support: Concrete collar

- J. Operating Wrenches for Iron Gate Valve Casings: Furnish steel, tee-handle operating wrench(es) with one pointed end, stem of length to operate deepest buried valve, and socket matching valve operating nut for Project.

2.4 AUTOMATIC CONTROL VALVES

- A. Bronze, Automatic Control Valves:
1. Description: Cast-bronze body, normally closed, diaphragm type with manual-flow adjustment, and operated by 24-V ac solenoid.
- B. Plastic, Automatic Control Valves:
1. Description: Molded-plastic body, normally closed, diaphragm type with manual-flow adjustment, and operated by 24-V ac solenoid.

2.5 AUTOMATIC DRAIN VALVES

- A. Description: Spring-loaded-ball type of corrosion-resistant construction and designed to open for drainage if line pressure drops below 2-1/2 to 3 psi.

2.6 SPRINKLERS

- A. General Requirements: Designed for uniform coverage over entire spray area indicated at available water pressure.
- B. Plastic, Exposed, Impact-Drive Rotary Sprinklers:
1. Description:
 - a. Construction: ABS and corrosion-resistant metals.
- C. Plastic, Pop-up, Gear-Drive Rotary Sprinklers:
1. Description:
 - a. Body Material: ABS.
 - b. Nozzle: ABS
 - c. Retraction Spring: Stainless steel.
 - d. Internal Parts: Corrosion resistant.
 2. Capacities and Characteristics:
 - a. Flow: as specified on plan.
 - b. Pop-up Height: 4 inches above ground.
 - c. Arc: as specified on plan.
 - d. Radius: as specified on plan.
- D. Plastic, Pop-up, Impact-Drive Rotary Sprinklers:
1. Description:

- a. Case: ABS.
 - b. Pop-up Height: 4 inches above ground.
 - c. Sprinkler Construction: ABS and other corrosion-resistant metals.
 - 2. Capacities and Characteristics:
 - a. Nozzle: as specified on plan.
 - b. Flow: as specified on plan.
 - c. Arc: as specified on plan.
 - d. Radius: as specified on plan.
 - e.
- E. Plastic, Surface Spray Sprinklers:
- 1. Description:
 - a. Body Material and Flange: ABS.
 - b. Pattern: Fixed, with flow adjustment.
 - 2. Capacities and Characteristics:
 - a. Nozzle: as specified on plan.
 - b. Flow: as specified on plan.
 - c. Arc: as specified on plan.
 - d. Radius: as specified on plan.
- F. Plastic, Surface, Pop-up Spray Sprinklers:
- 1. Description:
 - a. Body Material and Flange: ABS.
 - b. Pattern: Fixed, with flow adjustment. Pop-up Height: 4 inches above ground.
 - c. Nozzle: as specified on plan.
 - d. Flow: as specified on plan.
 - e. Arc: as specified on plan.
 - f. Radius: as specified on plan.
- G. :
- 1. Description:
 - a. Body Material: ABS.
 - b. Nozzle: ABS.
 - c. Retraction Spring: Stainless steel.
 - d. Internal Parts: Corrosion resistant.
 - e. Pattern: Fixed, with flow adjustment.

2.7 QUICK COUPLERS

- A. Description: Factory-fabricated, bronze or brass, two-piece assembly. Include coupler water-seal valve; removable upper body with spring-loaded or weighted, rubber-covered cap; hose swivel with ASME B1.20.7, 3/4-11.5NH threads for garden hose on outlet; and operating key.
- 1. Locking-Top Option: Vandal-resistant locking feature.

2.8 CONTROLLERS

- A. Description:
Ellison Street & Parking Improvements
Burleson, Texas

1. Controller Stations for Automatic Control Valves: Each station is variable from in minutes. Include switch for manual or automatic operation of each station.
2. Exterior Control Enclosures: NEMA 250, Type 4, weatherproof, with locking cover and two matching keys; include provision for grounding.
 - a. Body Material: as specified on plan.
 - b. Mounting: as specified on plan.
3. Interior Control Enclosures: NEMA 250, Type 12, dripproof, with locking cover and two matching keys.
 - a. Body Material: as specified on plan.
 - b. Mounting: as specified on plan.
4. Control Transformer: 24-V secondary, with primary fuse.
5. Timing Device: Adjustable, 24-hour, 14-day clock, with automatic operations to skip operation any day in timer period, to operate every other day, or to operate two or more times daily.
 - a. Manual or Semiautomatic Operation: Allows this mode without disturbing preset automatic operation.
 - b. Nickel-Cadmium Battery and Trickle Charger: Automatically powers timing device during power outages.
 - c. Surge Protection: Metal-oxide-varistor type on each station and primary power.
6. Moisture Sensor: Adjustable from one to seven days, to shut off water flow during rain.
7. Wiring: UL 493, Type UF multiconductor, with solid-copper conductors; insulated cable; suitable for direct burial.
 - a. Feeder-Circuit Cables: No. 12 AWG minimum, between building and controllers.
 - b. Low-Voltage, Branch-Circuit Cables: No. 14 AWG minimum, between controllers and automatic control valves; color-coded different from feeder-circuit-cable jacket color; with jackets of different colors for multiple-cable installation in same trench.
 - c. Splicing Materials: Manufacturer's packaged kit consisting of insulating, spring-type connector, or crimped joint and epoxy resin moisture seal; suitable for direct burial.
8. Concrete Base: Reinforced precast concrete not less than 36 by 24 by 4 inches thick, and 6 inches greater in each direction than overall dimensions of controller. Include opening for wiring.

2.9 BOXES FOR AUTOMATIC CONTROL VALVES

A. Plastic Boxes:

1. Description: Box and cover, with open bottom and openings for piping; designed for installing flush with grade.
 - a. Size: As required for valves and service.
 - b. Shape: Rectangular.

B. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4 inch minimum to 3 inches maximum.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving."
- B. Install warning tape directly above pressure piping, 12 inches below finished grades, except 6 inches below subgrade under pavement and slabs.
- C. Drain Pockets: Excavate to sizes indicated. Backfill with cleaned gravel or crushed stone, graded from 3/4 to 3 inches to 12 inches below grade. Cover gravel or crushed stone with sheet of asphalt-saturated felt and backfill remainder with excavated material.
- D. Provide minimum cover over top of underground piping according to the following:
 - 1. Irrigation Main Piping: Minimum depth of 36 inches below finished grade, or not less than 18 inches below average local frost depth, whichever is deeper.
 - 2. Circuit Piping: 12 inches.
 - 3. Drain Piping: 12 inches.
 - 4. Sleeves: 24 inches.

3.2 PIPING INSTALLATION

- A. Location and Arrangement: Drawings indicate location and arrangement of piping systems. Install piping as indicated unless deviations are approved on Coordination Drawings.
- B. Install piping at minimum uniform slope of 0.5 percent down toward drain valves.
- C. Install piping free of sags and bends.
- D. Install groups of pipes parallel to each other, spaced to permit valve servicing.
- E. Install fittings for changes in direction and branch connections.
- F. Install unions adjacent to valves and to final connections to other components with NPS 2 or smaller pipe connection.
- G. Install flanges adjacent to valves and to final connections to other components with NPS 2-1/2 or larger pipe connection.
- H. Install underground thermoplastic piping according to ASTM D2774.
- I. Install expansion loops in control-valve boxes for plastic piping.
- J. Lay piping on solid subbase, uniformly sloped without humps or depressions.
- K. Install ductile-iron piping according to AWWA C600.
- L. Install PVC piping in dry weather when temperature is above 40 deg F. Allow joints to cure at least 24 hours at temperatures above 40 deg F before testing.

3.3 JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- D. Flanged Joints: Select rubber gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.
- E. Ductile-Iron Piping Gasketed Joints: Comply with AWWA C600 and AWWA M41.
- F. Copper-Tubing Brazed Joints: Construct joints according to CDA's "Copper Tube Handbook," using copper-phosphorus brazing filler metal.
- G. Copper-Tubing Soldered Joints: Apply ASTM B813 water-flushable flux to tube end unless otherwise indicated. Construct joints according to ASTM B828 or CDA's "Copper Tube Handbook," using lead-free solder alloy (0.20 percent maximum lead content) complying with ASTM B32.
- H. PE Piping Fastener Joints: Join with insert fittings and bands or fasteners according to piping manufacturer's written instructions.
- I. PVC Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
 - 1. Comply with ASTM F402 for safe-handling practice of cleaners, primers, and solvent cements.
 - 2. PVC Pressure Piping: Join schedule number, ASTM D1785, PVC pipe and PVC socket fittings according to ASTM D2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D2855.
 - 3. PVC Nonpressure Piping: Join according to ASTM D2855.

3.4 VALVE INSTALLATION

- A. Underground Curb Valves: Install in curb-valve casings with tops flush with grade.
- B. Underground Iron Gate Valves, Resilient Seat: Comply with AWWA C600 and AWWA M44. Install in valve casing with top flush with grade.

3.5 SPRINKLER INSTALLATION

- A. Install sprinklers after hydrostatic test is completed.
- B. Install sprinklers at manufacturer's recommended heights.
- C. Locate part-circle sprinklers to maintain a minimum distance of 4 inches from walls and 2 inches from other boundaries unless otherwise indicated.

3.6 AUTOMATIC IRRIGATION-CONTROL SYSTEM INSTALLATION

- A. Equipment Mounting: Install interior controllers on wall.

1. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
- B. Equipment Mounting: Install exterior freestanding controllers on precast concrete bases.
1. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
- C. Install control cable in same trench as irrigation piping and at least 2 inches below piping. Provide conductors of size not smaller than recommended by controller manufacturer. Install cable in separate sleeve under paved areas.

3.7 IDENTIFICATION

- A. Identify system components. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment."
- B. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplates and signs on each automatic controller.
1. Text: In addition to identifying unit, distinguish between multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.
- C. Warning Tapes: Arrange for installation of continuous, underground, detectable warning tapes over underground piping during backfilling of trenches. See Section 312000 "Earth Moving" for warning tapes.

3.8 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.
 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Any irrigation product will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.9 ADJUSTING

- A. Adjust settings of controllers.
- B. Adjust automatic control valves to provide flow rate at rated operating pressure required for each sprinkler circuit.

- C. Adjust sprinklers and devices, except those intended to be mounted aboveground, so they will be flush with, or not more than 1/2 inch. above, finish grade.

3.10 PIPING SCHEDULE

- A. Install components having pressure rating equal to or greater than system operating pressure.
- B. Piping in control-valve boxes and aboveground may be joined with flanges or unions instead of joints indicated.
- C. Aboveground irrigation main piping, NPS 4 shall be one the following:
 - 1. Galvanized-steel pipe and galvanized-steel pipe nipples; galvanized, gray-iron threaded fittings; and threaded joints.
 - 2. Type C, hard copper tube, wrought- or cast-copper fittings.
 - 3. Schedule 40, PVC pipe; socket-type PVC fittings; and solvent-cemented joints.
 - 4. Schedule 80, PVC pipe; Schedule 80, threaded PVC fittings; and threaded joints.
- D. Underground irrigation main piping, NPS 4 shall be one the following:
 - 1. NPS 3 and NPS 4 ductile-iron, push-on-joint pipe; ductile-iron, push-on-joint fittings and gaskets; and gasketed joints.
 - 2. Type C soft copper tube, wrought-copper fittings, and brazed joints.
 - 3. [Schedule 40] [Schedule 80], PVC pipe and socket fittings, and solvent-cemented joints.
 - 4. Schedule 80, PVC pipe; Schedule 80, threaded PVC fittings; and threaded joints.
 - 5. SDR 21, PVC, pressure-rated pipe; Schedule 80, PVC socket fittings; and solvent-cemented joints.
- E. Circuit piping, NPS 2 shall be one of the following:
 - 1. SDR 7, PE, controlled ID pipe; insert fittings for PE pipe; and fastener joints.
 - 2. Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.
 - 3. SDR 26, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.
- F. Circuit piping, NPS 2-1/2 to NPS 4 shall be one the following:
 - 1. SDR 7, PE, controlled ID pipe; insert fittings for PE pipe; and banded or fastener joints.
 - 2. Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.
 - 3. SDR 26, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.
- G. Underground Branches and Offsets at Sprinklers and Devices: Schedule 80, PVC pipe; threaded PVC fittings; and threaded joints.
 - 1. Option: Plastic swing-joint assemblies, with offsets for flexible joints, manufactured for this application.
- H. Risers to Aboveground Sprinklers and Specialties: Type C hard copper tube, wrought-copper fittings.
- I. Risers to Aboveground Sprinklers and Specialties: Schedule 80, PVC pipe and socket fittings; and solvent-cemented joints.
- J. Drain piping shall be on of the following:
 - 1. SDR 9, 11.5, or 15, PE, controlled ID pipe; insert fittings for PE pipe; and banded or fastener joints.
 - 2. Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.
 - 3. SDR 21, 26, or 32.5, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.

3.11 VALVE SCHEDULE

A. Underground, Shutoff-Duty Valves: Use the following:

1. NPS 2 and Smaller: Curb valve, curb-valve casing, and shutoff rod.
2. NPS 3 and Larger: Iron gate valve, resilient seated; iron gate valve casing; and operating wrench(es).

B. Aboveground, Shutoff-Duty Valves:

1. NPS 2 and Smaller: [Brass] [Brass or bronze] [Bronze] [Plastic] ball valve.
2. NPS 2-1/2 and Larger: Iron ball valve.

C. Throttling-Duty Valves:

1. NPS 2 and Smaller: Plastic automatic control valve.
2. NPS 2 and Smaller: Brass ball valve.
3. NPS 2-1/2 and NPS 3: Plastic automatic control valve.
4. NPS 2-1/2 and NPS 3: Iron ball valve.

D. Drain Valves:

1. NPS 1/2 and NPS 3/4 Automatic drain valve.
2. NPS 1/2 and NPS 3/4 Brass
3. NPS 1 to NPS 2 Brass ball valve.

END OF SECTION

SECTION 329113
SOIL PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes planting soils specified by composition of the mixes.

1.2 DEFINITIONS

- A. Imported Soil: Soil that is transported to Project site for use.
- B. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.
- C. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- D. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- E. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- F. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- G. USCC: U.S. Composting Council.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each bulk-supplied material in sealed containers labeled with content, source, and date obtained; providing an accurate representation of composition, color, and texture.
- C. Soil test for planting mixes tested within 30 days of submittal.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

PART 2 - PRODUCTS

2.1 PLANTING SOILS SPECIFIED BY COMPOSITION

- A. Planting-Soil Type: Trees and Shrubs: Manufactured soil consisting of manufacturer's basic topsoil, blended in a manufacturing facility with sand, stabilized organic soil amendments, and other materials to produce viable planting soil.
1. Basis of Design Product: Subject to compliance with requirements, provide Tree & Shrub Mix available at Living Earth, 1901 California Crossing, Dallas, TX 75220, 972.869.4332, www.livingearth.net or comparable product.
 2. Additional Properties of Manufacturer's Basic Soil before Amending: Soil reaction of pH 5 to 7.5 and minimum of 4 percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.
 3. Unacceptable Properties: Manufactured soil shall not contain the following:
 - a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
 - b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of 5 percent by dry weight of the manufactured soil.
 - c. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding 1-1/2 inches in any dimension.
 4. Blend manufacturer's basic soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
 - a. Weight of Sulfur : 1-1/2 pounds per cu. yd. .
 - b. Weight of Commercial Fertilizer: 1/2 pound per cu. yd.
- B. Planting-Soil Type: Existing Soil- Turf and Seed Mixes (solid sod and hydroseed areas only) – Existing soils tested and meeting property requirements and approval by Landscape Architect. Amended with stabilized organic soil amendments, and other materials to produce viable planting soil. Contractor to provide current soil test of existing soils for approval by landscape architect.
1. Properties of Existing Soil before Amending: Soil reaction of pH 5 to 7.5 and minimum of 4 percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.
 2. Unacceptable Properties: Existing soil shall not contain the following:
 - a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
 - b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of 5 percent by dry weight of the manufactured soil.
 - c. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding 1-1/2 inches in any dimension.
 3. Blend existing soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
 - a. Ratio of Loose Compost to Soil: 1/2 pounds per cu. yard.
 - b. Volume of Sand: 1/3 per cu. yd.
 - c. Weight of Sulfur: 1-1/2 pounds per cu. yd.
 - d. Weight of Commercial Fertilizer: 1/2 pound per cu. Yd.

- 1 C. Structural-Soil Type: Street Tree Conditions: CU-Structural Soil, Minick Materials, Tim Shanahan, tims@minickmaterials.com, 405-834-8280

2.2 INORGANIC SOIL AMENDMENTS

- A. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent elemental sulfur, with a minimum of 99 percent passing through a No. 6 sieve and a maximum of 10 percent passing through a No. 40 sieve.
- B. Sand: Clean, washed, natural or manufactured, free of toxic materials, and according to ASTM C 33/C 33M.

2.3 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter produced by composting feedstock, and bearing USCC's "Seal of Testing Assurance," and as follows:
 - 1. Feedstock: May include sewage sludge. May include animal waste .
 - 2. Reaction: pH of 5.5 to 8 .
 - 3. Soluble-Salt Concentration: Less than 4 dS/m.
 - 4. Moisture Content: 35 to 55 percent by weight.
 - 5. Organic-Matter Content: 30 to 40 percent of dry weight.
 - 6. Particle Size: Minimum of 98 percent passing through a 2-inch sieve.
- B. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

2.4 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

PART 3 - EXECUTION

3.1 GENERAL

- A. Place planting soil and fertilizers according to requirements in other as specified.
- B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.

3.2 PLACING PLANTING SOIL OVER EXPOSED SUBGRADE

- A. General: Apply manufactured soil on-site in its final, blended condition. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Subgrade Preparation: Till subgrade to a minimum depth of 4 inches. Remove stones larger than 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
- C. Application: Spread planting soil to total depth indicated on Drawings, but not less than required to meet finish grades after natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.

- D. For Turf Areas till in 2" of planting soil into existing subgrade. For tree and shrub planting areas, apply a minimum of 12" depth.
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.3 PROTECTION AND CLEANING

- A. Protect areas of in-place planting soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Vehicle traffic.
 - 4. Foot traffic.
 - 5. Erection of sheds or structures.
 - 6. Impoundment of water.
 - 7. Excavation or other digging unless otherwise indicated.
- B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.
 - 1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owner.

END OF SECTION

SECTION 329200
TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Seeding.
2. Sodding.

1.2 DEFINITIONS

- A. Pesticide:** A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- B. Planting Soil:** Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See drawing designations for planting soils.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference:** Conduct conference at Project Site, 141 West Renfro St. Burleson, TX. 76028.

1.4 INFORMATIONAL SUBMITTALS

- A. Certification of grass seed.**
1. Certification of each seed mixture for turfgrass sod.
- B. Product certificates.**

1.5 QUALITY ASSURANCE

- A. Installer Qualifications:** A qualified landscape Installer whose work has resulted in successful turf establishment.
1. **Installer's Field Supervision:** Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 2. **Personnel Certifications:** Installer's field supervisor shall have certification in one of the following categories from the National Association of Landscape Professionals:
 - a. Landscape Industry Certified Technician - Exterior.
 - b. Landscape Industry Certified Lawn Care Manager.
 - c. Landscape Industry Certified Lawn Care Technician.

3. Pesticide Applicator: State licensed, commercial.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species: Bermuda (Cynodon Dactylon)
 1. Quality, State Certified: State-certified seed of grass species as listed below for solar exposure.

2.2 TURFGRASS SOD

- A. Turfgrass Sod: Approved, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.
- B. Turfgrass Species: Sod of grass species as follows: Bermuda (Cynodon Dactylon)

2.3 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 1. Composition: 1/2 lb per cubic yard of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.

2.4 PESTICIDES

- A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

PART 3 - EXECUTION

3.1 TURF AREA PREPARATION

- A. General: Prepare planting area for soil placement and mix planting soil according to plans.
- B. Reduce elevation of planting soil to allow for soil thickness of sod.
- C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- D. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.2 SEEDING

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h).
 - 1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 - 2. Do not use wet seed or seed that is moldy or otherwise damaged.
 - 3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate of 2 lb/1000 sq. ft. (0.9 kg/92.9 sq. m).
- C. Rake seed lightly into top 1/8 inch (3 mm) of soil, roll lightly, and water with fine spray.

3.3 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 - 1. Lay sod across slopes exceeding 1:3.
- C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below sod.

3.4 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
- B. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings.

3.5 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:
 - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 5 by 5 inches (125 by 125 mm).
 - 2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
- B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

END OF SECTION

SECTION 329300

PLANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Plants.
 - 2. Tree-watering devices.
 - 3. Landscape edgings.

1.2 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.
- C. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See drawing designations for planting soils.
- D. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots, the area of transition between the root system and the stem or trunk.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project Site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples of each type of mulch.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of plants during a calendar year.

1.6 QUALITY ASSURANCE

- A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

1. Pesticide Applicator: State licensed, commercial.

B. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.

B. Handle planting stock by root ball.

C. Deliver plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

1.8 WARRANTY

A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:

- a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.
- b. Structural failures including plantings falling or blowing over.

2. Warranty Periods: From date of Substantial Completion.

- a. Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.
- b. Ground Covers, Biennials, Perennials, and Other Plants: 12 months.
- c. Annuals: Three months.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

C. Annuals: Provide healthy, disease-free plants of species and variety shown or listed, with well-established root systems reaching to sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery.

2.2 FERTILIZERS

- A. Planting Tablets: Tightly compressed chip-type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.
 - 1. Size: 10-gram tablets.
 - 2. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

2.3 MULCHES

- A. Organic Mulch: Shredded Hardwood.
- B. Mineral Mulch: Rounded river rock
 - 1. Size Range: 4-6 inches
 - 2. Color: Brazos River Rock
- C. Mineral Mulch: Decomposed granite.
 - 1. Size Range: 3/4 inch (19 mm) maximum, 1/4 inch (6.4 mm) minimum.
 - 2. Color: Natural stone, submit sample.

2.4 WEED-CONTROL BARRIERS

- A. Nonwoven Geotextile Filter Fabric: Polypropylene or polyester fabric, 3 oz./sq. yd. (101g/sq. m) minimum, composed of fibers formed into a stable network so that fibers retain their relative position. Fabric shall be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids.

2.5 PESTICIDES

- A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

2.6 LANDSCAPE EDGINGS

- A. Steel Edging: Standard commercial-steel edging, fabricated in sections of standard lengths, with loops stamped from or welded to face of sections to receive stakes.
 - 1. Edging Size: 1/8 inch (3.2 mm) thick by 4 inches (100 mm) deep.
 - 2. Finish: Black paint.

PART 3 - EXECUTION

3.1 PLANTING AREA ESTABLISHMENT

- A. General: Prepare planting area for soil **placement** and mix planting soil according to notes on plan.
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- B. Placing Planting Soil: Place and mix planting soil in-place over exposed subgrade.
- C. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.2 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits.
 - 1. Excavate planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
 - 2. Excavate approximately three times as wide as ball diameter.
 - 3. Excavate at least 12 inches (300 mm) wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
 - 4. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
- B. Backfill Soil: Subsoil and topsoil removed from excavations may be used as backfill soil unless otherwise indicated.

3.3 TREE, SHRUB, AND VINE PLANTING

- A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Set each plant plumb and in center of planting pit or trench with root flare 1 inch (25 mm) above adjacent finish grades.
 - 1. Backfill: For trees, use excavated soil for backfill.
 - 2. Balled and Burlapped Stock: After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
 - 3. Container-Grown Stock: Carefully remove root ball from container without damaging root ball or plant.
 - 4. Fabric Bag-Grown Stock: Carefully remove root ball from fabric bag without damaging root ball or plant. Do not use planting stock if root ball is cracked or broken before or during planting operation.
 - 5. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 - 6. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about 1 inch (25 mm) from root tips; do not place tablets in bottom of the hole.
 - a. Quantity: Two per plant.
 - 7. Continue backfilling process. Water again after placing and tamping final layer of soil.
- D. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.4 TREE, SHRUB, AND VINE PRUNING

- A. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.

3.5 GROUND COVER AND PLANT PLANTING

- A. Set out and space ground cover and plants other than trees, shrubs, and vines as indicated on Drawings.
- B. Dig holes large enough to allow spreading of roots.
- C. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- D. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
- E. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.6 PLANTING AREA MULCHING

- A. Mulch backfilled surfaces of planting areas and other areas indicated.
 - 1. Trees in Turf Areas: Install mulch ring at 3-inch thickness with a mulch ring extending 12" outside of root ball.
 - 2. Planting Areas: Install mulch at 3-inch thickness, extending whole surface of planting area.

3.7 INSTALLATION OF EDGING

- A. Steel Edging: Install steel edging where indicated according to manufacturer's written instructions. Anchor with steel stakes spaced approximately 60 inches apart, driven below top elevation of edging.

3.8 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.
- B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible, to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.
- D. Apply pesticides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- E. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

3.9 MAINTENANCE SERVICE

- A. Maintenance Service: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:
1. Maintenance Period for Trees and Shrubs: 12 months from date of Substantial Completion.
 2. Maintenance Period for Ground Cover and Other Plants: 12 months from date of Substantial Completion.

END OF SECTION

-END OF TECHNICAL SPECIFICATIONS-

SPECIAL SPECIFICATION

ELLISON STREET & PARKING IMPROVEMENTS**CONSTRUCTION PAY ITEMS:**

As listed in the Proposal, construction pay items shall be measured and paid for in accordance with the applicable measurement and payment paragraphs including these Special Conditions. Details provided in the construction plan documents and provisions of the "Contract Documents and Specifications" for this project take precedence over referenced specifications.

PAY ITEM 1 & 2: Mobilization (Phase 1 & 2 and Phase 3 & 4):

Work under this pay item shall include moving of personnel, equipment, and supplies to and from the project or project site vicinity to begin work and complete work on pay items. In addition to the work under mobilization, the contractor shall verify all underground line depths for potential conflict with the proposed project. Contractor shall reference NCTCOG standard specifications for work performed as part of mobilization.

Pay Item 1 is mobilization for the areas noted as "Phase 1" and "Phase 2" on Plan Sheet C0.03. This is the area south of the long dashed line, shown on the respective plan sheet, that generally separates the new alignment of Ellison Street from the proposed off-street parking lot north of Ellison Street.

Pay Item 2 is mobilization for the area north of the long dashed line shown on Plan Sheet C0.03. The mobilization for Phase 3 and Phase 4 shall be inclusive for the moving of personnel, equipment, and supplies for both the demolition as well as the construction of the off-street parking lot and on-street parking on Bransom Street.

Measurement and payment shall be at the unit price of lump sum for mobilization (phase 1 & 2) and for mobilization (phase 3 & 4). Mobilization shall not exceed 5% of the total amount bid.

REMOVAL ITEMS**PAY ITEM 3 – 7, 9 – 10: Remove Concrete sidewalk, step, ADA ramp, driveway, pavement, curb & gutter, and valley gutter:**

This item includes the removal and disposing of existing concrete sidewalk, steps, curb ramp, driveway, pavement, curb & gutter, and valley gutter as shown on the construction plans. Removal of miscellaneous concrete pads will be subsidiary to these pay items. This item shall be completed per NCTCOG specification item 203 "Site Preparation".

Measurement and payment shall be at the unit price of square yard of concrete pavement and other concrete facilities to be removed, complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 8: Remove Asphalt Pavement:**

This item includes the removal and disposing of existing asphalt pavement as shown on the construction plans. This item shall be completed per NCTCOG specification item 203 "Site Preparation".

Measurement and payment shall be at the unit price of square yard of asphalt pavement to be removed, complete in place.

PAY ITEM 11: Salvage Fire Hydrant:

This item includes removing and salvaging the existing fire hydrant as shown on the construction plans. This item shall be completed per NCTCOG specification item 203 "Site Preparation".

Measurement and payment shall be at the unit price of each fire hydrant to salvage, complete in place.

PAY ITEM 12: Site Clearing:

This item includes the clearing of Lot 1 Block 56 of all remaining miscellaneous items not covered by other bid items. Items part of the site clearing pay item include, but not limited to, signs and poles, miscellaneous pole mounts, flag pole, brick planters, landscape edging, fence, water meters, cleanouts, irrigation, service gate valves, lighting, bushes, and shrubs. The existing generator shall be disposed of; the City shall not salvage the generator. Contractor shall refer to NCTCOG specification item 201 "Site Protection" and item 203 "Site Preparation".

Measurement and payment shall be at the unit price of lump sum of site clearing to be completed.

PAY ITEM 13: Remove Sign Panel & Post:

Contractor to refer to Section 33 05 14 for setting grade rings, frame, and cover.

Measurement and payment shall be at the unit price of each manhole frame rim and cover to be realigned and grouted.

PAY ITEM 14: Remove 1-Story Brick Building (Area~10,105 SF):

This item shall include demolition and disposal of the existing 1-story brick building (area ~ 10,105 SF) located on Lot 1 Block 56. Contractor shall refer to Technical Specification 024116 – Building Demolition. Asbestos abatement shall be per Pay Item 15. Contractor shall perform demolition and disposal of the existing building after occupation and asbestos abatement is complete.

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Measurement and payment shall be at the unit price of each existing building and associated foundation (paid in lump sum per each building) to be demolished and disposed of.

PAY ITEM 15: Abatement and Disposal of All Asbestos-containing Material:

This item shall include the abatement and disposal of all asbestos-containing material as indicated in the asbestos survey for the building located on Lot 1 Block 56, in accordance with the Asbestos Abatement Specifications. This pay item shall include all and any required National or State fees, including Texas Department of State Health services notification fee.

Measurement and payment shall be at the lump sum of the abatement and disposal of all asbestos-containing material, including any required fees.

PAY ITEM 16: Remove 1-Story Wood Shed (Area~100 SF):

This item shall include demolition and disposal of the existing 1-story wood shed (area ~ 100 SF) located on Lot 1 Block 56. Contractor shall refer to Technical Specification 024116 – Building Demolition.

Measurement and payment shall be at the unit price of each existing shed and associated foundation (paid in lump sum per each building) to be demolished and disposed of.

PAY ITEM 17: Remove Antenna Tower:

Contractor to remove and dispose of the existing antenna tower per NCTCOG specification item 203 “Site Preparation”.

Measurement and payment shall be at the unit price of each antenna tower to be removed and disposed of.

PAVING ITEMS**PAY ITEM 18-19: Borrow and Embankment by Plan:**

This item includes borrow (fill) and embankment (cut) per the construction plans. Contractor shall reference NCTCOG specification items 203.4 “Borrow & Spoil”, 203.5 “Embankment”, and 301 “Subgrade, Subbase, and Base Preparation.”

Measurement and payment shall be at the unit price of cubic yards of embankment (cut) and borrow (fill), complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 20: Hydrated Lime:**

This item includes furnishing the hydrated lime required for the lime stabilized subgrade per NCTCOG specification item 301 "Subgrade, Subbase, and Base Preparation" and 301.2 "Lime Treatment".

Measurement and payment shall be at the unit price of tons of hydrated lime.

PAY ITEM 21-22: 6" & 8" Lime Treatment:

This item includes preparing the 6" or 8" lime treated subgrade as indicated in the plans per standard city details and NCTCOG specification item 301 "Subgrade, Subbase, and Base Preparation" and 301.2 "Lime Treatment".

Measurement and payment shall be at the unit price of square yards of 6" & 8" lime treatment, complete in place.

PAY ITEM 23-24: 6" & 8" Flexible Base, Type A, GR-1:

This item includes preparing the 6" or 8" flexible base subgrade, Type A, Grade 1, as indicated in the plans per standard city details and NCTCOG specification item 301 "Subgrade, Subbase, and Base Preparation" and 301.5 "Flexible Subbase or Base (Crushed Stone/Concrete)".

Measurement and payment shall be at the unit price of square yards of 6" & 8" flexible base, complete in place.

PAY ITEM 25-27: 2" Type D and 3" & 5" Type B Asphalt Pavement:

This item includes furnishing all the materials and installing the hot mix asphalt pavement as indicated in the plans, per standard city details and NCTCOG specification item 302 "Asphalt Pavement". The asphalt pavement for the roadway shall be 7" thick with 2" Type D over 5" Type B (2 lifts). The asphalt pavement for the on-street parking, indicated on the plans, shall be 5" thick with 2" Type D over 3" Type B.

Measurement and payment shall be at the unit price of square yards of 2" Type D, 3" Type B, and 5" Type B asphalt pavement, complete in place.

PAY ITEM 28: 6" Concrete Pavement:

This item includes the furnishing the materials and constructing the 6" concrete pavement, including, but not limited to, jointing, header, and rebar, per standard city details and NCTCOG specification item 303 "Portland Cement Concrete Pavement".

Measurement and payment shall be at the unit price of square yards of 6" concrete pavement, complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 29-30: Concrete Sidewalk Adjacent to Retaining Wall:**

This item includes furnishing the materials and installing the 5" concrete sidewalk and retaining wall as shown in the plans per standard city details and NCTCOG specification item 303 "Portland Cement Concrete Pavement".

Measurement and payment shall be at the unit price of square foot of concrete sidewalk and retaining wall, complete in place.

PAY ITEM 31: Low Retaining Wall:

This item includes the furnishing the materials and constructing the 6" concrete pavement, including, but not limited to, jointing, drainage piping, and rebar, per NCTCOG specification item 303 "Portland Cement Concrete Pavement" and item 802 "Steps & Retaining Walls". The low wall detail on the "Sidewalk with Wall" standard city detail, shall be used.

Measurement and payment shall be at the unit price of square foot of low retaining wall, complete in place.

PAY ITEM 32: 6" Concrete Driveway:

This item includes the furnishing the materials and constructing the 6" concrete driveway, including, but not limited to, curb return, jointing, header, and rebar, per standard city details and NCTCOG specification item 303 "Portland Cement Concrete Pavement".

Measurement and payment shall be at the unit price of square feet of 6" concrete driveway, complete in place.

PAY ITEM 33: 6" Valley Gutter:

This item includes the furnishing the materials and constructing the 6" concrete valley gutter, including, but not limited to, curb return, jointing, header, and rebar, per standard city details and NCTCOG specification item 303 "Portland Cement Concrete Pavement".

Measurement and payment shall be at the unit price of square yard of 6" concrete valley gutter, complete in place.

PAY ITEM 34: Curb Ramp (ADA Compliant):

This item includes installing a curb ramp as indicated in the plans per city standard sidewalk details and NCTCOG specification item 303 "Portland Cement Concrete Pavement."

Measurement and payment shall be at the unit price of each curb ramp, complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 35: Ramp w/ Handrails:**

This item includes installing a 5" thick ramp (30" maximum rise, 8.33% maximum longitudinal slope) per city standard sidewalk details and NCTCOG specification item 303 "Portland Cement Concrete Pavement." Handrails shall be measured and paid separately from this pay item.

Measurement and payment shall be at the unit price of square foot of ramp to be constructed, complete in place.

PAY ITEM 36: Handrails:

This item includes furnishing and installing handrails at the locations indicated in the plans per city standard details, TXDOT specification item 450, and ADA/TAS requirements.

Measurement and payment shall be at the unit price of linear feet of handrails, complete in place.

PAY ITEM 37: 6" Concrete Curb and Gutter:

This item includes installing standard separate 6" concrete curb and gutter according to the construction plans, standard city details, and NCTCOG specification item 303 "Portland Cement Concrete Pavement". This item includes the foundation course under and behind the gutter and curb at locations where flexible base is to be prepared.

Measurement and payment shall be at the unit price of linear foot of standard 6" concrete curb and gutter, complete in place.

PAY ITEM 38: 2"-6" Concrete Curb at Back of Sidewalk:

This item includes installing standard 6" concrete curb and gutter according to the construction plans, standard city details, and NCTCOG specification item 303 "Portland Cement Concrete Pavement". 2" curb at the back of sidewalk does not require rebar. The curb at the back of type 2 curb ramps shall be subsidiary to the curb ramp.

Measurement and payment shall be at the unit price of linear foot of 2" – 6" concrete curb at back of sidewalk, complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 39: 3" Mountable Curb:**

This item includes installing standard separate 3" concrete mountable curb and gutter according to the construction plans, project details, and NCTCOG specification item 303 "Portland Cement Concrete Pavement".

Measurement and payment shall be at the unit price of linear foot of 3" mountable curb, complete in place.

PAY ITEM 40: Steel Plate (over flume):

This item includes furnishing and installing a fabricated 1/4" thick steel plate that meets ADA/TAS requirements for pedestrian walking surface. The steel plate shall be installed per project details provided in the plans.

Measurement and payment shall be at the unit price of linear foot of steel plate, complete in place.

PAY ITEM 41: 4" SLD Pavement Marking HAS (W) (Parking Striping):

This item includes preparing the surface, furnishing and installing the white 24" solid pavement marking, and sealing the pavement marking per NCTCOG specification item 804.

Measurement and payment shall be at the unit price of linear feet of REF PAV MRK TY I (W) 24" (SLD) (100 MIL), pavement sealer, and PAV SURF PREP, complete in place.

PAY ITEM 42: Handicap Parking Symbol & "NO PARKING" Paint:

This item includes the work to perform and required materials furnished to paint the handicap parking symbol on each accessible space and the "NO PARKING" words on each accessible aisle and as indicated on the plans, in accordance to NCTCOG specification item 804.

Measurement and payment shall be at the unit price of each handicap symbol and "NO PARKING" to be painted, complete in place.

PAY ITEM 43: Fire Lane Marking:

This item includes preparing the surface, furnishing materials and installing the fire lane pavement marking per project details as provided in the construction plans and in accordance to NCTCOG specification item 804.

Measurement and payment shall be at the unit price of linear feet of fire lane pavement marking to be painted, complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 44: Wheel Stop:**

This item includes the installation of the wheel stop at locations indicated on the plans per project details provided in the construction plans.

Measurement and payment shall be at the unit price of each wheel stop, complete in place.

PAY ITEM 45: Blue Reflector:

See Pay Item 65.

PAY ITEM 46: ADA Parking Sign & Post:

This item includes furnishing and installing aluminum sign(s) of the ADA parking sign, post, and ground mount per project details provided in the construction plans.

Measurement and payment shall be at the unit price of each aluminum sign ground mount to furnish and install, complete in place.

TRAFFIC ITEMS**PAY ITEM 47: 2" CONDT PVC SCH 80 (T):**

This item includes furnishing and installing 2" CONDT PVC SCH 80 (T) per construction plans, project details, and NCTCOG specification item 805 "Electrical Components & Conduit".

Measurement and payment shall be at the unit price of linear foot of 2" CONDT PVC SCH 80 (T), complete in place.

PAY ITEM 48, 50, & 51: Audible Pedestrian Pushbutton Station, 5' Pedestrian Push Button Pole, and RRFB Assembly Double Sided (Solar):

This item includes furnishing and installing audible pedestrian pushbutton station, 5' pedestrian push button pole, and RRFB assembly double sided (solar) at the locations indicated in the construction plans per project detail.

Measurement and payment shall be at the unit price of each audible pedestrian pushbutton station, 5' pedestrian push button pole, and RRFB assembly double sided (solar), complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 49: 3/C 14 AWG Multi- Conductor Cable:**

This item includes furnishing and installing 3/C 14 AWG multi-conductor cable per construction plans, project details, and NCTCOG specification item 805 "Electrical Components & Conduit".

Measurement and payment shall be at the unit price of linear foot of 3/C 14 AWG multi-conductor cable, complete in place.

PAY ITEM 52: Furnish/Install Alum Sign Ground Mount City Std.:

This item includes furnishing and installing aluminum sign(s), pole, and ground mount per the City of Burleson Old Town standard details as provided in the plans.

Measurement and payment shall be at the unit price of each aluminum sign and ground mount to furnish and install, complete in place.

PAY ITEM 53: Install Alum Sign Ground Mount City Std.:

This item includes installing aluminum sign(s), pole, and ground mount of the existing sign(s) to be relocated as indicated in the plans.

Measurement and payment shall be at the unit price of each aluminum sign ground mount to installed/relocated, complete in place.

PAY ITEM 54-56: REF PAV MRK TY I (W) 18" (YLD TRI) (100 MIL), PAVEMENT SEALER, AND PAV SURF PREP:

This item includes preparing the surface, furnishing and installing the white 18" yield triangle pavement marking, and sealing the pavement marking per NCTCOG specification item 804.

Measurement and payment shall be at the unit price of each REF PAV MRK TY I (W) 18" (YLD TRI) (100 MIL), pavement sealer, and PAV SURF PREP, complete in place.

PAY ITEM 57-59: REF PAV MRK TY I (W) 24" (SLD) (100 MIL), PAVEMENT SEALER, AND PAV SURF PREP:

This item includes preparing the surface, furnishing and installing the white 24" solid pavement marking, and sealing the pavement marking per NCTCOG specification item 804.

Measurement and payment shall be at the unit price of linear feet of REF PAV MRK TY I (W) 24" (SLD) (100 MIL), pavement sealer, and PAV SURF PREP, complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 60-65: REF PAV MRK TY I (W) (ARROW) & (DBL ARROW) (100 MIL), PAVEMENT SEALER, AND PAV SURF PREP:**

This item includes preparing the surface, furnishing and installing the white single arrow and double arrow pavement markings, and sealing the pavement marking per NCTCOG specification item 804.

Measurement and payment shall be at the unit price of each REF PAV MRK TY I (W) (ARROW) & (DBL ARROW) (100 MIL), pavement sealer, and PAV SURF PREP, complete in place.

PAY ITEM 45 & 66: REFL PAV MRKR TY II-C-R AND BLUE:

This item includes furnishing and installing reflective pavement markers TY II-C-R and Type Blue per project details and technical specifications provided.

Measurement and payment shall be at the unit price of each reflective pavement marker, complete in place.

PAY ITEM 67: TRAFFIC BUTTON TY W:

This item includes furnishing and installing white traffic buttons per project details and technical specifications provided.

Measurement and payment shall be at the unit price of each traffic button, complete in place.

WATER ITEMS**PAY ITEM 68 & 69: 6" and 8" PVC Water Pipe:**

This item includes furnishing and installing 6" and 8" AWWA C900 PVC water pipe by open cut, including trench repair required to maintain traffic outside of work hours, if any. 6" and 8" PVC water pipe is to be completed per standard city details and NCTCOG specification item 501.14 "PVC Water Pipe", item 504 "Open Cut – Backfill", and item 506 "Open Cut – Water Conduit Installation".

Measurement and payment shall be at the unit price of linear feet of 6" and 8" AWWA C900 PVC water pipe, complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 70 & 71: 6" and 8" Gate Valves:**

This item includes furnishing and installing 6" and 8" gate valves as indicated in the plans per standard city details and NCTCOG specification item 502.6.2 "Resilient-Seated Gate Valves".

Measurement and payment shall be at the unit price of each 6" and 8" gate valve, complete in place.

PAY ITEM 72: Fire Hydrant Assembly

This item includes furnishing and installing the fire hydrant assembly. This item includes, but is not limited to, the fire hydrant lead, hydrant base, thrust block, and riser required to install the fire hydrant. Contractor shall reference standard city details and NCTCOG specification item 502.3 "Fire Hydrants". The gate valve for the fire hydrant shall be paid separately according to the pay item for gate valves.

Measurement and payment shall be at the unit price of each fire hydrant assembly, complete in place.

PAY ITEM 73 & 74: Salvage 6" and 8" Gate Valves:

This item includes removing and salvaging the existing 6" and 8" gate valves as indicated on the plans per NCTCOG specification item 203 "Site Preparation".

Measurement and payment shall be at the unit price of each existing 6" and 8" gate valve to be removed and salvaged, complete in place.

PAY ITEM 75: Adjust Existing Gate Valve to Final Grade:

This item includes adjusting an existing gate valve and its riser/vault to final grade per NCTCOG specification item 201 "Site Protection" and item 203 "Site Preparation".

Measurement and payment shall be at the unit price of each gate valve to be adjusted to final grade, complete in place.

PAY ITEM 76: Connect to Existing Water (4" – 12"):

This item includes connecting to the existing water main (4" – 12") as indicated on the plans per NCTCOG specification item 506.6 "Connections to Existing Water Conduits". Connecting the existing fire hydrant to the proposed water main shall be subsidiary to the installation of the water main.

Measurement and payment shall be at the unit price of lump sum of traffic control complete in place.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 77: Ductile Iron Fittings:**

This item includes furnishing and installing ductile iron fittings per NCTCOG specification item 501.7 "Ductile-Iron Pressure Pipe and Fittings" and 502.4 "Thrust Restraint".

Measurement and payment shall be at the unit price of tons of ductile iron fittings, complete in place.

PAY ITEM 78: Trench Safety:

This item consists of the basic requirements which the contractor must comply with in order to provide for the safety and health of workers in a trench. The contractor shall develop, design and implement the trench safety protection system. The contractor shall bear sole responsibility for the adequacy of the trench safety system and providing "a safe place to work" for the workman.

The trench excavation safety protection system shall be used for all trench excavations deeper than five (5) feet. The Excavation and Trenching Operations Manual of the Occupational safety and Health Administration, U.S. Department of Labor, shall be the minimum governing requirement of this item and is hereby made a part of this specification. The contractor shall, in addition, comply with all other applicable Federal, State, and local rules, regulations, and ordinances.

Measurement and payment shall be at the unit price of linear feet of trench safety, complete in place.

LANDSCAPE ITEMS**PAY ITEM 79: Pedestrian Concrete Pavement (5" Thick):**

This item includes furnishing the materials and installing the 5" thick pedestrian concrete pavement (concrete sidewalk) as shown in the plans per standard city details and NCTCOG specification item 303 "Portland Cement Concrete Pavement".

Measurement and payment shall be at the unit price of square foot of pedestrian concrete pavement (5" thick) complete in place.

PAY ITEM 80-91, 94-95:

See technical specifications for all landscape and hardscape items.

ELLISON STREET & PARKING IMPROVEMENTS**PAY ITEM 92: Light Poles:**

This item includes furnishing the materials and installing light poles as shown in the plans per project details and NCTCOG specification item 805 "Electrical Components and Conduit".

Measurement and payment shall be at the unit price of each light pole, complete in place.

PAY ITEM 93: Electrical Improvements:

This item includes furnishing the materials and installing all improvements shown in the construction plans. These items for electrical improvements include, but not limited to, conduits, junction boxes, risers, and controllers. Light poles are separate from this pay item (See Pay Item 86). Electrical Improvements shall be installed as shown in the plans per details and NCTCOG specification item 805 "Electrical Components and Conduit".

Measurement and payment shall be at the unit price of lump sum of total electrical improvements as outlined in the specifications and plans, complete in place.

MISCELLANEOUS ITEMS**PAY ITEM 96: SWPPP \geq 1 acre:**

This item includes all the temporary control measures necessary to prevent and control soil erosion, sedimentation, and water pollution. See NCTCOG specification item 202 "Temporary Erosion, Sedimentation, and Water Pollution Prevention and Control".

Measurement and payment shall be at the unit price of the lump sum of SWPPP complete in place.

PAY ITEM 97: Traffic Control:

This item includes providing temporary traffic control, including, but not limited to, flaggers, signs, barrels, barricades, and temporary work zone striping per the "Texas Manual of Uniform Traffic Control Devices for streets and Highways" (TMUTCD) Part 6 "Temporary Traffic Control", NCTCOG specification item 801, and the details provided in the construction plans.

Measurement and payment shall be at the unit price of the lump sum of temporary traffic control complete in place.

-END OF SPECIAL SPECIFICATIONS-

ASBESTOS ABATEMENT SPECIFICATIONS



**CITY OF BURLESON
ASBESTOS ABATEMENT SPECIFICATIONS**

**Commercial Office Building
225 W. Renfro Street
Burleson, Texas 76028**

Asbestos Containing Materials Removal

Prepared for:

**City of Burleson
141 W. Renfro St.
Burleson, Texas 76028**

Prepared by:

**VANTAGE ENVIRONMENTAL SERVICES, LP
The Madison
15851 Dallas Parkway, Suite 600
Addison, Texas 75001**



SPECIFICATIONS FOR ASBESTOS ABATEMENT

**Commercial Office Building
225 W. Renfro Street
Burleson, TX 76028**

Asbestos Containing Materials Removal

* * *

P r e p a r e d

F o r

THE CITY OF BURLESON, TEXAS

* * *

b y

VANTAGE ENVIRONMENTAL SERVICES, LP

Project Principal:

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Manuel Rangel

Consultant License No. 10-5060

Date: October 25, 2023

Project No. 2023-1297

Specification No. 1.0

Revision No. 0

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225 W. Renfro Street
Burleson, Texas 76078

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Manuel Rangel TDSHS 10-5060

APPENDIX A
SCOPE OF WORK

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PROJECT SPECIFIC SCOPE OF WORK

1.0 DESCRIPTION OF WORK – GENERAL

Except as otherwise expressly provided herein, Contractor shall supply all labor, supervision, installed and/or consumable materials, equipment, tools, services, testing devices, warehousing, and each and every item of expense necessary for the removal, handling, hauling, unloading and receiving, construction, evaluation, design engineering, testing, and assembly for the abatement of asbestos-containing or contaminated materials herein called the Work.

2.0 SCOPE OF WORK, SPECIFICATIONS, DRAWINGS AND EXHIBITS

All Work shall be performed in strict accordance with the following described specifications and other documents, which by this reference are made a part thereof.

2.1 Scope of Work

2.2 Technical Specifications

<u>Specification No.</u>	<u>Revision No.</u>	<u>Title</u>
1.0	0.0	Technical Specifications for Asbestos Abatement

2.3 General Terms and Conditions

2.4 Drawings

2.5 Exhibits

<u>Exhibit No.</u>	<u>Revision No.</u>	<u>Title</u>
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(Reserved)

3.0 DESCRIPTION OF WORK – SPECIFIC

The work described in Articles 1.0 and 2.0 of this APPENDIX A shall include, but not be limited to, the following:

- 3.1 The proper removal, transportation and disposal of all carpet located within the building located at 225 W. Renfro Street. Approximately 3,200 sq. ft. of asbestos containing flooring mastics under carpet throughout the office areas has been identified (see attached drawing for locations).



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- After removal of carpet, all walls, millwork, door frames, etc. shall be inspected at floor level and removed and disposed of as non-asbestos containing materials, if necessary, in order to access asbestos containing flooring materials.
- The Contractor is responsible for providing power for the duration of the abatement project.
- Water may be accessed from the fire hydrant located on the site; however, it is the responsibility of the Contractor to secure a construction meter from the Utility Billing Department.

The contractor is responsible for confirming volumes of materials to be removed for the entire project. Any reference to material quantities, including in the asbestos survey report, are estimates only as material volumes are to be verified by the contractor. The purpose of the project is to remove all asbestos containing flooring materials from the building in preparation for demolition.

Instructions:

- The contractor shall remove the interior building materials under full containments using wet removal methods, negative pressure methods. All carpet is to be removed by the abatement contractor. Flooring that is encountered beneath walls, cabinets or under existing flooring is the responsibility of the contractor to remove.
- The building is scheduled for demolition, interior/exterior finishes do not need to be protected. Interior restrooms are available for contractors' use.
- The work areas shall remain secure by the contractor at all times. The security of the site is the responsibility of the contractor.
- Wetting of materials shall be kept at a minimum.
- All methods for removal of mastic must be approved by the Owner or Consultant. If solvents are used, the solvent will be required to conform to a minimum of the following conditions:
 - (1) Flash point (open or closed cup) >200°F,
 - (2) Auto Ignition Temperature >600°F,
 - (3) Slight odor,
 - (4) Ph neutral,
 - (5) Aromatic vapors <100 ppm, and
 - (6) Will not react violently with water.



Respirator cartridges capable of filtering fumes will be required.

Project Schedule:

Start dates will be contingent on contract/agreement timing. The contractor shall complete the abatement within, and no later than, a 5-day window. The contractor shall submit a schedule to the owner and consultant (Vantage) that includes workdays, work hours and anticipated completion of the asbestos removal.

The awarded contractor will be notified and will submit the notification to the State of Texas for asbestos abatement.

General:

- 3.1 The Contractor shall provide all labor, material, and equipment necessary to complete the project. All asbestos abatement shall be performed in accordance with all current federal, state, and local regulations. Full containment procedures shall be used. All penetrations shall have critical barriers installed.
- 3.2 The City of Burleson shall be responsible for the cost associated with one set of final air clearances (initial clearances). The additional cost for re-cleaning, re-inspecting, and re-testing for asbestos abatement projects, in the event of air clearance failure, shall be the responsibility of the Contractor.
- 3.3 The contractor shall establish negative air containment(s) at each work area to include wet decontamination unit(s).
- 3.4 Verification of quantities for each project is the responsibility of the Contractor.
- 3.5 The contractor shall file TDSHS Notification. The Contractor is responsible for any and all fees, penalties, and violations assessed by the TDSHS, for errors and omissions as a result of their work.
- 3.6 The Contractor shall be responsible for any damage done to the owner's property (or the consultant's) as a result of the abatement activities. Contractor shall repair damaged areas or property according to the owner's/consultant's satisfaction.
- 3.7 For each project: each containment area shall be established as directed in each project specific Scope of Work. The enclosure shall be constructed to maintain a negative air pressure of 0.02 inches of water column for an indefinite period of time until the final air clearance is achieved, and the Contractor is authorized by the Consultant to remove the containment. All work shall be in accordance with all applicable State, Federal and local regulations.



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- 3.8 A closed top, waste storage dumpster will be allowed on site, the location to be determined by the Owner. All waste generated by the Contractor shall proceed directly to the landfill. No waste from other projects shall be mixed with the waste from this project. The contractor shall specify the name of the job on the waste manifest, verified by the Consultant, before the materials leave the jobsite. In open public areas, all waste shall be transported from the work area to the dumpster in covered waste buggies.
- 3.9 Respiratory protection shall be (at a minimum) full face powered air purifying respirators equipped with proper filters for asbestos dust, for friable asbestos containing material and half-face air purifying respirators for non-friable asbestos containing materials. The Consultant shall determine the friability of the asbestos containing materials and shall be responsible for verifying the respiratory assessment to conform to all applicable state and federal regulations.
- 3.10 If equipment is left operational, the Contractor shall provide an individual to watch the containment on a 24 hour per day basis (may be waived by Consultant/Owner). This individual shall be fully qualified to enter the containment area and respond in the event that a problem arises. The area may be sealed and contained after each shift only after aggressive clearances are provided.
- 3.11 The Owner will be responsible for providing water at the site. All connections to and disconnections from the water source shall be the responsibility of the Contractor.
- 3.12 The Contractor will be responsible for providing their own electrical power. The contractor shall be responsible for and employ a licensed electrician and/or personnel trained to perform electrical connections and disconnections.

4.0 REPLACEMENT OF ABATED MATERIAL

- 4.1 Reserved

5.0 TEMPORARY CONSTRUCTION FACILITIES AND UTILITIES

- 5.1 Furnished by Contractor

Except as expressly set forth in Section 5.2 of this Article, Contractor shall, as a part of the Scope of Work, supply, install, properly maintain, and remove all temporary construction facilities and utilities necessary for full and complete performance of the Work. Such items shall include, but not necessarily be limited to, those listed below. The type of facilities, move-in and move-out dates, and locations on the jobsite shall be subject to and in accordance with the review and approval of Owner or Consultant.



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- 5.1.1 X All equipment for the proper handling, movement, filtration, and/or differential pressurization of workspace air.
- 5.1.2 X All temporary buildings, including change rooms and/or decontamination units.
- 5.1.3 X All sanitary facilities, including janitorial services.
- 5.1.4 X First aid facilities.
- 5.1.5 X Fuels and lubricants.
- 5.1.6 X Heating fuels.
- 5.1.7 X Transportation facilities on and off site.
- 5.1.8 X Communication facilities.
- 5.1.9 X Compressed air and gasses.
- 5.1.10 X Maintenance of Contractor's laydown, storage and Work areas and roads within such areas.
- 5.1.11 X Rigging, scaffolding, and all equipment for erection.
- 5.1.12 X Electric panel and distribution wiring. Connections to and disconnections from the power source shall be by the Contractor.
- 5.1.13 X All cranes and other necessary equipment for lifting and moving equipment.
- 5.1.14 X All stress-relieving equipment and complete stress-relieving equipment.
- 5.1.15 X All air monitoring and other non-destructive testing required of the Contractor by regulation ordinates or standards.
- 5.1.16 X Pumping facilities, heaters, and piping for water transfer or use.
- 5.1.17 X Any equipment necessary for the filtration of all water produced, used, or retained at the site.
- 5.1.18 X Water drawoff and drain valves and all facilities for proper

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retention and/or disposal of wastewater.

- 5.1.19 X All small tools.
- 5.1.20 X Temporary lighting.
- 5.1.21 X All standard expendable or consumable construction items and supplies.
- 5.1.22 X Containers, ice, cups for drinking water.
- 5.1.23 X Electrical power at one point at jobsite. Connections to and disconnections from power supply shall be performed by Contractor.
- 5.1.24 X Electrical power for small tools, etc., required in the actual work area.
- 5.1.25 Construction and potable water at points on jobsite as designated by Owner or Consultant. Connections to and disconnections from the water supply shall be the responsibility of the Contractor.

5.2 Furnished by Owner

Owner shall supply or cause to be supplied the following temporary construction facilities and utilities to Contractor, without cost to Contractor, for or in connection with performance of the Work.

- 5.2.1 X Parking facilities.
- 5.2.2 Sanitary facilities, excluding janitorial services.
- 5.2.3 X Construction and potable water at points on jobsite as designated by Owner or Consultant. Connections to and disconnections from water supply shall be the responsibility of the Contractor.
- 5.2.4 Hydrostatic test water.
- 5.2.5 Electrical power (*kVA *volts*phase) at one point on jobsite. Connections to and disconnections from power supply shall be by Contractor. *designated by Owner.
- 5.2.6 Electrical power for small tools, etc., required in the actual work area.



- 5.2.7 ☐ Accessible area adjacent to the construction site for performance of work and storage of material and equipment. (No lockable storage facilities or protective coverings of any kind will be furnished by Owner.)

6.0 PERFORMANCE SCHEDULE AND SEQUENCE OF WORK

- 6.1 Contractor shall commence performance of the Work at jobsite immediately upon receiving a written Notice to Proceed from Owner. Failure to meet the scheduled completion date shall be cause for initiating liquidated damages. The Owner will confirm the date of commencement in writing.
- 6.2 General administration scheduling and coordination requirements shall be as described in the General Terms of the contract.

7.0 REPORTING REQUIREMENTS

Contractor shall promptly submit the schedules and reports set forth below and, in addition, those schedules and reports as requested by Owner pursuant to the Article entitled Schedule, Coordination, and Reporting, set forth in the General Terms.

- 7.1 ☒ Notice of deviation from Section 6.0 of this Division.
- 7.2 ☐ (☐) Critical Path Schedule (☐) Bar Chart Schedule (check one) as specified by Owner.

The schedule shall show manpower required by time interval and shall reflect percent of schedule completion by time interval.

- 7.3 ☒ A detailed schedule, daily, of day-to-day operations showing planned workdays, shift start and stop times, work areas, and work activities to take place. Contractor will provide 24-hours written notice of all desired schedule changes. Time extensions will not be granted for shifts when Contractor desired to work but was not allowed to work due to a 24-hour notice deficiency. Additionally, Contractor will be responsible for consulting fees for shifts scheduled and not worked without a 24-hour schedule change notice.
- 7.4 ☐ A daily report showing scheduled progress versus actual progress giving details of how the Work will be completed in relation to the schedule.
- 7.5 ☐ Major construction equipment schedule correlated to Work schedule.
- 7.6 ☐ Daily major construction equipment report.
- 7.7 ☐ Daily manpower report by crafts.



- 7.8 ___ Daily labor alert report if Contractor's available manpower is not sufficient to meet the schedule for performance of the Work.
- 7.9 ___ Procurement schedule for the procurement and receipt of materials, equipment, and subcontract services by Contractor and a monthly status report of all such materials and equipment.
- 7.10 ___ During the latter stages of accomplishing the Work, the Contractor shall submit his plans for demobilization at jobsite to Owner for approval and shall comply with such demobilization plans as approved by Owner.

8.0 DATA REQUIREMENTS

- 8.1 Contractor shall submit the following data to Owner as part of the Scope of Work.
 - 8.1.1 All items required by the specifications.
 - 8.1.2 All landfill receipts and manifests.
 - 8.1.3 All results of any and all air analyses conducted by the Contractor.
- 8.2 Contractor shall show the Owner the Contract Number and identifying item numbers, if applicable, on all data submitted pursuant to Section 8.1 above.
- 8.3 (Reserved)

9.0 PRECEDENCE

- 9.1 In cases of express conflict between General Terms of the Contract, specifications, drawings, or exhibits, the order of precedence shall be as follows:
 - 9.1.1 Signature (Contract) Document
 - 9.1.2 General Terms of the Contract
 - 9.1.3 Scope of Work
 - 9.1.4 Technical Specifications
 - 9.1.5 Drawings
 - 9.1.6 Exhibits



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- 9.2 In the event of an express conflict between the documents listed in Section 9.1, or between any other documents which are a part of the Contract, Contractor shall notify Owner and Owner's Representative immediately and shall comply with Owner's resolution of the conflict.

10.0 COMMUNICATIONS

All communications pursuant to or in connection with this Contract shall be identified by the Owner Contract Number and shall be communicated and set forth below:

10.1 Contractual Notices

All contractual notices given under this Contract shall be sufficient if in writing and delivered in person to an officer of the party to be notified, or sent to the party to be notified, addressed as set forth below, by registered mail, e-mail, or fax. E-Mails and faxes must be confirmed as received in writing within three (3) days thereafter.

Contractual notices to Owner shall be addressed to Owner's Representatives Address set forth herein and marked Attn: **Mr. Travis Rosenbaum, PE Civil Engineer, Public Works Capital Division** with a copy sent directly to the Vantage Project Director/Manager at the same address unless indicated otherwise below. Contractual notices to Contractor shall be addressed to Contractor's Address set forth herein and marked Attn: Contractor.

10.1.1 Owner's Representatives Field Office Address:

Mr. Travis Rosenbaum, PE
Civil; Engineer
Public Works, Capital Division
City of Burleson
141 W. Renfro St.
Burleson, Texas 76028

10.1.2 Consultant's Address:

Vantage Environmental Services, LP
15851 Dallas Parkway, Suite 600
Addison, Texas 75001
Attn: Mr. Manuel Rangel

- 10.2 All Communications regarding Reports, Invoices, Pricing, Insurance and Owner Data Requirements shall be in accordance with the provisions of the General Terms of this Contract.



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APPENDIX B
TECHNICAL SPECIFICATIONS

A handwritten signature in black ink, appearing to read 'M. Rangel'.

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SECTION 2: ASBESTOS ABATEMENT

1.0 GENERAL REQUIREMENTS

This section sets forth all General Requirements covering the Abatement of Asbestos. The Contractor must adhere to these provisions prior to, during, and after any Asbestos Abatement activities.

1.1. Scope

1.1.1. Work under this subsection shall include initial site cleanup, site preparation, removal, encapsulation, final cleanup, and hauling/disposal of asbestos-containing materials. This work shall include ceilings, flooring and wall systems or any materials containing appreciable amounts (greater than 1 percent) of asbestos. (See details in the Scope of Work).

1.1.2. The Asbestos Abatement Contractor is responsible for and shall furnish all labor, material, equipment, service, and incidentals necessary or required for the performance of the work in accordance with the specifications herein.

1.2. Applicable Regulations, Codes, and Standards

1.2.1. The Asbestos Abatement Contractor shall acknowledge that he is aware of and will maintain strict compliance with all regulations, codes, standards, and ordinances governing the performance of this work. Furthermore, the Asbestos Abatement Contractor shall be responsible for any failure with applicable documents.

1.2.2. Applicable documents include but are not limited to the following:

- (1) Title 29, Code of Federal Regulations, Part 1910, Sections 1910.134, 1910.1001, and Part 1926.1101. Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.
- (2) Title 40, Code of Federal Regulations, Part 61, Subpart M, National Emission Standards for Hazardous Air Pollutants. U.S. Environmental Protection Agency (U.S. EPA).
- (3) Title 49, Code of Federal Regulations, Part 172, U.S. Department of Transportation.
- (4) ANSI 86.1-1973 Commodity Specification for Air.
- (5) Section 25, Texas Administrative Code, Chapter 289, Occupational Health and Radiation Control - Asbestos Exposure Abatement in Public Buildings.



- (6) Title 40 Code of Federal Regulations, Part 763 Asbestos Emergency Response Act (AHERA). U.S. Environmental Protection Agency.
 - (7) All Federal, State, County, and City regulations, codes, and ordinances as applicable.
- 1.2.3. The most current issue of each document shall apply. Where conflict among requirements or with these specifications exists, the more strict or stringent requirement or interpretation shall apply.
- 1.2.4. The Asbestos Abatement Contractor will provide at least one copy of any EPA, OSHA, State, or City regulations, code, or ordinance at the site available for review.

1.3. Definitions:

For these specifications, the following definitions apply:

- 1.3.1 **Abatement:** the procedure to control fiber release from asbestos-containing building materials. Activities include removal, encapsulation, and enclosure.
- 1.3.2 **Air Lock:** a system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area.
- 1.3.3 **Air Monitoring:** the process of measuring the fiber content of a specific volume of air in a stated period of time.
- 1.3.4 **Amended Water:** water to which a surfactant has been added.
- 1.3.5 **Asbestos:** the general name given to a group of fibrous mineral forms including chrysotile, crocidolite, amosite, and others. Asbestos-containing materials are those which contain greater than one percent (1%) asbestos as measured by the EPA interim method.
- 1.3.6 **Asbestos Abatement Contractor:** the Contractor designated in the contract documents as being responsible to the Owner for the control or abatement of asbestos-containing or contaminated materials.
- 1.3.7 **Authorized Visitor:** the building Owner, the Owner's representative, the Consultant, the Consultant's inspector or representative, or any representative of a federal, state, county, city, or local agency having jurisdiction over the project while acting in an official capacity. Any person whose name appears upon an approved authorized visitor's list.
- 1.3.8 **Building Owner:** the Owner or his authorized representative.
- 1.3.9 **Clean Room:** an uncontaminated area or room which is part of the worker decontamination enclosure with provisions for storage of worker's street clothes and protective equipment.



- 1.3.10 **Curtained Doorway:** a device to allow ingress and egress from one room to vertical side of the doorway and securing the vertical edge of the other sheet along the opposite vertical side of the doorway.
- 1.3.11 **Decontamination Enclosure System:** a series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers and of materials and equipment. A decontamination enclosure system always contains at least one airlock.
- 1.3.12 **Differential Air Pressure Equipment:** a portable local exhaust system equipped with HEPA filtration and capable of maintaining a constant, low velocity air flow into contaminated areas from adjacent uncontaminated areas.
- 1.3.13 **Encapsulant:** a liquid material which can be applied to asbestos-containing materials and which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant). (Also sealant).
- 1.3.14 **Encapsulation:** all herein specified procedures necessary to apply an encapsulant to asbestos-containing building materials to control the possible release of asbestos fibers into the air.
- 1.3.15 **Enclosure:** all herein specified procedures necessary to completely enclose asbestos-containing material behind airtight, impermeable, permanent barriers.
- 1.3.16 **Equipment Decontamination Enclosure:** that portion of a decontamination enclosure system designed for controlled transfer of materials and equipment, typically consisting of a washroom and a holding area.
- 1.3.17 **Equipment Room:** a contaminated area or room which is part of the worker decontamination enclosure with provisions for storage of contaminated clothing and equipment.
- 1.3.18 **Fixed Object:** a unit of equipment or furniture in the work area which cannot be removed from the work area.
- 1.3.19 **Glovebag Technique:** a method with limited applications for removing small amounts of friable asbestos-containing material from HVAC ducts, short pipe runs, valves, joints, elbows, and other non-planer surfaces in a non-contained work area. The glovebag assembly is a manufactured or fabricated device consisting of a glovebag (typically constructed of 6 mil transparent regulite plastic), two inward projecting long sleeve rubber gloves, one inward projecting sleeve, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process. All workers who are permitted to use the glovebag technique must be highly trained, experienced, and skilled in this method.

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- 1.3.20 **Holding Area:** a chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area. The holding area comprises an airlock.
- 1.3.21 **HEPA Filter:** a High-Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97 percent of particles (asbestos fibers) greater than 0.3 micrometers in mass median aerodynamic equivalent diameter.
- 1.3.22 **HEPA Vacuum Equipment:** vacuuming equipment with a HEPA filter system.
- 1.3.23 **Log Book:** a notebook or other book containing essential project data and daily project information and a daily project diary. This book shall be kept up to date and on the project site at all times.
- 1.3.24 **Movable Object:** a unit of equipment or furniture in the work area which can be removed from the work area.
- 1.3.25. **Plant:** the tools, machinery, structures, equipment, etc., necessary to perform a mechanical operation, process, or to carry out a business.
- 1.3.26 **Plasticize:** to cover floors and walls with plastic sheeting as herein specified.
- 1.3.27 **Removal:** all herein specified procedures necessary to remove asbestos-containing materials from the designated areas in an appropriate manner and to dispose of these materials at an acceptable site.
- 1.3.28 **Shower Room:** a room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold or warm running water and suitably arranged for complete showering during decontamination.
- 1.3.29 **Surfactant:** a chemical wetting agent added to water to improve penetration.
- 1.3.30 **Washroom:** a room between the work area and the holding area in the equipment decontamination enclosure system. The washroom comprises an airlock.
- 1.3.31 **Wet Cleaning:** the process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and by afterwards disposing of these cleaning tools as asbestos-contaminated waste.
- 1.3.32 **Wiping:** final cleanup stage performed after gross asbestos removal where all surfaces are wet cleaned.
- 1.3.33 **Work Area:** designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained work area is a work area which has been sealed, plasticized, and equipped with a decontamination enclosure system.



- 1.3.34 **Worker Decontamination Enclosure System:** that portion of a decontamination enclosure system designed for controlled passage of workers, and other personnel and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room separated by air locks.

1.4. Notices and Submittals

No later than two (2) days prior to commencement of the work, the Asbestos Abatement Contractor shall confirm the following items:

- 1.4.1. Written Notice of Proposed Abatement activity to the applicable air pollution control agency (ies) and Texas Department of State Health Services, not fewer than ten (10) days before beginning of work.
- 1.4.2. Written proof that all required permits, licenses, and registrations have been received. This shall include Contractor and Project Superintendent Licenses and Asbestos Workers' Licenses under the Texas Department of State Health Services.
- 1.4.3. Texas Department of State Health Services Contractor license.
- 1.4.4. Proof of employee medical exams as required by OSHA and Texas Department of State Health Services regulations, using the Texas Department of State Health Services Physician's Written Statement form.
- 1.4.5. A statement of the following:
 - (1) selected landfill site locations,
 - (2) transport procedures (Sec. 49 CFR Part 172), and
 - (3) use of proper disposal methods.
- 1.4.6. Work plans required by the Consultant: Submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. Include in the plan the location and layout of decontamination areas; the sequencing of asbestos work; the interface of trades involved in the performance of work; work schedule including work shift time, number of employees, date of start and completion including dates of preparation work, removal, and final clearance dates; methods to be used to assure the safety of building occupants and visitors to the site; disposal plan including location of approved disposal site; and a detailed description of the methods to be employed to control pollution.
- 1.4.7. A contingency plan for emergencies including fire, accident, power failure, differential air system failure, supplied air system failure, or any other event that may require modification or abridgement of decontamination or work area isolation procedures.



Include in plan specific procedures for decontamination or work area isolation. Note that nothing in this specification should impede safe exiting from the work space or the providing of adequate medical attention in the event of an emergency.

Post: In clean room of Personnel Decontamination Unit, display telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, etc.

1.4.8. When rental equipment is to be used in conjunction with an abatement project, a copy of a written notification provided to the rental company informing the rental company that the rented equipment will be used on an asbestos abatement project shall be submitted. The notification shall state how the equipment is to be used and that the rental company has been advised of possible contamination. A representative of the rental company shall sign an acknowledgement of such and return the notification to the Contractor for compliance with this submittal.

1.4.9. Punch list of damages in work area prior to commencement of Contractor's work.

1.4.10. Manufacturer's Safety Data Sheets (SDS) on all products subject to OSHA Hazard Communication Standard 29CFR1910.1200.

1.5. Air Testing and Other Tests

1.5.1 The Asbestos Abatement Contractor is solely responsible for providing all tests required by the specified applicable regulations, codes, and standards.

(1) They will be responsible for these or any tests performed for their use.

(2) They will provide results as part of the post-abatement submittals to the building Owner and/or Consultant.

1.5.2. The Owner will provide air testing on the work site. These tests may include, but are not limited to:

(1) clearance testing

(2) interior work area samples

(3) barrier samples

(4) exterior of work area samples

1.5.3. All testing will be conducted by individuals trained in the NIOSH 582 course on Sampling and Evaluation of Airborne Asbestos Dusts and proficient participant in the NIOSH Proficiency Analytical Testing program.



Note: All PCM air tests will utilize NIOSH Analytical Method 7400 (Phase Contrast Microscopy)

- 1.5.4. If bulk sampling is required, EPA Interim (PLM) Method shall be used. It shall be performed by a successful participant of the EPA Bulk Insulation Quality Assurance Round-Robin Program.

1.6. Inspections by Asbestos Abatement Contractors

- 1.6.1. The Asbestos Abatement Contractor acknowledges and agrees that he has sole and primary responsibility and obligation to the Owner to make inspections of his own work at all stages of construction, and furthermore acknowledges and agrees that the contractor has sole responsibility to supervise or superintend the performance of the work, and that said work shall be in strict adherence and compliance with the methods, materials, regulations, and required standards specified herein.
- 1.6.2. Prior to commencing the work, conduct a pre job meeting, recognized as a "Pre-Construction Conference": Prior to start of any work, Vantage will meet at the project site with the Contractor, Owner, Owner's Representative, Project Administrator, and other entities involved with the project and/or the asbestos abatement work. The Contractor shall record discussions and agreements and furnish copy to each participant. The Contractor shall provide at least 72 hours advance notice to all participants prior to convening a Pre-Construction Conference. This is an organizational meeting to review responsibilities and personnel assignments; to identify any visible damage to the existing structure or its condition; to locate the containment and decontamination areas and temporary facilities including power, light, water, etc.

1.7. Superintendent, Foreman, Craftsmen

- 1.7.1. The Asbestos Abatement Contractor shall provide a licensed job superintendent present on the job site at all times while this work is in progress.
- 1.7.2. The Superintendent shall be thoroughly familiar with and experienced at asbestos abatement and other related work and shall be familiar with and shall enforce the use of all safety procedures and equipment.

He shall be knowledgeable of all EPA, OSHA, and NIOSH requirements and guidelines. Proof of qualifications shall be made available to the Owner or Consultant upon request. The Superintendent will have successfully completed and passed an examination for an EPA-approved asbestos abatement training course and be licensed by the State of Texas.

- 1.7.3. In addition to the Superintendent, the Asbestos Abatement Contractor shall provide one or more Foremen on the job site who are familiar with and experienced at asbestos abatement, related



work, safety procedures, and equipment. Proof of qualifications shall be made available to the Owner or Consultant upon request. All Foremen will have successfully completed and passed an examination for an EPA-approved asbestos abatement training course and be licensed by the State.

- 1.7.4. It is required that the Superintendent and/or one (1) or more Foremen be inside each work area when work is in progress.
- 1.7.5. All phases of the work shall be executed by skilled craftsmen experienced in each respective trade.
- 1.7.6. All Contractor's employees inside work areas shall be licensed with the State of Texas as an asbestos worker.

1.8. Disposal of Wastewater

- 1.8.1. Any water produced by the decontamination of either equipment or persons shall be:
 - (1) collected,
 - (2) filtered through a system capable of trapping particles 5 microns and/or larger, specifically designed to remove asbestos fibers, and
 - (3) disposed of into a local sanitary sewer system.
- 1.8.2. It is the Asbestos Abatement Contractor's responsibility to comply with any local wastewater systems' regulations regarding the disposal of wastewater from asbestos abatement activities.
- 1.8.3. In the event contaminated water leaks from the work area, storage areas, trash receptacle, etc., the areas and surfaces coming in contact with the contaminated water will be considered contaminated. Contain the area per Section 2.2 and decontaminate per Section 6.0.

1.9. Disposal Sites and Methods

- 1.9.1. The Asbestos Abatement Contractor shall not dispose of any asbestos-contaminated waste, debris, or refuse in any location or manner other than the pre-established, approved (for Asbestos Disposal) landfill, using methods specified herein, and in accordance with Federal, State, or local regulations.
- 1.9.2. The Asbestos Abatement Contractor shall comply with 49 CFR Part 172 and any other applicable regulations regarding the transport of waste friable asbestos.



- 1.9.3 All landfill receipts and chain of custody shall be the responsibility of the contractor. The contractor shall provide all properly signed landfill receipts as a part of the post project submittals.

1.10. Warning Signs and Labels

- 1.10.1. The Asbestos Abatement Contractor shall adhere to all warnings, labels, and the posting of such notices specified herein or required by Federal, State, or local agencies.

1.11. Toilet Facilities

- 1.11.1. Adequate toilet facilities shall be provided outside of the work area by the Asbestos Abatement Contractor (may be provided by owner). If facilities are provided by the owner, the contractor shall maintain the facilities in a clean manner.
- 1.11.2. All required personnel decontamination procedures shall be followed prior to the use of these facilities.

1.12. Project Log Book

- 1.12.1. The Asbestos Abatement Contractor shall maintain a project log book which will be submitted to Consultant in a timely manner after completion of each phase, and will at a minimum, contain and conform to the following:
- (1) Documentation of all Notices and Submittals for all items in Subsection 1.4.
 - (2) Permits
 - (3) Licensing Records - Proof of Employee Licensing
 - (4) Emergency Notification Data
 - (5) Sign-in log, filled out daily or as required
 1. Name;
 2. Time entered/exited;
 3. Affiliation and purpose;
 4. Date; and
 5. Description of activity performed
 - (6) Description of Daily Work performed
 - (7) List of any damages to the structure or furnishings
 - (8) Any loss of differential air pressure
 - (9) Any personnel reportable accidents (including minor accidents)



(10) Results of any air samples collected by the Contractor

(11) Dump receipts and waste manifests

(12) Signature of Project Superintendent and date

1.12.2. This log book shall be available at the work site, and upon completion of work, shall be submitted to the Consultant.

1.13. Work Area Communications

1.13.1. The Asbestos Abatement Contractor shall provide communication equipment capable of linking the personnel in the work area to those stationed outside, so that communications can be maintained without worker decontamination.

1.13.2. The Contractor shall provide:
- construct an observation/communication window(s). The window(s) shall be a minimum 1/8-inch Plexiglass or comparable material and placed to allow observation of the entire work area(s) from the exterior of the contained area(s).

2.0 ASBESTOS REMOVAL

2.1. Work Area

2.1.1. Each work area will be designated and discussed with the Consultant prior to preparation. As a minimum, topics will include ingress and egress points, work areas, containment procedures, and decontamination system. This may be accomplished at the preconstruction conference.

2.1.2. Prior to commencing any preparation of the work area(s) for removal operations, the Contractor shall post all required documents, warning signs, and erect any physical barriers in order that the work area may be secured. Log book shall be up to date and available for inspection.

2.1.3. The Contractor is responsible for site security upon starting the project. This responsibility extends 24 hours per day. This security person shall be a qualified abatement worker able to enter containment, if necessary. Sufficient security personnel will be required to observe all potential public access areas simultaneously.

Note: **Only Authorized Visitors Will Be Allowed On the Work Site**
Authorization will be provided by Vantage and/or the owner.

2.2. Preparation of the Work Area

2.2.1. Make the building safe by the shutdown of electric power. The contractor shall provide temporary power and lighting and ensure



safe installation of temporary power sources and equipment per applicable electrical code requirements (see Safety 5.8.).

- 2.2.2. Shut down and isolate heating, cooling, and ventilating air systems to prevent contamination and fiber dispersal to other areas of the structure. During the work, vents and any other openings within the Work Area shall be sealed with tape and plastic sheeting. Filters in the HVAC systems shall be removed and disposed of as contaminated waste.
- 2.2.3. The work area shall be completely sealed airtight and contained. All openings including but not limited to doorways, windows, tunnels, ducts, grills, diffusers, skylights, or openings through which pipe conduit passes, or any other openings shall be sealed securely with plastic sheeting. Any fixed objects within the proposed work area will be cleaned using HEPA vacuum equipment and/or wet cleaning methods as appropriate and enclosed with plastic sheeting. The plastic sheeting shall be minimum 6-mil in thickness and securely fastened.
- 2.2.4. Open doorways, cased openings, and corridors which will not be used for passage during work shall be sealed with temporary partitions as follows (see Barriers 2.4.):
 - (1) Wood or metal studs, 16" o.c., faced with 3/8" plywood sheeting on work side only.
 - (2) The abatement sides of partition covered with double layer of minimum 4 mil plastic sheet with joints staggered and sealed with tape. Edges of partition at floor, walls, and ceiling shall be secured and sealed airtight.
- 2.2.5. Movable and loose items located in the work area and not removed by the Owner shall be cleaned using HEPA vacuum equipment and/or wet cleaning methods as appropriate or shall be removed from the work areas to a temporary location designated by the Owner. The items will be received by and protected from future damage or loss by the Owner and relocated by the Owner.
- 2.2.6. Remove and dispose of all carpet, including pad, prior to plasticizing work area. Where carpet-to-remain is scheduled, such carpet shall be thoroughly cleaned using HEPA vacuum equipment. Carpet and pad to be discarded shall be misted with amended water or with an encapsulant prior to and during removal to minimize airborne dust releases, wrapped and sealed airtight in plastic, and disposed of as contaminated material.
- 2.2.7. Exposed mechanical insulations, not containing asbestos, shall be protected from exposure to asbestos fibers.
- 2.2.8. Clean the proposed work area(s) using HEPA vacuum equipment and/or wet cleaning methods as appropriate. Remove heating



conductor panels covering heating coils and clean all accessible areas inside the unit. Do not use methods that create dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters.

- 2.2.9. Cover floor and wall surfaces with plastic sheeting. Use a minimum of two layers of 6 mil plastic on the floors and two layers of 6 mil plastic on the walls. Floor layers shall be applied making sure that plastic is turned-up the wall at least 16 in. and securely fastened. Then apply wall layers overlapping the wall previously turned-up floor plastic by at least 12 in. All joints and seams shall be glued, taped, or stapled securely with care to minimize damage to existing walls or floor, yet in a manner to prohibit water or air movement through the covered areas. If plaster, metal lath, ceiling grid work, or any other material capable of tearing plastic sheeting is being removed, cover plastic on the floor with plywood, tear resistant felt, tar paper, or other tear resistant material capable of protecting the plastic from damage.
- 2.2.10. Areas immediately adjacent to removal areas such as corridors or hallways which do not receive asbestos material removal, but are necessary routes to and from work areas, shall be protected with plastic on floors, walls, and ceilings, same as described herein. Contractor is permitted to provide plastic enclosed framed-in tunnels in lieu of plasticizing walls and ceilings. Openings from these areas into areas where asbestos material is removed shall have curtained doorways to minimize fiber release into other areas.
- 2.2.11. Establish emergency and fire exits from the work areas, or establish alternative exits satisfactory to fire officials or applicable codes.
- All exits shall be marked in bold lettering "EXIT" or "Emergency Exit."**
- 2.2.12. Install Asbestos Abatement Contractor's communication equipment. Equipment should be operating properly and maintained as such during removal and clean-up operation (see Subsection 1.13.).
- 2.2.13. Remove and clean ceiling-mounted objects, such as lights and other items not previously sealed off, that may interfere with removal or other abatement activities. Use hand-held water spraying or HEPA vacuum equipment during fixture removal to reduce fiber release. Care should be taken in the removal, cleaning, and storage of these items to ensure that they can be reinstalled clean and in proper working order.

2.2. Decontamination Unit Enclosure Rooms/Systems

The decontamination enclosure systems shall be constructed, affixed, and connected in such a manner as not to compromise the airtightness of the containment.



- 2.3.1. Build suitable wood/plastics or metal stud frame; or use an existing room or enclosure approved by the Consultant. Portable, pre-fabricated units may be used if approved by the Consultant. Approval will be based upon, but not limited to, construction, floor plan, dimensions, materials, sizes, thickness plumbing, electrical outlets, etc.
- 2.3.2. Connect to work area with framed-in tunnels, or to work area ingress/egress point.
- 2.3.3. If decontamination enclosure system is constructed on the exterior of a building, it shall be constructed of a minimum of 3/8 in. plywood on the exterior face and shall be weathertight.
- 2.3.4. In all cases, access between contaminated and uncontaminated rooms or areas shall be through a decontamination enclosure system. In all cases, access between any two rooms within the decontamination enclosure shall be through an air lock with two curtained doorways.
- 2.3.5. Worker Access Decontamination Enclosure:
 - (1) Construct a worker's and visitor's decontamination enclosure adjoining the work area consisting of three (3) totally enclosed chambers: shower room, flanked by an equipment room, and a clean room.
 - (2) The equipment room shall be connected to the work area and contain an air lock leading to the shower room. In addition, the equipment room shall:
 - (a) Contain marked receptacle for the discarding of contaminated clothing prior to entering the shower room.
 - (b) Contain a marked receptacle for reusable clothing which is contaminated and is not to be removed.
 - (3) The shower room shall be connected to the equipment room and the clean room by an air lock. It shall contain the following:
 - (a) At least one shower with hot and cold or warm water. If necessary, in freezing conditions, the Contractor shall provide portable hot water heater to supply hot water for the purpose of personnel decontamination,
 - (b) Removable shower grate,
 - (c) Sufficient soap, shampoo, and disposable towels at all times,
 - (d) Opaque curtains at each air lock.



- (4) The shower room shall not leak water, and the water shall be appropriately filtered and/or properly disposed (see General Requirements).
- (5) The clean room shall be connected to the shower room by one air lock, with a curtained doorway leading to any other non-contaminated space within the Worker Decontamination Enclosure.
 - (a) It shall be large enough to provide storage for the worker's street clothes, towels, or any other non-contaminated items.

2.3.6. Equipment Decontamination Enclosure:

- (1) Construct an equipment decontamination enclosure consisting of two (2) totally enclosed chambers: a washroom and a holding area.
 - (a) The washroom constituting an air lock shall be connected to the holding area by a curtained doorway.
 - (b) The holding area will be connected to any uncontaminated area by a curtained doorway.
- (2) These spaces shall be for the cleaning and decontamination of bagged wastes. In addition, this is preferred ingress and egress point for equipment. All equipment will be thoroughly decontaminated before removal to an uncontained area.
- (3) Water shall be collected, filtered, and/or properly disposed (see General Requirements).

2.3.7. The Decontamination Enclosure System shall be maintained to ensure that the barriers, air locks, and plastic linings are effectively sealed and taped. Repairs should be undertaken immediately upon discovery of a defect.

2.3.8. Visually inspect and thoroughly clean the Decontamination Enclosure System at the beginning and end of each work day.

2.3.9. Prefabricated showers shall be clean upon arrival at the jobsite. Consultant will approve before putting into service.

2.4. Hard Barriers (where required)

2.4.1. Barriers shall have:



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- (1) Wood or metal studs, 16 in. o.c., faced with 3/8 in. plywood sheeting on work side only.
- (2) Both sides of barrier covered with triple layer of minimum 4 mil plastic sheet with joints staggered and sealed with tape. Edges of barrier connected to floor, walls, and ceiling shall be secured and sealed airtight.

2.4.2. Install 12 inch x 12 inch Plexiglass windows in locations such that the containment area is visible from outside containment. Approve locations with Consultant prior to installation.

2.5. Differential Air Pressure

It is imperative that the ambient air pressure in contaminated areas be less than that of uncontaminated areas.

- 2.5.1. After the sealing of the work area, construction of any barriers, and construction of Decontamination Enclosure Systems, the air pressure in the work area shall be less than uncontaminated areas outside the barrier.
- 2.5.2. This should be accomplished by the use of an appropriate number of air handling units equipped with HEPA filters. Before start of work, submit in writing, design of differential air pressure system to Consultant for approval, including number of differential air machines required and the calculations necessary to determine the number of machines and the locations of the machines in the work area. Spare differential pressure machines should be available to the work area in case of equipment failure.

No Air Shall Be Exhausted From the Work Area Without HEPA Filtration

- 2.5.3. All HEPA air units shall be equipped with an indicator that signals when HEPA filter requires replacement.
- 2.5.4. If replacement of the HEPA filter is required, this shall be accomplished inside the containment enclosure with adequate differential pressure.
- 2.5.5. Equipment failure shall not be a valid reason for not maintaining a differential ambient air pressure.
- 2.5.6. Any question regarding effectiveness of the air handling units or their capabilities will be decided by the Consultant.
- 2.5.7. Differential air pressure unit(s) will remain in use until a final clearance has been attained.

No Removal Activities Will Be Allowed Without Proper Differential Air Pressure



- 2.5.8. Contractor will supply a device capable of continuously recording ambient air pressure within the work area (Differential Manometer with strip chart recorder).
- 2.5.9. The work area(s) will be maintained at a differential pressure across any barrier of at least 0.02 inches of water and a sufficient number of air handling units to provide an exchange of air within the work area every 15 minutes (4 air changes/hour).
- 2.5.10. Differential pressure machines shall exhaust, whenever possible, to the exterior of the building.

2.6. Pre-Abatement Walk-Through

Prior to beginning any abatement activities, the Asbestos Abatement Contractor shall request that the Consultant conduct a walk-thru of the site. This walk-thru will be to visually determine if all appropriate procedures, methods, and measures have been adhered to prior to abatement. It will include:

- 2.6.1. Observation of work area.
- 2.6.2. Observation of barriers, air locks, curtained doorways and emergency exits.
- 2.6.3. Observation of Decontamination Enclosure System.
- 2.6.4. Observation of differential pressure equipment and presence of sufficient differential air pressure.
- 2.6.5. Observation of proper respirator equipment
- 2.6.6. Observation to verify that all notices and warnings are posted.
- 2.6.7. No abatement shall commence until the Contractor has signed the daily log book indicating that it is appropriate to begin.

2.7. Removal Activities

After the Pre-Abatement Walk-Thru, the Asbestos Abatement Contractor shall begin removing asbestos-containing materials.

Note: Only Wet Removal Techniques Will Be Allowed

- 2.7.1. Spray asbestos material with amended water, using equipment recommended by the manufacturer capable of providing a "mist" application to reduce the release of fibers. Saturate the material sufficiently so that the amended water penetrates to the substrate without causing excess dripping. Spray the asbestos material and mist the air repeatedly during the work process to maintain a wet condition and to minimize fiber release. Care shall be taken by the workers to apply enough wetting agent to achieve the intent described herein; however, not to the excess that damage will result from overwetting.



- 2.7.2. The Asbestos Abatement Contractor shall use removal techniques, methods, and equipment which will not permit the fiber count during removal operations to exceed 0.2 fibers/cc of air.
- 2.7.3. Material shall not be permitted to fall more than 15 feet without intermediate catching devices such as platforms or inclined chutes.
- 2.7.4. Remove the material in small manageable sections. Do not allow the material to dry out. Begin cleanup immediately as specified by 6.1.
- 2.7.5. If scraping is to be the removal method, the surface should be wet brushed or sponged clean in order to remove any remnant fibers after stripping the surface of asbestos-containing materials. The brush will have synthetic bristles. Remove all material visible to the naked eye.
- 2.7.6. Collect the material that has been removed and place it into dark-colored sealable plastic bags (6 mils thick minimum). Each bag will be cleaned, wet wiped, evacuated, and removed from the work area. All plastic bags and containers must be imprinted with required and Specified Warnings and/or Labels.
- 2.7.7. The preferred method is for the material to be placed directly into covered buggies prior to placing the waste into lockable dumpster containers.
- 2.7.8. Clean the external surfaces of the containers thoroughly in the work area. Next, move the containers into the Equipment Decontamination Enclosure. Proper equipment decontamination requires:
 - (1) Clean gross contamination in work area
 - (2) In Washroom, wet clean thoroughly
 - (3) Place in clear sealable plastic bag (6-mils thick minimum) with required warnings and/or labels.
 - (4) Seal with as little free air space as possible twist top of bag, gooseneck, and wrap with duct tape.
 - (5) Move container into Holding Area.
- 2.7.9. If project requires partial demolition, use methods designed to reduce loose debris and high fiber levels (see Demolition).
- 2.7.10. All metal shall be placed in sealable rigid drums or wrapped in tar paper and two layer of 4-mil plastic sheeting. All metal lath will be disposed of as contaminated waste unless decontaminated within the containment. Decontaminated hard surfaced materials may be disposed of as non-asbestos.

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2.8. Glovebag Removal of Pipe Insulation (Where Required)

After the pre-abatement walk-thru, the Asbestos Abatement Contractor will begin glovebag removal of asbestos-containing pipe insulation as described in this paragraph.

Note: Only Wet Removal Techniques will be Allowed.

- 2.8.1. Shut off steam or hot water supply lines and allow lines to cool to less than 140 degrees F. before beginning glovebag work.
- 2.8.2. Post all appropriate asbestos warning signs. Only appropriately trained and licensed personnel involved with the work shall be permitted in and around the work area.
- 2.8.3. Shut down the HVAC system and seal holes and diffusers in existing ductwork with plastic sheeting and duct tape. A minimum of one layer of 4-mil plastic sheeting shall also be placed over critical barriers in the area such as doors and windows. Differential pressure shall be established in the work area using a differential pressure unit or by using HEPA vacuums in areas containing less than 1000 cubic feet.
- 2.8.4. Construct a wet decontamination unit per Section 2.3 adjacent to the work area or in the vicinity of multiple work areas. For work areas requiring ladders or scaffolding, construct an equipment decontamination unit also.
- 2.8.5. Where more than a single pipe fitting is to be removed, enclose the work area with plastic sheeting. Use a minimum of one layer of 6 mil plastic on the floor and one layer of 4 mil plastic as the walls.

Any walls adjacent to public access areas shall consist of at least one layer of opaque (black) poly, and as a minimum, shall be firmly secured to furring strips. All joints and seams shall be glued, taped, or stapled with care to minimize damage to existing walls or floor, yet in a manner to prohibit water or air movement through the covered area. Establish differential pressure.
- 2.8.6. Provide a double airlock at the entrance and exit to the work area.
- 2.8.7. Following the manufacturer's directions, mix an amending agent, preferably an encapsulant, with water in a small garden sprayer.
- 2.8.8. Check the pipe where the work will be performed. If the insulation is damaged, wrap the entire length of the pipe in plastic and "candy stripe" it with duct tape. If the pipe is undamaged, it is still necessary to place one layer of duct tape around the pipe at each location where the glovebag will be attached.
- 2.8.9. Place a sheet of 6-mil plastic beneath the entire length of pipe to be abated and extending at least 5 feet to either side of the pipe.



- 2.8.10. Slit the top of the glovebag open and cut down the sides to accommodate the size of the pipe (approximately two inches longer than the pipe diameter).
- 2.8.11. Place the necessary tools into the tool pouch located inside the glovebag. This will usually include the bone saw, utility knife, rags, scrub brush, wire cutters, and an encapsulant.
- 2.8.12. Place one strip of duct tape along the edge of the open top slit of the glovebag for reinforcement.
- 2.8.13. Place the glovebag around the section of pipe to be worked on and seal the top ends together. Next, fold the sealed top flap back and tape it down with a strip of duct tape. This shall provide an adequate seal along the top. Next, duct tape the ends of the glovebag to the pipe itself, previously covered with plastic or duct tape.
- 2.8.14. Using a smoke tube and aspirator bulb, place the tube into the water sleeve (two-inch opening to glovebag). By squeezing the bulb, fill the bag with visible smoke. Remove the smoke tube and twist the water sleeve closed. While holding the water sleeve tightly, gently squeeze the glovebag and look for smoke leaking out, especially at the top and ends of the glovebag. If leaks are found, seal with duct tape and retest.
- 2.8.15. Insert the wand from the water sprayer through the water sleeve. Using duct tape, tape the water sleeve tightly around the wand to prevent air leakage.
- 2.8.16. Cut an additional slit in the plastic approximately the same size as the end of the HEPA vacuum hose nozzle end. Insert the end of the HEPA vacuum hose into the glovebag and seal to the bag with tape. Turn on the HEPA vacuum long enough to fully evacuate all air from the bag.
- 2.8.17. One person places his hands into the long-sleeved gloves while the second person directs the water spray at the work.
- 2.8.18. The Asbestos Abatement Contractor will use removal techniques, methods, and equipment which will not permit the fiber count during glovebag removal operations to be more than 0.01 fibers/cc of air as detected by personal air sampling methods. Area fiber counts shall not exceed 0.01 fibers/cc. Any remedial measures taken by the Contractor to meet this requirement will be at the Contractor's expense.
- 2.8.19. If the section of pipe is covered with an aluminum jacket, this shall be removed first using the wire cutters to cut any bands and the tin snips to remove the aluminum. It is important to fold the sharp edges in to prevent cutting the bag when it is placed in the bottom.

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- 2.8.20. With the insulation exposed, cut the insulation at each end of the section to be removed inside the glovebag. Throughout this process, water is sprayed on the cutting area to keep dust to a minimum.
- 2.8.21. Once the ends are cut, the section of insulation shall be slit from end to end. The cut shall be made along the bottom of the pipe and water continuously supplied. Again, care shall be taken when using the knife not to puncture the bag. Some insulation may have wire to be clipped as well.
- 2.8.22. Spray all tools with water inside the bag and place back into pouch.
- 2.8.23. The insulation can now be lifted off the pipe and gently placed in the bottom of the bag.
- 2.8.24. Using the scrub brush, rags and water, scrub and wipe down the exposed pipe inside the glovebag.
- 2.8.25. Thoroughly encapsulate all abated surfaces and exposed ends of insulation with an approved encapsulant.
- 2.8.26. From outside the bag, pull the tool pouch away from the bag and twist it to separate it from the bag. Place duct tape over the twisted portion and then cut the tool bag from the glovebag, cutting through the twisted/taped section.

In this manner, the contaminated tools may be placed directly into the next glovebag without cleaning. Alternately, the tool pouch and the tools shall be cleaned and dried without releasing asbestos into the air.

Rags and the scrub brush shall be disposed of as contaminated waste. If more than one section of pipe is to be removed, a new glovebag must be used for each section. An alternate method for removing the tools from the glovebag is to invert one of the arms so it is outside the bag. Place the tools in the sleeve and twist it. Tape the twisted sleeve at two places approximately 1 inch apart and cut the sleeve between the taped areas.

- 2.8.27. With the removed insulation in the bottom of the bag, wash down the upper portion of the bag with amended water and twist the bag several times and tape it to keep the material in the bottom during removal of the glovebag from the pipe.
- 2.8.28. Slip a 6 mil disposal bag over the glovebag (still attached to the pipe). Turn on the HEPA vacuum. Cut and remove the tape and open the top of the glovebag and fold it down into the disposal bag.
- 2.8.29. Remove the disposable suits and place these into the bag with the asbestos waste.



- 2.8.30. Twist the top of the bag closed, fold this over, and seal with duct tape. Label the bag with a warning label. Each glovebag shall be used on only one section of pipe and shall not be reused or slid.
- 2.8.31. If, at any point in the removal or cleanup procedure, a leak or hole in the glovebag is found, the work shall immediately stop and the hole sealed. If necessary, the entire area shall be wet-wiped and cleaned.
- 2.8.32. After completion of removal, proceed with cleanup per Section 6.0.

2.9. Removal of Pipe Insulation without Glovebag (Where Required)

- 2.9.1. Prepare the work area per Sections 2.1, 2.2, 2.3, 2.4, 2.5, and 2.6.
- 2.9.2. Proceed with removal per Section 2.7.
- 2.9.3. After completion of removal, proceed with cleanup

2.10. Removal of Asbestos Wall Textures

Note: Only Wet Removal Techniques Will Be Allowed.

- 2.10.1. Prepare the work area as specified in Subsections 2.2.1., 2.2.2., 2.2.3., 2.2.4., 2.2.5., and 2.2.8.
- 2.10.2. Spray asbestos material with amended water using equipment recommended by the manufacturer capable of providing a "mist" application to reduce the release of fibers. Spray the asbestos material repeatedly during the work process to maintain a wet condition and to minimize fiber release.

Care will be taken by the workers to apply enough wetting agent to achieve the intent described herein, however, not to the excess that damage will result from overwetting. Solvents may be applied with brushes.
- 2.10.3. Solvents used for the removal of painted textures shall be approved by the consultant prior to use.
- 2.10.3. The Asbestos Abatement Contractor will use removal techniques, methods, and equipment which will not permit the fiber count during panel removal operations to be more than 0.01 fibers/cc of air as detected by personal air sampling methods.
- 2.10.4. Material will not be permitted to fall more than one foot without intermediate catching devices such as platforms or inclined chutes.
- 2.10.5. Remove the material in small manageable sections by dismantling. Do not drop or break panels. Do not allow the material to dry out. Begin cleanup immediately as specified by Paragraph 6.1. Gross Cleanup.



- 2.10.6. If materials must be brushed, use HEPA vacuum to reduce fiber counts. Spray amended water on the surface areas throughout this process.
- 2.10.7. If project requires complete or partial demolition, use methods designed to reduce loose debris and high fiber levels.

2.11. Decontamination and Construction Preparation of Ceiling Penetrations (Where Required)

Note: Only Wet Removal Techniques will be Allowed.

- 2.11.1. Prepare work area as specified in Subsection 2.2.
- 2.11.2. Establish differential air pressure as specified in Subsection 2.5.
- 2.11.3. Prepare selected ceiling penetrations around outer core walls as directed by the scope of work. Spray ceiling with amended water, using equipment capable of providing a “mist” to reduce the release of fibers according to the recommendations of the manufacturer.
- 2.11.4. Provide negative pressure to prohibit fiber release to other parts of the building. Suitable equipment shall be utilized to support the air requirements.
- 2.11.5. Remove all ceiling penetration materials and dispose of as contaminated waste. Spray the contaminated ceiling repeatedly during the work progress to maintain a wet condition and to minimize fiber release. Care should be taken that damage does not occur from extensive over-wetting.
- 2.11.6. Clean and decontaminate all ceiling grid, lights, ductwork, wires and conduit, and all other contaminated, or potentially contaminated, surfaces.
- 2.11.7. Encapsulate ceiling grid, lights, and all layers of plastic as specified in Subsection 3.0 and duct tape the exposed edges of the penetrations.
- 2.11.8. A minimum of Powered Air Purifying Respirators (PAPRs) will be worn during all decontamination and construction preparation procedures.

2.12. Removal of Floor Tile

- 2.12.1. After plasticizing the work area, remove and dispose of all carpet, including pad,. Should Consultant determine that carpet has asbestos containing mastic and/or floor tile adhered to the carpet, the carpet shall be disposed of as an asbestos containing material.



Where "carpet-to-remain" is scheduled, such carpet shall be thoroughly cleaned using HEPA vacuum equipment.

- 2.12.2. All window coverings, curtains or draperies shall be removed from the work area prior to beginning removal activities.
- 2.12.3. Prepare the work area as specified in Subsections 2.2.1., 2.2.2., 2.2.3., 2.2.4., 2.2.5., and 2.2.8.
- 2.12.4. Cover the wall and ceiling surfaces of the work area with a minimum of two layers of 4 mil plastic. Wall layers shall be applied first, making sure that plastic is turned along the ceiling at least 16 inches and securely fastened. Then apply ceiling layers overlapping the wall layers at least 12 inches. All joints and seams shall be glued, taped, or stapled securely with care to minimize damage to existing walls or ceilings, yet in a manner to prohibit water or air movement through the covered area.
- 2.12.5. Areas immediately adjacent to removal areas such as corridors or hallways which do not receive asbestos material removal, but are necessary routes to and from work areas, shall be protected with plastic on floors, same as described herein. Openings from these areas into areas where asbestos material is removed shall have curtained doorways to minimize fiber release into other areas. Negative air pressure is required in all conditions.
- 2.12.6. Establish emergency and fire exits from the work areas, or establish alternative exits satisfactory to fire officials or applicable codes.

All exits shall be marked in bold lettering "EXIT" or "Emergency Exit."

- 2.12.7. Provide decontamination enclosures as specified in Subsection 2.3 and differential air pressure as specified in Subsection 2.5. Respiratory protection shall be Air-Purifying Respirators (APR) as a minimum.
- 2.12.8. Spray asbestos material with amended water, using equipment recommended by the manufacturer capable of providing a "mist" application to reduce the release of fibers. Spray the asbestos material repeatedly during the work process to maintain a wet condition and to minimize fiber release. Care will be taken by the workers to apply enough wetting agent to achieve the intent described herein, however, not to the excess that damage will result from overwetting.
- 2.12.9. The Asbestos Abatement Contractor will use removal techniques, methods, and equipment which will not permit the fiber count during tile or mastic removal operations to be more than 0.01 fibers/cc of air as detected by personal air sampling methods.



- 2.12.10. All methods for removal of mastic must be approved by the Owner or Consultant. If solvents are used, the solvent will be required to conform to a minimum of the following conditions:
- (1) Flash point (open or closed cup) >200°F,
 - (2) Auto Ignition Temperature >600°F,
 - (3) Slight odor,
 - (4) Ph neutral,
 - (5) Aromatic vapors <100 ppm, and
 - (6) Will not react violently with water.
- Respirator cartridges capable of filtering fumes will be required.
- 2.12.11. Collect the material that has been removed and place it into dark-colored sealable plastic bags (6 mils thick minimum). Each bag will be cleaned, wet wiped, evacuated, and removed from the work area. All plastic bags and containers must be imprinted with required and Specified Warnings and/or Labels.
- 2.12.12. In lieu of stockpiling, the preferred method is for the material to be placed directly into previously described containers.
- 2.12.13. Clean the external surfaces of the containers thoroughly in the work area. Next, move the containers into the Equipment Decontamination Enclosure. Proper equipment decontamination requires:
- (1) Clean gross contamination in work area.
 - (2) In Washroom, wet clean thoroughly.
 - (3) Place in clear sealable plastic bag (6-mils thick minimum) with required warnings and/or labels.
 - (4) Seal with as little free air space as possible twist top of bag, gooseneck, and wrap with duct tape.
 - (5) Move container into Holding Area.
- 2.12.14. After all visible gross material has been properly bagged and removed, wet clean and HEPA vacuum the lower half of the wall surfaces.
- 2.12.15. The work floor and the outer layer of wall and ceiling plastic shall be encapsulated.



- 2.12.16. After the encapsulant has dried, one layer of plastic from the walls and ceiling shall be removed and disposed of as contaminated material in double plastic bags.
- 2.12.17. Final air clearance will be in accordance to Subsection 6.5. where Phase Contrast Microscopy is allowed or Subsection 6.6 if Transmission Electron Microscopy (TEM) is required.

2.13. Removal of Asbestos-Contaminated Soil (Where Required)

- 2.13.1. Unless specified otherwise, general requirements of the Specifications will be in effect for this type of work.
- 2.13.2. The decontamination enclosure systems will be constructed, affixed, and connected prior to any worker entering the work area.
- 2.13.3. Respirator protection for this part of the removal will be Powered Air Purifying Respirators (PAPR's) as a minimum.
- 2.13.4. The differential air pressure units will be in place and operating prior to any sealing of the work space.
- 2.13.5. Asbestos containing pipe/mechanical insulation and debris shall be removed prior to soil removal.
- 2.13.5. Initially, remove one-half of the soil thickness as specified in the Scope Of Work. Start this work at the point farthest from the entrance to the soil floor area. Do not permit traffic onto the fresh soil surface. If the soil is damp, it can be removed without wetting. If the soil is dry, saturate the soil with amended water or a removal encapsulant. In either case, the soil below the first layer should be damp during removal. After the first layer of soil is completely removed, work can begin on the second layer of soil using the same procedures.
- 2.13.7. The final soil floor should be encapsulated with a product designed for soil. It should be applied according to the manufacturer's instructions.
- 2.13.8. The pipes, walls and ceiling of the work space should be encapsulated with an appropriate encapsulant, and it should be compatible with the soil encapsulant.
- 2.13.9. Clearance criteria and methods will be determined either by PCM or TEM as determined by the consultant.

3.0 ASBESTOS ENCAPSULATION



Manuel Rangel TDSHS 10-5060

3.1. General

In addition to post removal encapsulation, the additional intent of encapsulation work is to assist with the prevention of potential fiber release while working around asbestos containing materials that have not been removed.

- 3.1.1. The work includes the encapsulating of asbestos-containing fireproofing located above suspended ceilings.

OR

- 3.1.2. The work includes the encapsulating of asbestos-containing spray-on acoustical plaster.

OR

- 3.1.3. The work includes the encapsulation of materials from which asbestos-containing materials have been removed.

- 3.1.4. Submittals

- (1) Submit manufacturer's technical information including label analysis and application instructions for each material proposed for use.
- (2) Submit manufacturer's installation instructions with specific project requirements noted.
- (3) Submit manufacturer's performance guarantee.
- (4) Submit written approval of entity installing the encapsulant from encapsulant manufacturer.
- (5) Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29CFR 1910.1200) for each surfactant and encapsulating material proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

- 3.1.5. Delivery and Storage

- (1) Deliver materials to the job site in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:

Name or title of material
Manufacturer's stock number and date of manufacture
Manufacturer's name
Thinning instructions
Application instructions



- (2) Deliver materials together with a copy of the OSHA Material Safety Data Sheet for the material.

3.1.6. Quality Assurance

- (1) Install spray-on materials by a firm and personnel approved by the manufacturer of the primary materials.
- (2) Submit written Performance Warranty, executed by the manufacturer and co-signed by the Contractor, agreeing to repair/replace spray-on work which has cracked, fallen from substrate, or otherwise deteriorated to a condition where it would not perform effectively for its intended purposes due substantially to defective materials or workmanship and not due to abuse by occupants, improper maintenance, unforeseeable ambient exposures or other causes beyond anticipated conditions and manufacturer's/contractor's control.
- (3) Warranty period is one year after date of substantial completion.

3.2. Products

- 3.2.1. Provide penetrating or bridging type encapsulant specifically designed for application to asbestos-containing material.
- 3.2.2. Use only materials that have a flame spread index of less than 25, when dry, when tested in accordance with ASTM E-84.
- 3.2.3. Select appropriate encapsulants from those rated as "acceptable" when tested under the procedures of "Battelle Columbus Laboratories" tests for the evaluation of encapsulants for friable asbestos-containing materials.

3.3. Execution

- 3.3.1. General
Prior to applying any encapsulating material, ensure that application of the sealer will not cause the base material to fall and allow the sealed material to fall of its own weight or separate from the substrate. Should Contractor doubt the ability of the installation to support the sealant, request direction from the Owner's Representative before proceeding with the encapsulating work.
- 3.3.2. Worker Protection
 - (1) Before beginning work with any material for which a Material Safety Data Sheet has been submitted, provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.



- (2) In addition to protective breathing equipment required by OSHA requirements or by this specification, use painting pre-filters on respirators to protect the dust filters.

3.3.3. Spray-on Fireproofing/Spray-on Acoustical Plaster

- (1) Prepare work area as required by Subsection 2.1. through 2.6.
- (2) Provide worker protection and respiratory protection per Subsection 5.0, Safety.
- (3) It is the intent of this section that the surface to be encapsulated should not be water-damaged, have loose or hanging asbestos-containing materials, and should be prepared for encapsulation as recommended by the manufacturer of the encapsulant.
 - (a) Repair damaged and missing areas of existing sprayed asbestos to obtain a suitable base for sealing and to restore continuity of existing material. Use the specified asbestos-free replacement material in accordance with the manufacturer's recommendations.
 - (b) Remove loose and hanging material. Pack in sealable plastic bags, 6-mil minimum thickness, and place in labeled containers for transport.
 - (c) Cleanup as specified in Subsection 6.1.
- (4) Comply with all manufacturer's instructions for particular conditions of installation in each case. Consult with manufacturer's technical representative for conditions not covered.
- (5) Encapsulate all surfaces in full compliance with manufacturers' procedures.
- (6) At completion of encapsulation and before removal of work area enclosures and differential pressure system, decontaminate space in accordance with requirements of Subsection 6.0, Cleanup Procedures and Clearance Standards.
- (7) At completion of work, submit manufacturer's record of inspection of completed work and Manufacturer's Performance Guarantee executed by both manufacturer and Contractor.

3.3.4. Scratch Coat Plaster

- (1) Apply two (2) coats of encapsulant to the scratch coat plaster after all asbestos-containing material has been

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removed. Apply in strict accordance with the manufacturer's instructions for use of the encapsulant as an asbestos coating. Any deviations from such printed instructions must be approved by the Owner's Representative in writing prior to commencing work.

- (2) Apply encapsulant with an airless spray gun with air pressure and nozzle orifice as recommended by the encapsulant manufacturer.
- (3) Apply the first coat of encapsulant while the scratch coat is still damp from the asbestos removal procedures. If the surface has been permitted to dry, vacuum surface with a HEPA filtered vacuum cleaner prior to spraying with the encapsulant.
- (4) Apply second coat over the first coat in strict conformance with manufacturer's instructions.
- (5) Color the encapsulant contrasting colors in alternate coats so that visual confirmation of complete and uniform coverage of each coat is possible. Adhere to manufacturer's instructions for coloring. At the completion of work, the encapsulated surface must be a uniform third color produced by the mixture.
- (6) At completion of encapsulation, and before removal of work area enclosures and differential pressure system,

decontaminate space in accordance with requirements of Subsection 6.0, Cleanup Procedures and Clearance Standards.

4.0 SAFETY

4.1. General

The asbestos abatement contractor shall be responsible for compliance with Federal, State and local regulations. The Asbestos Abatement Contractor shall be solely responsible for the safety, and efficiency, and adequacy of his plant, appliances, and methods and for any damages which may result from their improper construction, maintenance, or operations.

The contractor shall erect and properly maintain at all times, as required by the condition and progress of the work, proper safeguards for the protection of the workmen and the public and shall post warning signs around the site.

- 4.1.1. The Asbestos Abatement Contractor shall designate a responsible member of his organization on the work site, whose duty shall be the detection, recognition, and prevention of accidents and potential accidents. In the absence of notice to the contrary, filed in



writing to the Consultant, this person shall be the supervisor of the Asbestos Abatement Contractor.

- 4.1.2. The Asbestos Abatement Contractor shall assume all responsibility for any toxic effects to workers of the air supplied to respirators. The Asbestos Abatement Contractor shall assume all responsibility for any toxic effects to personnel or property caused by airborne particulates, mists, vapors, or any wetting agent(s) and for the disposal of said agent(s) and any residual toxic damaging residues.

4.2. Workers and Crews

- 4.2.1. The Asbestos Abatement Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the work crew any person not skilled in the work assigned nor anyone who has not received notice and instructions on the dangers of asbestos exposure and the reduction of the dangers associated with its removal. They shall also receive training in the proper use of respirators, safety procedures, equipment, clothing, and work procedures.
- 4.2.2. The Asbestos Abatement Contractor shall remove any employee from the project not adhering to any standard or requirement set forth herein.
- 4.2.3. The Asbestos Abatement Contractor shall be responsible for setting the size of his work crews. During removal operations, a minimum of two (2) workers shall be in the work area. Under no circumstances should workers be allowed to work alone while within the work area.

4.3. Respiratory Protection

- 4.3.1. Prior to commencement of work, all workers shall be instructed and shall be knowledgeable in the use of respiratory equipment. **Note: This shall include emergency evacuation procedures.**
- 4.3.2. All respiratory protection shall be provided to workers in conjunction with a respiratory protection program which shall meet the requirements of OSHA 29 CFR 1910.134 and OSHA 29 CFR 1926.1101. This includes qualitative or quantitative fit testing.
- 4.3.3. The Asbestos Abatement Contractor shall provide workers with personally issued and marked respiratory equipment approved by the Mine Safety and Health Administration (MSHA) and/or the National Institute for Occupational Safety and Health (NIOSH) for use in atmospheres containing asbestos fibers.
- 4.3.4. Respiratory protection shall be worn by all persons potentially exposed to asbestos from the initiation of the asbestos abatement project until all areas have been given clearance. Clearance shall be obtained by visual inspection and air monitoring.



- 4.3.5. Where respirators with disposable filters are employed, provide sufficient filters for replacement as necessary by the worker, or as required by the applicable regulation.
- 4.3.6. The Asbestos Abatement Contractor shall supply all individuals with adequate respiratory protection, which is set at a minimum in compliance with OSHA requirements. In addition, he shall require and enforce the use of the following activity-related requirements:
- (1) Project Walk-Thru Inspection: (Contractor Option) cartridge-type, air-purifying respirators.
 - (2) Pre-Removal Work Activities Not Disturbing Asbestos-Containing Materials:
 - (3) Pre-Removal Work Activities Which Disturb Asbestos-Containing Materials:
 - (4) Removal Activities:
 - (5) Gross Cleanup and Plastic Removal:
 - (6) Encapsulation and Containment Cleanup:
 - (7) Drum Handling and Disposal Activities:
- Note: The Asbestos Abatement Contractor shall ensure that disposal crew have sufficient number of respirators in transport vehicle for routine or emergency use. This includes at least one extra respirator for landfill personnel.**
- (8) Final Wipe Down and Cleanup:
 - (9) Any question as to respiratory requirements for any activity unnamed or described herein shall, by default, require the maximum protection, or may be directed by the Consultant.
 - (10) Proper respiratory equipment shall be used throughout the project, including removal of final layers of plastic after final air clearance is attained.
- 4.3.7. Post in the Equipment Room and the Clean Room, all decontamination and safety procedures to be followed for ingress and egress from the work area.

4.4. Protective Clothing

The Asbestos Abatement Contractor shall provide workers with sufficient sets of protection, disposable, full body clothing



recommended for use in asbestos operations or equivalent to DuPont "TYVEK-Type 14".

- 4.4.1. Upon request to the Consultant, the Asbestos Abatement Contractor may be allowed to use non-disposable clothing. Request will be granted based upon proof of disposal or use of proper laundering for contaminated articles.
- 4.4.2. Such full body clothing shall consist of:
 - (1) Foot coverings including shoes, boots, or disposable foot coverings. Rubber boots are recommended.
 - (2) Head coverings (disposable are recommended).
 - (3) Clothing should be full body coverall type.
- 4.4.3. Street clothes shall not be worn under protective clothing.
- 4.4.4. Any non-decontaminated protective clothing shall remain within the contaminated areas and shall be disposed of as contaminated waste upon completion.
- 4.4.5. Provide authorized visitors with suitable sets of protective full body clothing including footwear.
- 4.4.6. Provide eye protection and hard hats as required for job conditions or by applicable safety regulations.
- 4.4.7. All clothing shall be sealable by design or by securing with tape at the workers' ankles and wrists. Short pants or short sleeves will not be allowed.

4.5. Worker Protection Procedures

- 4.5.1. All decontamination procedures are for the protection of the worker and general public and shall be strictly adhered to prior to entering and exiting the work area except under extreme emergencies.
- 4.5.2. Any person entering the equipment room, or the work area shall:
 - (1) Remove all street clothes in the clean change room.
 - (2) Put on clean protective clothing.
 - (3) Put on and utilize the proper respiratory equipment.
- 4.5.3. Any person exiting the equipment room or work area shall:
 - (1) Remove any gross contamination while still in the work area.



- (2) Proceed to the equipment room and remove all protective clothing.

DO NOT REMOVE RESPIRATOR

- (3) Still wearing respirator, proceed naked into shower.
- (4) Thoroughly clean first the respirator and then themselves with soap and water.

Proper Decontamination Includes a Thorough Shampoo and Body Wash Prior to Removing Respirator

- (5) After showering and drying off, proceed to the clean change room and dress.
- (6) Any contaminated clothing (including footwear) shall remain in the equipment room and be discarded as contaminated waste unless they can be properly decontaminated.

- 4.5.4. No person shall eat, drink, smoke, chew gum or tobacco in the work area.
- 4.5.5. At no time will smoking be allowed in the project area(s) and/or on site.
- 4.5.6. Workers removing waste containers from the equipment decontamination enclosure shall enter the holding area from the outside wearing a respirator and be dressed in clean disposable coveralls. **No worker or person shall use this system as a means of ingress or egress from the work area.**

4.6. Work Environment

The work environment is extreme. The Asbestos Abatement Contractor shall be aware of the ever-present dangers and shall take the appropriate preventive measures to protect the workers from extreme environments (hot, cold, humid, wet) as well as from exposure to asbestos.

4.7. Ladders, Scaffolds, and Work Platforms

The Asbestos Abatement Contractor shall adhere to all OSHA regulations and standards with regard to ladders, scaffolds, and work platforms. He shall also follow proper decontamination procedures when removing said devices from the work area.

4.8. Electrical

Due to the extreme conditions present during abatement activities, the Asbestos Abatement Contractor is responsible for assuring



work areas are safe from electrical hazards. An adequate Ground Fault Interrupter system shall be used as required in the National Electrical Code. Contractor must also supply power for Consultant's sampling pumps, fans, and leaf blower, using Ground Fault Interrupters.

4.9. Fire Protection

- 4.9.1 Fire extinguishers, 10A60BC type, will be required in the work areas at a number required by the Texas Department of State Health Services anywhere in the work area.
- 4.9.2. Smoke detectors of the battery powered ionization type will be required at a rate of one per 1000 sq ft.
- 4.9.3. The minimum number of smoke detectors will be one in the clean area and one adjacent to each differential pressure machine.
- 4.9.4 Smoking, cooking appliances, heaters, etc. are prohibited in and around the work area, including the clean room.

5.0 CLEANUP PROCEDURES AND CLEARANCE STANDARDS

5.1. Gross Cleanup

Immediately upon removal of asbestos-containing materials, the following clean-up procedures shall commence:

- 5.1.1. Collect the material that has been removed and place it into dark-colored sealable plastic bags (6 mils thick minimum).

Each bag will be cleaned, wet wiped, evacuated, and removed from the work area. All plastic bags and containers must be imprinted with required and Specified Warnings and/or Labels.
- 5.1.2. The preferred method is for the material to be placed directly into previously described containers.
- 5.1.3. Clean the external surfaces of the containers thoroughly in the work area. Next, move the containers into the Equipment Decontamination Enclosure. Proper equipment decontamination requires:
 - (1) Clean gross contamination in work area
 - (2) In Washroom, wet clean thoroughly
 - (3) Place in clear sealable plastic bag (6-mils thick minimum) with required warnings and/or labels.
 - (4) Seal with as little free air space as possible twist top of bag, gooseneck, and wrap with duct tape.



- (5) Move container into Holding Area.

NOTE: All asbestos-containing waste materials to be disposed of must be double-bagged.

- 5.1.4. Once into the Holding Area, all containers will be handled by workers, wearing uncontaminated, clean protective clothing entering from uncontaminated areas. No worker shall exit through the Equipment Decontamination Enclosure.
- 5.1.5. Containers must be stored in a secure area which has been lined with one layer of 6 mil plastic. Containers should be removed to predetermined and authorized landfill as soon as possible.
- 5.1.6. All waste containers shall be labeled in accordance with OSHA Regulation 29 CFR 1926.1101
- 5.1.7. Maintain a clean work area at all times. Thoroughly clean work area, including decontamination enclosure system, at the end of each work day and/or work shift.

5.2. Initial Cleanup Sequence

- 5.2.1. Following abatement activities, cleanup remaining gross accumulations of asbestos-containing materials. Do not use sharp metal objects during cleanup that may cause damage to plastic on floors or walls, such as metal shovels or brooms.
- 5.2.2. Remove all visible accumulations of debris.
- 5.2.3. Wet clean and HEPA vacuum entire (all surfaces) Work Area.
- 5.2.4. All equipment and containers shall be decontaminated and removed.
- 5.2.5. Remove top layer of plastic sheeting and dispose of as contaminated waste.
- 5.2.6. Wet clean and HEPA vacuum (all surfaces) work area.
- 5.2.7. Request visual clearance by Consultant. Criteria for visual clearance include:
- (1) Completion of Abatement Activity
- (2) Adequate cleanup of Work Area
- 5.2.8. Upon completion of visual clearance (passing), the Consultant will sign the Log book as "Ready for initial air clearance."



5.3. Initial Air Clearance

- 5.3.1. Upon request by Asbestos Abatement Contractor and after the visual clearance requirements have been met, the Consultant will conduct an initial air clearance test.
- 5.3.2. The standard for initial air clearance is 0.01 fibers/cubic centimeter of air as determined by Phase Contrast Microscopy (PCM). Tests will be conducted using aggressive air sampling techniques.
- 5.3.3. When standard for initial air clearance has been met:

All existing pipes, fittings, valves, and any other component of the piping system, all areas where asbestos-containing material has been removed, and all plastic sheeting shall receive one coat of identifiable encapsulant.

5.4. Plastic Removal

- 5.4.1. After the Consultant has determined that the encapsulant is dry, remove one layer of plastic sheeting from walls and floors. Care should be taken to avoid pulling down the remaining layer of plastic sheeting. Containerize plastic and any remaining debris, decontaminate container and dispose of as contaminated waste. All containment devices, including decontamination facilities, shall remain in place.
- 5.4.2. Reclean and HEPA vacuum all surfaces.
- 5.4.3. Apply another coat of identifiable encapsulant to all surfaces.
- 5.4.4. After the Consultant has determined that the encapsulant is dry, remove the remaining layer of plastic sheeting. All plastic over critical barriers shall remain in place. Decontamination facilities shall remain in place and all specified differential pressure requirements shall be maintained.
- 5.4.5. Wet clean and HEPA vacuum the entire work area.
- 5.4.6. Observe a 12-hour hold period.
- 5.4.7. Request final air clearance.

5.5. Final PCM Clearance

- 5.5.1. Upon request by the Asbestos Abatement Contractor, the Consultant will conduct a final air clearance test. The final clearance test will be conducted using aggressive air sampling techniques, such as leaf blowers, fans, or other agitation devices.
- 5.5.2. The standard for final air clearance is 0.01 fiber/cubic centimeter of air as determined by Phase Contrast Microscopy (PCM).



Note: Contractors are reminded about the one retest provision.

5.6. Final TEM Clearance (Where Applicable)

- 5.6.1. Collection and analysis of TEM samples will be in accordance with Appendix A of AHERA Regulations, Sections I, II, III, and IV.
- 5.6.2. The clearance standard for final TEM clearance is:
- (1) Average of inside samples less than 70 structures/mm² and volumes of all inside samples greater than 1250 liters; or
 - (2) Average of field and lab blanks less than 70 structures/mm² and average of inside samples is not statistically higher than the average of outside samples using the AHERA Z-test protocol.
- 5.6.3. Contractor should allow sufficient time in the work schedule for TEM analysis.
- 5.6.4. If TEM clearance does not meet the specified clearance standard, Contractor will re-clean the containment.
- 5.6.5. After re-cleaning, upon request by the Contractor, the Consultant will repeat both the PCM final clearance and the TEM clearance. At the Consultant's discretion, the repeat PCM final clearance may be waived.
- 5.6.6. Contractor is responsible for costs of all retests.
- 5.6.7. The Asbestos Abatement Contractor shall be required to comply with the clean-up procedures and clearance testing standards.

5.7. Final Cleanup

- 5.7.1. When the final clearance has been achieved with required respiratory and personal protective equipment:
- (1) Remove remaining layer of plastic sheeting over critical barriers,
 - (2) Remove decontamination enclosure,
 - (3) Remove all seals, barriers, and any other plastic sheeting, etc.
 - (4) Dispose of everything used in the completion of the work as contaminated waste.

5.8. Final Inspection



The work area shall be visually inspected to confirm all work has been completed as required. Damage assessments shall be done at this time.

- 5.8.1. After thorough inspections, the contractor shall then be released from the jobsite.
- 5.8.2. If other work is to be done as part of extended renovations, clearances will be provided to the owner/renovation contractors.

6.0. DISPOSAL OF CONTAMINATED MATERIALS, WASTES AND OBJECTS

- 6.1.1. All shipping will be in accordance with Title 49, Code of Federal Regulation, Part 172.
- 6.1.2. All asbestos waste and asbestos-contaminated materials must be shipped using the following information on shipping papers and manifests:

Hazardous Material	
Proper Shipping Name:	hazardous substance solid, N.O.S.
DOT Hazard Class:	ORM-E
Identification Number:	NA 9188 (friable asbestos)
Reportable Quantity:	RQ-1 lb

- 6.1.3. All wastes shall be disposed of at an authorized, predetermined landfill. The landfill location shall be approved by the Consultant prior to transport.
- 6.1.4. All asbestos waste materials shall be transported directly to the landfill.
- 6.1.5. All containers shall be properly marked and meet all regulations, codes, or ordinances.
- 6.1.6. All truck dumping containers shall be enclosed and sealed en route to the landfill.
- 6.1.7. The landfill shall meet all requirements of 40 CFR Part 61.156.
- 6.1.8. Asbestos Abatement Contractor shall provide receipts from landfill for material deposited. If a transporter is employed, waste manifests from the hauler shall also be provided.
- 6.1.9. All respiratory requirements specified herein shall be complied with during all waste handling activities.



APPENDIX C
DRAWINGS

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Manuel Rangel TDSHS 10-5060

FLOOR PLAN

SCALE 1/8"=1'-0"

Asbestos containing mastic under carpet.

10-5060

LEGEND

- EXISTING CONSTRUCTION
- NEW WALL 15/8" GYP BC ON 3 5/8" METAL STUDS @ 24" OC EXTEND TO 8" ABOVE CEILING
- NEW 1HR WALL 15/8" FIRE CODE GYP BC ON 3 5/8" METAL STUDS @ 24" OC EXTEND TO ROOF DECK
- NEW WALL 15/8" GYP BC ON 3 5/8" METAL STUDS @ 24" OC EXTEND TO ROOF DECK
- EXISTING DOOR TO REVAT.
- NEW DOOR

ADDITIONS & ALTERATIONS TO

THE BURLESON POLICE STATION

BURLESON TEXAS

SMR SCHUTTS, MAGEE & RIDDLE ARCHITECTS INC

PROJECT NO. 2
DATE
DRAWN
REVISED

SHEET CONTENT

SHEET NUMBER

A101

OF 2 SHEETS

CONSTRUCTION DETAILS AND PLANS