



**PROJECT MANUAL  
FOR  
THE CONSTRUCTION OF  
EAST BAILEY BOSWELL ROAD**

**IPRC Record No. 21-0050  
City Project No. 103320  
FID No. 30114-0200431-103320-E07685  
File No. K-2840  
X File No. X-26948**

Mattie Parker  
Mayor

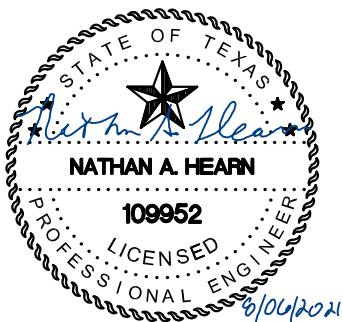
David Cooke  
City Manager

Christopher P. Harder, P.E.  
Director, Water Department

William Johnson  
Director, Transportation and Public Works Department

**Prepared for  
The City of Fort Worth**  
*Transportation and Public Works Department*

*August 2021*



3803 Parkwood Blvd.  
Frisco, TX 75034  
TBPELS Firm No. F-312

**SECTION 00 00 10**  
**TABLE OF CONTENTS**  
**DEVELOPER AWARDED PROJECTS**

<b>Division 00 - General Conditions</b>		<b>Last Revised</b>
00 11 13	Invitation to Bidders	03/20/2020
00 21 13	Instructions to Bidders	03/20/2020
00 41 00	Bid Form	04/02/2014
00 42 43	Proposal Form Unit Price	05/22/2019
00 43 13	Bid Bond	04/02/2014
00 45 11	Bidders Prequalification's	04/02/2014
00 45 12	Prequalification Statement	09/01/2015
00 45 13	Bidder Prequalification Application	03/09/2020
00 45 26	Contractor Compliance with Workers' Compensation Law	04/02/2014
00 45 40	Minority Business Enterprise Goal	08/21/2018
00 52 43	Agreement	06/16/2016
00 61 25	Certificate of Insurance	07/01/2011
00 62 13	Performance Bond	01/31/2012
00 62 14	Payment Bond	01/31/2012
00 62 19	Maintenance Bond	01/31/2012
00 72 00	General Conditions	08/05/2021
00 73 00	Supplementary Conditions	03/09/2020
00 73 10	Standard City Conditions of the Construction Contract for Developer Awarded Projects	01/10/2013

<b>Division 01 - General Requirements</b>		<b>Last Revised</b>
01 11 00	Summary of Work	12/20/2012
01 25 00	Substitution Procedures	08/30/2013
01 31 19	Preconstruction Meeting	08/30/2013
<del>01 31 20</del>	<del>Project Meetings</del>	<del>07/01/2011</del>
01 32 33	Preconstruction Video	08/30/2013
01 33 00	Submittals	08/30/2013
01 35 13	Special Project Procedures	08/30/2013
01 45 23	Testing and Inspection Services	03/20/2020
01 50 00	Temporary Facilities and Controls	07/01/2011
01 55 26	Street Use Permit and Modifications to Traffic Control	07/01/2011
01 57 13	Storm Water Pollution Prevention Plan	07/01/2011
01 60 00	Product Requirements	03/20/2020
01 66 00	Product Storage and Handling Requirements	04/07/2014
01 70 00	Mobilization and Remobilization	04/07/2014
<del>01 71 23</del>	<del>Construction Staking</del>	<del>04/07/2014</del>
01 74 23	Cleaning	04/07/2014
01 77 19	Closeout Requirements	04/07/2014
01 78 23	Operation and Maintenance Data	04/07/2014
01 78 39	Project Record Documents	04/07/2014

**Technical Specifications which have been modified by the Engineer specifically for this Project; hard copies are included in the Project's Contract Documents**

<b>Division 31 - Earthwork</b>		<b>Last Revised</b>
31 23 16	Unclassified Excavation	08/04/2021

<b>Division 32 – Exterior Improvements</b>		<b>Last Revised</b>
32 32 13	Cast-In-Place Concrete Retaining Walls	08/04/2021

<b>Division 33 – Utilities</b>		<b>Last Revised</b>
33 05 10	Utility Trench Excavation Embedment and Backfill	08/04/2021

**Technical Specifications listed below are included for this Project by reference and can be viewed/downloaded from the City's website at:**

<http://fortworthtexas.gov/tpw/contractors/>

or

<https://apps.fortworthtexas.gov/ProjectResources/>

<b>Division 02 - Existing Conditions</b>		<b>Last Revised</b>
02 41 13	Selective Site Demolition	12/20/2012
02 41 14	Utility Removal/Abandonment	12/20/2012
02 41 15	Paving Removal	02/02/2016

<b>Division 03 - Concrete</b>		<b>Last Revised</b>
03 30 00	Cast-In-Place Concrete	12/20/2012
03 34 13	Controlled Low Strength Material (CLSM)	12/20/2012
03 34 16	<del>Concrete Base Material for Trench Repair</del>	<del>12/20/2012</del>
03 80 00	<del>Modifications to Existing Concrete Structures</del>	<del>12/20/2012</del>

<b>Division 26 - Electrical</b>		<b>Last Revised</b>
26 05 00	Common Work Results for Electrical	11/22/2013
26 05 10	<del>Demolition for Electrical Systems</del>	<del>12/20/2012</del>
26 05 33	Raceways and Boxes for Electrical Systems	12/20/2012
26 05 43	Underground Ducts and Raceways for Electrical Systems	07/01/2011
26 05 50	<del>Communications Multi-Duct Conduit</del>	<del>02/26/2016</del>

<b>Division 31 - Earthwork</b>		<b>Last Revised</b>
31 10 00	Site Clearing	12/20/2012
31 23 16	Unclassified Excavation	01/28/2013
31 23 23	<del>Borrow</del>	<del>01/28/2013</del>
31 24 00	<del>Embankments</del>	<del>01/28/2013</del>
31 25 00	Erosion and Sediment Control	12/20/2012
31 36 00	Gabions	12/20/2012
31 37 00	Riprap	12/20/2012

<b>Division 32 - Exterior Improvements</b>		<b>Last Revised</b>
32 01 17	<del>Permanent Asphalt Paving Repair</del>	<del>12/20/2012</del>

32 01 18	Temporary Asphalt Paving Repair	12/20/2012
<del>32 01 29</del>	<del>Concrete Paving Repair</del>	<del>12/20/2012</del>
32 11 23	Flexible Base Courses	12/20/2012
32 11 29	Lime Treated Base Courses	12/20/2012
<del>32 11 33</del>	<del>Cement Treated Base Courses</del>	<del>12/20/2012</del>
<del>32 11 37</del>	<del>Liquid Treated Soil Stabilizer</del>	<del>08/21/2015</del>
32 12 16	Asphalt Paving	12/20/2012
32 12 73	Asphalt Paving Crack Sealants	12/20/2012
32 13 13	Concrete Paving	12/20/2012
32 13 20	Concrete Sidewalks, Driveways and Barrier Free Ramps	06/05/2018
32 13 73	Concrete Paving Joint Sealants	12/20/2012
<del>32 14 16</del>	<del>Brick Unit Paving</del>	<del>12/20/2012</del>
32 16 13	Concrete Curb and Gutters and Valley Gutters	10/05/2016
32 17 23	Pavement Markings	11/22/2013
<del>32 17 25</del>	<del>Curb Address Painting</del>	<del>11/04/2013</del>
<del>32 31 13</del>	<del>Chain Fences and Gates</del>	<del>12/20/2012</del>
<del>32 31 26</del>	<del>Wire Fences and Gates</del>	<del>12/20/2012</del>
<del>32 31 29</del>	<del>Wood Fences and Gates</del>	<del>12/20/2012</del>
32 32 13	Cast-in-Place Concrete Retaining Walls	06/05/2018
32 91 19	Topsoil Placement and Finishing of Parkways	12/20/2012
32 92 13	Hydro-Mulching, Seeding, and Sodding	12/20/2012
<del>32 93 43</del>	<del>Trees and Shrubs</del>	<del>12/20/2012</del>

**Division 33 - Utilities**

33 01 30	Sewer and Manhole Testing	12/20/2012
33 01 31	Closed Circuit Television (CCTV) Inspection	03/03/2016
<del>33 03 10</del>	<del>Bypass Pumping of Existing Sewer Systems</del>	<del>12/20/2012</del>
33 04 10	Joint Bonding and Electrical Isolation	12/20/2012
<del>33 04 11</del>	<del>Corrosion Control Test Stations</del>	<del>12/20/2012</del>
<del>33 04 12</del>	<del>Magnesium Anode Cathodic Protection System</del>	<del>12/20/2012</del>
<del>33 04 30</del>	<del>Temporary Water Services</del>	<del>07/01/2011</del>
33 04 40	Cleaning and Acceptance Testing of Water Mains	02/06/2013
33 04 50	Cleaning of Sewer Mains	12/20/2012
33 05 10	Utility Trench Excavation, Embedment, and Backfill	12/12/2016
<del>33 05 12</del>	<del>Water Line Lowering</del>	<del>12/20/2012</del>
33 05 13	Frame, Cover and Grade Rings – Cast Iron	01/22/2016
<del>33 05 13.10</del>	<del>Frame, Cover and Grade Rings – Composite</del>	<del>01/22/2016</del>
33 05 14	Adjusting Manholes, Inlets, Valve Boxes, and Other Structures to Grade	12/20/2012
<del>33 05 16</del>	<del>Concrete Water Vaults</del>	<del>12/20/2012</del>
33 05 17	Concrete Collars	12/20/2012
33 05 20	Auger Boring	12/20/2012
<del>33 05 21</del>	<del>Tunnel Liner Plate</del>	<del>12/20/2012</del>
33 05 22	Steel Casing Pipe	12/20/2012
<del>33 05 23</del>	<del>Hand Tunneling</del>	<del>12/20/2012</del>
33 05 24	Installation of Carrier Pipe in Casing or Tunnel Liner Plate	06/19/2013
33 05 26	Utility Markers/Locators	12/20/2012
33 05 30	Location of Existing Utilities	12/20/2012
33 11 05	Bolts, Nuts, and Gaskets	12/20/2012

33 11 10	Ductile Iron Pipe	12/20/2012
33 11 11	Ductile Iron Fittings	12/20/2012
33 11 12	Polyvinyl Chloride (PVC) Pressure Pipe	11/16/2018
33 11 13	Concrete Pressure Pipe, Bar-Wrapped, Steel Cylinder Type	12/20/2012
33 11 14	Buried Steel Pipe and Fittings	12/20/2012
33 12 10	Water Services 1-inch to 2-inch	02/14/2017
33 12 11	Large Water Meters	12/20/2012
33 12 20	Resilient Seated Gate Valve	12/20/2012
33 12 21	AWWA Rubber Seated Butterfly Valves	12/20/2012
33 12 25	Connection to Existing Water Mains	02/06/2013
33 12 30	Combination Air Valve Assemblies for Potable Water Systems	12/20/2012
33 12 40	Fire Hydrants	01/03/2014
33 12 50	Water Sample Stations	12/20/2012
33 12 60	Standard Blow-off Valve Assembly	06/19/2013
33 31 12	Cured in Place Pipe (CIPP)	12/20/2012
33 31 13	Fiberglass Reinforced Pipe for Gravity Sanitary Sewers	12/20/2012
33 31 15	High Density Polyethylene (HDPE) Pipe for Sanitary Sewer	12/20/2012
33 31 20	Polyvinyl Chloride (PVC) Gravity Sanitary Sewer Pipe	06/19/2013
33 31 21	Polyvinyl Chloride (PVC) Closed Profile Gravity Sanitary Sewer Pipe	12/20/2012
33 31 22	Sanitary Sewer Slip Lining	12/20/2012
33 31 23	Sanitary Sewer Pipe Enlargement	12/20/2012
33 31 50	Sanitary Sewer Service Connections and Service Line	04/26/2013
33 31 70	Combination Air Valve for Sanitary Sewer Force Mains	12/20/2012
33 39 10	Cast-in-Place Concrete Manholes	12/20/2012
33 39 20	Precast Concrete Manholes	12/20/2012
33 39 30	Fiberglass Manholes	12/20/2012
33 39 40	Wastewater Access Chamber (WAC)	12/20/2012
33 39 60	Epoxy Liners for Sanitary Sewer Structures	12/20/2012
33 41 10	Reinforced Concrete Storm Sewer Pipe/Culverts	07/01/2011
33 41 11	High Density Polyethylene (HDPE) Pipe for Storm Drain	12/20/2012
33 41 12	Reinforced Polyethylene (SRPE) Pipe	11/13/2015
33 46 00	Subdrainage	12/20/2012
33 46 01	Slotted Storm Drains	07/01/2011
33 46 02	Trench Drains	07/01/2011
33 49 10	Cast-in-Place Manholes and Junction Boxes	12/20/2012
33 49 20	Curb and Drop Inlets	12/20/2012
33 49 40	Storm Drainage Headwalls and Wingwalls	07/01/2011

**Division 34 - Transportation**

34 41 10	Traffic Signals	10/12/2015
34 41 10.01	Attachment A – Controller Cabinet	12/18/2015
34 41 10.02	Attachment B – Controller Specification	02/2012
34 41 10.03	Attachment C – Software Specification	01/2012
34 41 11	Temporary Traffic Signals	11/22/2013
34 41 13	Removing Traffic Signals	12/20/2012
34 41 15	Rectangular Rapid Flashing Beacon	11/22/2013
34 41 16	Pedestrian Hybrid Signal	11/22/2013
34 41 20	Roadway Illumination Assemblies	12/20/2012

34 41 20.01	Arterial LED Roadway Luminaires	06/15/2015
34 41 20.02	Freeway LED Roadway Luminaires	06/15/2015
34 41 20.03	Residential LED Roadway Luminaires	06/15/2015
34 41 30	Aluminum Signs	11/12/2013
34 41 50	<del>Single Mode Fiber Optic Cable</del>	<del>02/26/2016</del>
34 71 13	Traffic Control	11/22/2013

**Appendix**

- GC 4.01 — Availability of Lands
- GC-4.02      Subsurface and Physical Conditions
- GC 4.04 — Underground Facilities
- GC 4.06 — Hazardous Environmental Condition at Site
- GC 6.06.D — Minority and Women Owned Business Enterprise Compliance
- GC-6.07      Wage Rates
- GC 6.09 — Permits and Utilities
- GC 6.24 — Nondiscrimination
- GR-01 60 00    Product Requirements

**END OF SECTION**

**SECTION 00 11 13**  
**INVITATION TO BIDDERS**

**RECEIPT OF BIDS**

Due to the COVID19 Emergency declared by the City of Fort Worth and until the emergency declaration, as amended, is rescinded, sealed bids for the construction of *East Bailey Boswell Road* (“Project”) will be received by the City of Fort Worth Purchasing Office until { 1:30 P.M. CST, Thursday, September 2, 2021 } as further described below:

City of Fort Worth  
Purchasing Division  
200 Texas Street  
Fort Worth, Texas 76102

Bids will be accepted by:

1. US Mail at the address above,
2. By courier, FedEx or hand delivery from 8:30-1:30 on Thursdays only at the South End Lobby of City Hall located at 200 Texas Street, Fort Worth, Texas 76102. A Purchasing Department staff person will be available to accept the bid and provide a time stamped receipt; or
3. If the bidder desires to submit the bid on a day or time other than the designated Thursday, the bidder must contact the Purchasing Department during normal working hours at 817-392-2462 to make an appointment to meet a Purchasing Department employee at the South End Lobby of City Hall located at 200 Texas Street, Fort Worth, Texas 76102, where the bid(s) will be received and time/date stamped as above.

Bids will be opened publicly and read aloud at 2:00 PM CST in the City Council Chambers and broadcast through live stream and CFW public television which can be accessed at <http://fortworthtexas.gov/fwtv/>. The general public will not be allowed in the City Council Chambers.

In addition, in lieu of delivering completed MBE forms for the project to the Purchasing Office, bidders shall e-mail the completed MBE forms to the City Project Manager no later than 2:00 p.m. on the second City business day after the bid opening date, exclusive of the bid opening date.

**GENERAL DESCRIPTION OF WORK**

The major work will consist of the (approximate) following:  
*Concrete Paving including curb ramps and driveway approaches.*  
*12” Waterline installation*  
*15” & 8” Sanitary Sewer installation, Including bores*  
*Large Storm Drain Including Box Culverts*  
*Street Lighting for Length of Road*  
*Retaining Wall*  
*Traffic Signal*

**PREQUALIFICATION**

The improvements included in this project must be performed by a contractor who is pre-qualified by the City at the time of bid opening. The procedures for qualification and pre-qualification are outlined in the Section 00 21 13 – INSTRUCTIONS TO BIDDERS.

## **DOCUMENT EXAMINATION AND PROCUREMENTS**

The Bidding and Contract Documents may be examined or obtained on-line by visiting the City of Fort Worth's Purchasing Division website at <http://www.fortworthtexas.gov/purchasing/> and clicking on the link to the advertised project folders on the City's electronic document management and collaboration system site. The Contract Documents may be downloaded, viewed, and printed by interested contractors and/or suppliers.

Copies of the Bidding and Contract Documents may be purchased from:

*Halff Associates, Inc  
3803 Parkwood Blvd  
Frisco, Texas 75034*

The cost of Bidding and Contract Documents is:  
Set of Bidding and Contract Documents with half size drawings: *\$150.00*

## **PREBID CONFERENCE**

A prebid conference may be held as discussed in Section 00 21 13 - INSTRUCTIONS TO BIDDERS at the following date, and time via a web conferencing application:

**DATE:** *Tuesday August 24, 2021*

**TIME:** *10 a.m. CST*

If a prebid conference will be held online via a web conferencing application, invitations will be distributed directly to those who have submitted Expressions of Interest in the project to the City Project Manager and/or the Design Engineer. The presentation given at the prebid conference and any questions and answers provided at the prebid conference will be issued as an Addendum to the call for bids.

## **CITY'S RIGHT TO ACCEPT OR REJECT BIDS**

City reserves the right to waive irregularities and to accept or reject bids.

## **AWARD**

City will award a contract to the Bidder presenting the lowest price, qualifications and competencies considered.



## **INQUIRIES**

All inquiries relative to this procurement should be addressed to the following:

Attn: *Patrick Buckley, P.E.*, City of Fort Worth  
Email: *Patrick.Buckley@fortworthtexas.gov*  
Phone: (817) 392-2443

AND/OR

Attn: *Joseph Buchanan, P.E.*, Halff Associates, Inc.  
Email: *Jbuchanan@halff.com*  
Phone: (214) 937-3936

## **EXPRESSION OF INTEREST**

To ensure bidders are kept up to date of any new information pertinent to this project or the COVID19 emergency declaration, as amended, as it may relate to this project, bidders are requested to email Expressions of Interest in this procurement to the City Project Manager and the Design Engineer. The email should include the bidder's company name, contact person, that individuals email address and phone number. All Addenda will be distributed directly to those who have expressed an interest in the procurement and will also be posted in the City of Fort Worth's purchasing website at <http://fortworthtexas.gov/purchasing/>

## **PLAN HOLDERS**

To ensure you are kept up to date of any new information pertinent to this project such as when an addenda is issued, download the Plan Holder Registration form to your computer, complete and email it to the City Project Manager or the **Design Engineer**.

The City Project Manager and design Engineer are responsible to upload the Plans Holder Registration form to the Plan Holders folder in BIM360.

Mail your completed Plan Holder Registration form to those listed in INQUIRIES above.

## **ADVERTISEMENT DATES**

*August 12, 2021*  
*August 19, 2021*

**END OF SECTION**

**SECTION 00 21 13**  
**INSTRUCTIONS TO BIDDERS**

**1. Defined Terms**

- 1.1. Terms used in these INSTRUCTIONS TO BIDDERS, which are defined in Section 00 72 00 - GENERAL CONDITIONS.
- 1.2. Certain additional terms used in these INSTRUCTIONS TO BIDDERS have the meanings indicated below which are applicable to both the singular and plural thereof.
  - 1.2.1. Bidder: Any person, firm, partnership, company, association, or corporation acting directly through a duly authorized representative, submitting a bid for performing the work contemplated under the Contract Documents.
  - 1.2.2. Nonresident Bidder: Any person, firm, partnership, company, association, or corporation acting directly through a duly authorized representative, submitting a bid for performing the work contemplated under the Contract Documents whose principal place of business is not in the State of Texas.
  - 1.2.3. Successful Bidder: The lowest responsible and responsive Bidder to whom City (on the basis of City's evaluation as hereinafter provided) makes an award.

**2. Copies of Bidding Documents**

- 2.1. Neither City nor Engineer shall assume any responsibility for errors or misinterpretations resulting from the Bidders use of incomplete sets of Bidding Documents.
- 2.2. City and Engineer in making copies of Bidding Documents available do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license or grant for any other use.

**3. Prequalification of Bidders (Prime Contractors and Subcontractors)**

- 3.1. All Bidders and their subcontractors are required to be prequalified for the work types requiring prequalification at the time of bidding. Bids received from contractors who are not prequalified shall not be opened and, even if inadvertently opened, shall not be considered. Prequalification requirement work types and documentation are available by accessing all required files through the City's website at:  
<https://apps.fortworthtexas.gov/ProjectResources/>

- 3.1.1. Paving – Requirements document located at;

<https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/02%20-%20Construction%20Documents/Contractor%20Prequalification/TPW%20Paving%20Contractor%20Prequalification%20Program/PREQUALIFICATION%20REQUIREMENTS%20FOR%20PAVING%20CONTRACTORS.pdf>

3.1.2. Roadway and Pedestrian Lighting – Requirements document located at;

<https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/02%20-%20Construction%20Documents/Contractor%20Prequalification/TPW%20Roadway%20and%20Pedestrian%20Lighting%20Prequalification%20Program/STREET%20LIGHT%20PREQUAL%20REQMNTS.pdf>

3.1.3. Water and Sanitary Sewer – Requirements document located at;

<https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/02%20-%20Construction%20Documents/Contractor%20Prequalification/Water%20and%20Sanitary%20Sewer%20Contractor%20Prequalification%20Program/WSS%20prequal%20requirements.pdf>

3.2. Each Bidder, unless currently prequalified, must submit to City at least seven (7) calendar days prior to Bid opening, the documentation identified in Section 00 45 11, BIDDERS PREQUALIFICATIONS.

3.2.1. Submission of and/or questions related to prequalification should be addressed to the City contact as provided in Paragraph 6.1.

3.2.2. **TEMPORARY PROCEDURES DUE TO COVID-19:** A Bidder whose prequalification has expired during the time period where a valid emergency order is in place (federal, state, local) and for 30 days past the expiration of the emergency order with the furthest expiration date – by day and month, will not be automatically disqualified from having the Bidder's bid opened. A Bidder in this situation will have its bid opened and read aloud and will be allowed 5 business days (close of business on the 5<sup>th</sup> day) to submit a complete prequalification renewal package. Failure to timely submit, or submittal of an incomplete package, will render the Bidder's bid non-responsive. If the prequalification renewal documents show the Bidder as now not-qualified, the bid will be rendered non-responsive. A Bidder may not use this exception to seek a prequalification status greater than that which was in place of the date of expiration. A Bidder who seeks to increase its prequalification status must follow the traditional submittal/review process.

3.3. The City reserves the right to require any pre-qualified contractor who is the apparent low bidder(s) for a project to submit such additional information as the City, in its sole discretion may require, including but not limited to manpower and equipment records, information about key personnel to be assigned to the project, and construction schedule, to assist the City in evaluating and assessing the ability of the apparent low bidder(s) to deliver a quality product and successfully complete projects for the amount bid within the stipulated time frame. Based upon the City's assessment of the submitted information, a recommendation regarding the award of a contract will be made to the City Council. Failure to submit the additional information, if requested, may be grounds for rejecting the apparent low bidder as non-responsive. Affected contractors will be notified in writing of a recommendation to the City Council.

3.4. In addition to prequalification, additional requirements for qualification may be required within various sections of the Contract Documents.

3.5. Special qualifications required for this project include the following:

**4. Examination of Bidding and Contract Documents, Other Related Data, and Site**

4.1. Before submitting a Bid, each Bidder shall:

- 4.1.1. Examine and carefully study the Contract Documents and other related data identified in the Bidding Documents (including "technical data" referred to in Paragraph 4.2. below). No information given by City or any representative of the City other than that contained in the Contract Documents and officially promulgated addenda thereto, shall be binding upon the City.
- 4.1.2. Visit the site to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.
- 4.1.3. Consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work.
- 4.1.4. Be advised, City, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration of award.
- 4.1.5. Study all: (i) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in the Contract Documents as containing reliable "technical data" and (ii) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Contract Documents as containing reliable "technical data."
- 4.1.6. Be advised that the Contract Documents on file with the City shall constitute all of the information which the City will furnish. All additional information and data which the City will supply after promulgation of the formal Contract Documents shall be issued in the form of written addenda and shall become part of the Contract Documents just as though such addenda were actually written into the original Contract Documents. No information given by the City other than that contained in the Contract Documents and officially promulgated addenda thereto, shall be binding upon the City.

- 4.1.7. Perform independent research, investigations, tests, borings, and such other means as may be necessary to gain a complete knowledge of the conditions which will be encountered during the construction of the project. On request, City may provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. Bidder must fill all holes and clean up and restore the site to its former conditions upon completion of such explorations, investigations, tests and studies.
  - 4.1.8. Determine the difficulties of the Work and all attending circumstances affecting the cost of doing the Work, time required for its completion, and obtain all information required to make a proposal. Bidders shall rely exclusively and solely upon their own estimates, investigation, research, tests, explorations, and other data which are necessary for full and complete information upon which the proposal is to be based. It is understood that the submission of a proposal is prima-facie evidence that the Bidder has made the investigation, examinations and tests herein required. Claims for additional compensation due to variations between conditions actually encountered in construction and as indicated in the Contract Documents will not be allowed.
  - 4.1.9. Promptly notify City of all conflicts, errors, ambiguities or discrepancies in or between the Contract Documents and such other related documents. The Contractor shall not take advantage of any gross error or omission in the Contract Documents, and the City shall be permitted to make such corrections or interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.
- 4.2. Reference is made to Section 00 73 00 – Supplementary Conditions for identification of:
- 4.2.1. those reports of explorations and tests of subsurface conditions at or contiguous to the site which have been utilized by City in preparation of the Contract Documents. The logs of Soil Borings, if any, on the plans are for general information only. Neither the City nor the Engineer guarantee that the data shown is representative of conditions which actually exist.
  - 4.2.2. those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site that have been utilized by City in preparation of the Contract Documents.
  - 4.2.3. copies of such reports and drawings will be made available by City to any Bidder on request. Those reports and drawings may not be part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02. of the General Conditions has been identified and established in Paragraph SC 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any "technical data" or any other data, interpretations, opinions or information.

- 4.3. The submission of a Bid will constitute an incontrovertible representation by Bidder (i) that Bidder has complied with every requirement of this Paragraph 4, (ii) that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by the Contract Documents, (iii) that Bidder has given City written notice of all conflicts, errors, ambiguities and discrepancies in the Contract Documents and the written resolutions thereof by City are acceptable to Bidder, and when said conflicts, etc., have not been resolved through the interpretations by City as described in Paragraph 6., and (iv) that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.
- 4.4. The provisions of this Paragraph 4, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste or Radioactive Material covered by Paragraph 4.06. of the General Conditions, unless specifically identified in the Contract Documents.

## **5. Availability of Lands for Work, Etc.**

- 5.1. 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, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by City unless otherwise provided in the Contract Documents.
- 5.2. Outstanding right-of-way, easements, and/or permits to be acquired by the City are listed in Paragraph SC 4.01 of the Supplementary Conditions. In the event the necessary right-of-way, easements, and/or permits are not obtained, the City reserves the right to cancel the award of contract at any time before the Bidder begins any construction work on the project.
- 5.3. The Bidder shall be prepared to commence construction without all executed right-of-way, easements, and/or permits, and shall submit a schedule to the City of how construction will proceed in the other areas of the project that do not require permits and/or easements.

## **6. Interpretations and Addenda**

- 6.1. All questions about the meaning or intent of the Bidding Documents are to be directed to City in writing on or before 2 p.m., the Monday prior to the Bid opening. Questions received after this day may not be responded to. Interpretations or clarifications considered necessary by City in response to such questions will be issued by Addenda delivered to all parties recorded by City as having received the Bidding Documents. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

Address questions to:

City of Fort Worth  
200 Texas Street  
Fort Worth, TX 76102  
Attn: *Patrick Buckley, P.E., City of Fort Worth Development Services*  
Fax: (817) 392-2483  
Email: *Patrick.Buckley@Fortworthtexas.gov*  
Phone: (817) 392-2443

- 6.2. Addenda may also be issued to modify the Bidding Documents as deemed advisable by City.
- 6.3. Addenda or clarifications may be posted via the City's electronic document management and collaboration system at  
<https://www.fortworthtexas.gov/departments/finance/purchasing/bids-current>
- 6.4. A Prebid conference may be held at the time and place indicated in the Advertisement or INVITATION TO BIDDERS. Representatives of City will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. City will transmit to all prospective Bidders of record such Addenda as City considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

## **7. Bid Security**

- 7.1. Each Bid must be accompanied by Bid Bond made payable to City in an amount of five (5) percent of Bidder's maximum Bid price on form attached, issued by a surety meeting the requirements of Paragraphs 5.01 of the General Conditions.
- 7.2. The Bid Bond of all Bidders will be retained until the conditions of the Notice of Award have been satisfied. If the Successful Bidder fails to execute and deliver the complete Agreement within 10 days after the Notice of Award, City may consider Bidder to be in default, rescind the Notice of Award, and the Bid Bond of that Bidder will be forfeited. Such forfeiture shall be City's exclusive remedy if Bidder defaults. The Bid Bond of all other Bidders whom City believes to have a reasonable chance of receiving the award will be retained by City until final contract execution.

## **8. Contract Times**

The number of days within which, or the dates by which, Milestones are to be achieved in accordance with the General Requirements and the Work is to be completed and ready for Final Acceptance is set forth in the Agreement or incorporated therein by reference to the attached Bid Form.

## **9. Liquidated Damages**

Provisions for liquidated damages are set forth in the Agreement.

## **10. Substitute and "Or-Equal" Items**

The Contract, if awarded, will be on the basis of materials and equipment described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is indicated or specified in the Bidding Documents that a "substitute" or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to City, application for such acceptance will not be considered by City until after the Effective Date of the Agreement. The procedure for submission of any such application by Contractor and consideration by City is set forth in Paragraphs 6.05A., 6.05B. and 6.05C. of the General Conditions and is supplemented in Section 01 25 00 of the General Requirements.

## **11. Subcontractors, Suppliers and Others**

- 11.1. In accordance with the City's Business Diversity Enterprise Ordinance No. 20020-12-2011 (as amended), the City has goals for the participation of minority business and/or small business enterprises in City contracts. A copy of the Ordinance can be obtained from the Office of the City Secretary. The Bidder shall submit the MBE and SBE Utilization Form, Subcontractor/Supplier Utilization Form, Prime Contractor Waiver Form and/or Good Faith Effort Form with documentation and/or Joint Venture Form as appropriate. The Forms including documentation must be received by the City no later than 2:00 P.M. CST, on the second business day after the bid opening date. The Bidder shall obtain a receipt from the City as evidence the documentation was received. Failure to comply shall render the bid as non-responsive.
- 11.2. No Contractor shall be required to employ any Subcontractor, Supplier, other person or organization against whom Contractor has reasonable objection.

## **12. Bid Form**

- 12.1. The Bid Form is included with the Bidding Documents; additional copies may be obtained from the City.
- 12.2. All blanks on the Bid Form must be completed by printing 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 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.



- 12.3. Bids by corporations shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed. The corporate address and state of incorporation shall be shown below the signature.
- 12.4. Bids by partnerships shall be executed in the partnership name and signed by a partner, whose title must appear under the signature accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
- 12.5. Bids by limited liability companies shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 12.6. Bids by individuals shall show the Bidder's name and official address.
- 12.7. Bids by joint ventures shall be executed by each joint venture in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 12.8. All names shall be typed or printed in ink below the signature.
- 12.9. The Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 12.10. Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 12.11. Evidence of authority to conduct business as a Nonresident Bidder in the state of Texas shall be provided in accordance with Section 00 43 37 – Vendor Compliance to State Law Non-Resident Bidder.

### **13. Submission of Bids**

Bids shall be submitted on the prescribed Bid Form, provided with the Bidding Documents, at the time and place indicated in the Advertisement or INVITATION TO BIDDERS, addressed to Purchasing Manager of the City, and shall be enclosed in an opaque sealed envelope, marked with the City Project Number, Project title, the name and address of Bidder, and accompanied by the Bid security and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

### **14. Modification and Withdrawal of Bids**

- 14.1. Bids addressed to the Purchasing Manager and filed with the Purchasing Office cannot be withdrawn prior to the time set for bid opening. A request for withdrawal must be made in writing 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. After all Bids not requested for withdrawal are opened and publicly read aloud, the Bids for which a withdrawal request has been properly filed may, at the option of the City, be returned unopened.

- 14.2. Bidders may modify their Bid by electronic communication at any time prior to the time set for the closing of Bid receipt.

### **15. Opening of Bids**

Bids will be opened and read aloud publicly at the place where Bids are to be submitted. 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.

### **16. Bids to Remain Subject to Acceptance**

All Bids will remain subject to acceptance for the time period specified for Notice of Award and execution and delivery of a complete Agreement by Successful Bidder. City may, at City's sole discretion, release any Bid and nullify the Bid security prior to that date.

### **17. Evaluation of Bids and Award of Contract**

17.1. City reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, nonresponsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if City 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 City. City also reserves the right to waive informalities not involving price, contract time or changes in the Work with the Successful Bidder. 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 the words.

17.1.1. Any or all bids will be rejected if City has reason to believe that collusion exists among the Bidders, Bidder is an interested party to any litigation against City, City or Bidder may have a claim against the other or be engaged in litigation, Bidder is in arrears on any existing contract or has defaulted on a previous contract, Bidder has performed a prior contract in an unsatisfactory manner, or Bidder has uncompleted work which in the judgment of the City will prevent or hinder the prompt completion of additional work if awarded.

17.2. City may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Contract Documents or upon the request of the City. City also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

17.3. City may conduct such investigations as City 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 City's satisfaction within the prescribed time.

- 17.4. Contractor shall perform with his own organization, work of a value not less than 35% of the value embraced on the Contract, unless otherwise approved by the City.
- 17.5. If the Contract is to be awarded, it will be awarded to lowest responsible and responsive Bidder whose evaluation by City indicates that the award will be in the best interests of the City.
- 17.6. Pursuant to Texas Government Code Chapter 2252.001, the City will not award contract to a Nonresident Bidder unless the Nonresident Bidder's bid is lower than the lowest bid submitted by a responsible Texas Bidder by the same amount that a Texas resident bidder would be required to underbid a Nonresident Bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located.
- 17.7. A contract is not awarded until formal City Council authorization. If the Contract is to be awarded, City will award the Contract within 90 days after the day of the Bid opening unless extended in writing. No other act of City or others will constitute acceptance of a Bid. Upon the contractor award a Notice of Award will be issued by the City.
  - 17.7.1. **The contractor is required to fill out and sign the Certificate of Interested Parties Form 1295 and the form must be submitted to the Project Manager before the contract will be presented to the City Council. The form can be obtained at <https://www.ethics.state.tx.us/data/forms/1295/1295.pdf>**
- 17.8. Failure or refusal to comply with the requirements may result in rejection of Bid.

## **18. Signing of Agreement**

- 18.1. When City issues a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement. Within 14 days thereafter Contractor shall sign and deliver the required number of counterparts of the Agreement to City with the required Bonds, Certificates of Insurance, and all other required documentation.
- 18.2. Failure to execute a duly awarded contract may subject the Contractor to penalties.
- 18.3. City shall thereafter deliver one fully signed counterpart to Contractor.

**END OF SECTION**

**SECTION 00 41 00**  
**DAP BID FORM FOR PUBLICLY BID PROJECTS ONLY**

TO: *Cow Town Owner, L.L.C*  
*Denton Walker*  
*2300 North Field Street*  
*Suite 2000*  
*Dallas, Texas 75201*

*City of Fort Worth*  
*200 Texas Street*  
*Fort Worth, Texas 76102*

FOR: *East Bailey Boswell Road*

City Project No.: *103320*

Units/Sections: *Unit I: Water Improvements*  
*Unit II: Sanitary Sewer Improvements*  
*Unit III: Drainage Improvements*  
*Unit IV: Paving Improvements*  
*Unit V: Street Light Improvements*  
*Unit VI: Traffic Signal Improvements*

**1. Enter Into Agreement**

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Developer in the form included in the Bidding Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

**2. BIDDER Acknowledgements and Certification**

- 2.1. In submitting this Bid, Bidder accepts all of the terms and conditions of the INVITATION TO BIDDERS and INSTRUCTIONS TO BIDDERS, including without limitation those dealing with the disposition of Bid Bond.
- 2.2. Bidder is aware of all costs to provide the required insurance, will do so pending contract award, and will provide a valid insurance certificate meeting all requirements in the construction contract.
- 2.3. Bidder certifies that 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.
- 2.4. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
- 2.5. Bidder has not solicited or induced any individual or entity to refrain from bidding.

- 2.6. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph:
- a. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
  - b. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Developer (b) to establish Bid prices at artificial non-competitive levels, or (c) to deprive Developer of the benefits of free and open competition.
  - c. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Developer, a purpose of which is to establish Bid prices at artificial, non-competitive levels.
  - d. "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.

### 3. Prequalification

The Bidder acknowledges that the following work types must be performed only by prequalified contractors and subcontractors:

- a. *Auger Boring – 24-inch diameter casing and less*
- b. *Water Distribution – Development, 12-inch diameter and smaller*
- c. *CCTV, 12-inches and smaller*
- d. *Sewer Collection System, Development, 12-inches and smaller*
- e. *Sewer Interceptors, Development, 24-inches and smaller*
- f. *Concrete Paving Construction/Reconstruction (15,000 SY and Greater)*
- g. *Roadway and Pedestrian Lighting*

### 4. Time of Completion

- 4.1. The Work will be complete for Final Acceptance within **243** working days after the date when the Contract Time commences to run as provided in the General Conditions.
- 4.2. Bidder accepts the provisions of the Agreement to liquidated damages, if applicable, in the event of failure to complete the Work {and/or achievement of Milestones} within the times specified in the Agreement.

### 5. Attached to this Bid

The following documents are attached to and made a part of this Bid:

- a. This Bid Form, Section 00 41 00
- b. Bid Bond (if required), Section 00 43 13 issued by a surety meeting the requirements of the General Conditions.
- c. Proposal Form, Section 00 42 43
- d. Business Equity Specifications
- e. Prequalification Statement, Section 00 45 12
- f. Any additional documents that may be required by Section 12 of the Instructions to Bidders
- g. Bidder pre-qualification application (optional)

**6. Total Bid Amount**

- 6.1. Bidder will complete the Work in accordance with the Contract Documents for the following bid amount. In the space provided below, please enter the total bid amount for this project. Only this figure will be read publicly by the City at the bid opening.
- 6.2. It is understood and agreed by the Bidder in signing this proposal that the total bid amount entered below is subject to verification and/or modification by multiplying the unit bid prices for each pay item by the respective estimated quantities shown in this proposal and then totaling all of the extended amounts.

**7. Bid Submittal**

This Bid is submitted on

by the entity named below

Respectfully submitted,

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name)

Title:  
Company:  
Address:

Receipt is acknowledged of the following Addenda:	Initial
Addendum No. 1	
Addendum No. 2	
Addendum No. 3	
Addendum No. 4	

State of Incorporation:  
Email:  
Phone:

**END OF SECTION**

SECTION 00 42 43  
Developer Awarded Projects - PROPOSAL FORM

IPRC21-0050

**UNIT PRICE BID - EAST BAILEY BOSWELL ROAD**

**Bidder's Application**

Project Item Information					Bidder's Proposal	
Bidlist Item No.	Description	Specification Section No.	Unit of Measure	Bid Quantity	Unit Price	Bid Value
<b>UNIT I: WATER IMPROVEMENTS</b>						
1	0241.1118 4"-12" Pressure Plug	02 41 14	EA	9		
2	3305.0109 Trench Safety	33 05 10	LF	4,352		
3	3305.0110 Utility Markers	33 05 26	LS	1		
4	3311.0001 Ductile Iron Water Fittings w/ Restraint	33 11 11	LS	1		
5	3311.0141 6" Water Pipe	33 11 10, 33 11 12	LF	31		
6	3311.0241 8" Water Pipe	33 11 10, 33 11 12	LF	180		
7	3311.0441 12" Water Pipe	33 11 10, 33 11 12	LF	4,141		
8	3312.0001 Fire Hydrant	33 12 40	EA	1		
9	3312.0117 Connection to Existing 4"-12" Water Main	33 12 25	EA	2		
10	3312.2201 2" Water Service, Meter Reconnection	33 12 10	EA	11		
11	3312.3002 6" Gate Valve	33 12 20	EA	1		
12	3312.3003 8" Gate Valve	33 12 20	EA	12		
13	3312.3005 12" Gate Valve	33 12 20	EA	18		
14	9999.0004 12"x8" Reducer	99 99 04	EA	1		
15	9999.0005 Controlled Low Strength Material	99 99 05	LF	370		
16	9999.0006 Auto Flushing Device	99 99 06	EA	1		
<b>TOTAL UNIT I: WATER IMPROVEMENTS</b>						
<b>UNIT II: SANITARY SEWER IMPROVEMENTS</b>						
1	3301.0002 Post-CCTV Inspection	33 01 31	LF	7,921		
2	3301.0101 Manhole Vacuum Testing	33 01 30	EA	19		
3	3305.0109 Trench Safety	33 05 10	LF	6,400		
4	3305.1104 30" Casing By Other Than Open Cut	33 05 22	LF	2,272		
5	3305.0110 Utility Markers	33 05 26	EA	10		
6	8" Ductile Iron Sanitary Sewer Pipe	33 11 10, 33 31 12, 33 31 20	LF	127		
7	8" SDR 26 PVC Sanitary Sewer Pipe	33 11 10, 33 31 12, 33 31 20	LF	3,064		
8	16" Ductile Iron Sanitary Sewer Pipe	33 11 10, 33 31 12, 33 31 20	LF	2,272		
9	15" SDR 26 PVC Sanitary Sewer Pipe	33 11 10, 33 31 12, 33 31 20	LF	2,725		
10	0241.2103 8" Sewer Abandonment Plug	02 41 14	EA	5		
11	0330.0001 Concrete Encase Sewer Pipe	03 30 00	CY	5		
12	3331.3401 Ductile Iron Sewer Fittings	33 11 11	LS	1		
13	3305.0107 Manhole Adjustment, Minor	33 05 14	EA	5		
15	3339.0001 Epoxy Manhole Liner	33 39 60	VF	375		
16	3339.1001 4' Manhole	33 39 10, 33 39 20	EA	18		
17	3339.1002 4' Drop Manhole	33 39 10, 33 39 20	EA	1		
18	3339.1003 Extra Depth Manhole	33 39 10, 33 39 20	VF	358		
19	9999.0007 Water-Tight Hinged Manhole Frame, Cover and Grade Rings	99 99 07	EA	1		
20	9999.0008 Controlled Low Strength Material	99 99 08	LF	200		
21	9999.0023 Controlled Low Strength Material Backfill Between Manholes	99 99 23	EA	1		
<b>TOTAL UNIT II: SANITARY SEWER IMPROVEMENTS</b>						
<b>UNIT III: DRAINAGE IMPROVEMENTS</b>						
1	0241.4401 Remove Headwall/SET	02 41 14	EA	8		
2	0241.3102 18" Storm Abandonment Plug	02 41 14	EA	14		
3	0241.3103 21" Storm Abandonment Plug	02 41 14	EA	1		
4	0241.3104 24" Storm Abandonment Plug	02 41 14	EA	3		
5	0241.3108 36" Storm Abandonment Plug	02 41 14	EA	3		
6	0241.3110 42" Storm Abandonment Plug	02 41 14	EA	1		
7	3305.0109 Trench Safety	33 05 10	LF	8,710		
8	3305.0110 Utility Markers	33 05 26	LS	1		
9	3341.0103 18" RCP, Class III	33 41 10	LF	47		
10	3341.0201 21" RCP, Class III	33 41 10	LF	1,431		
11	3341.0205 24" RCP, Class III	33 41 10	LF	1,388		
12	3341.0302 30" RCP, Class III	33 41 10	LF	422		
13	3341.0309 36" RCP, Class III	33 41 10	LF	1,373		
14	3341.0402 42" RCP, Class III	33 41 10	LF	280		
15	3341.0409 48" RCP, Class III	33 41 10	LF	491		
16	3341.0503 54" RCP, Class III	33 41 10	LF	453		
17	3341.0602 60" RCP, Class III	33 41 10	LF	1,745		
18	3341.1305 6x6 Box Culvert	33 41 10	LF	511		
19	3341.1404 7x6 Box Culvert	33 41 10	LF	564		
20	3349.0001 4' Storm Junction Box	33 49 10	EA	9		
21	3349.0002 5' Storm Junction Box	33 49 10	EA	1		
22	3349.0003 6' Storm Junction Box	33 49 10	EA	5		
23	3349.0102 4' Stacked Manhole	33 49 10	EA	2		
24	3305.0112 Concrete Collar	33 05 17	EA	8		

SECTION 00 42 43  
Developer Awarded Projects - PROPOSAL FORM

IPRC21-0050

UNIT PRICE BID - EAST BAILEY BOSWELL ROAD

Bidder's Application

Project Item Information					Bidder's Proposal	
Bidlist Item No.	Description	Specification Section No.	Unit of Measure	Bid Quantity	Unit Price	Bid Value
25	3349.6001 10' Recessed Inlet	33 49 20	EA	25		
26	3349.6002 15' Recessed Inlet	33 49 20	EA	6		
27	3349.7001 4' Drop Inlet	33 49 20	EA	4		
28	3349.7003 6' Drop Inlet	33 49 20	EA	1		
29	3137.0102 Large Stone Riprap, dry	31 37 00	SY	1,181		
30	9999.0009 TxDOT PJB	99 99 09	EA	1		
31	9999.0010 TxDOT CH-PW-O	99 99 10	EA	2		
32	9999.0011 TxDOT Wingwall PW-1, HW=7', (4:1)	99 99 11	EA	1		
<b>TOTAL UNIT III: DRAINAGE IMPROVEMENTS</b>						
<b>UNIT IV: PAVING IMPROVEMENTS</b>						
1	0241.0800 Remove Rip Rap	02 41 13	SF	1420		
2	0241.1000 Remove Conc Pvmnt	02 41 15	SY	1289		
3	0241.1100 Remove Asphalt Pvmnt	02 41 15	SY	187		
4	0241.0300 Remove ADA Ramp	02 41 13	EA	1		
5	3441.4108 Remove Sign Panel and Post	34 41 30	EA	4		
6	0241.4401 Remove Headwall/SET	02 41 14	EA	8		
7	0241.3014 Remove 21" Storm Line	02 41 14	LF	90		
8	0241.3015 Remove 24" Storm Line	02 41 14	LF	19		
9	0241.3017 Remove 30" Storm Line	02 41 14	LF	12		
10	0241.3023 Remove 48" Storm Line	02 41 14	LF	20		
11	3110.0102 6"-12" Tree Removal	31 10 00	EA	2		
12	3123.0101 Unclassified Excavation by Plan (Cut:25,203 , Fill:172 )	31 23 16	CY	25375		
13	3211.0502 8" Lime Treatment	32 11 29	SY	33,860		
14	3213.0106 11" Conc Pvmnt	32 13 13	SY	31,267		
15	3213.0206 11" Conc Pvmnt HES	32 13 13	SY	589		
16	3212.0505 8" Asphalt Base Type B (Detour)	32 12 16	SY	172		
17	3213.0301 4" Conc Sidewalk	32 13 20	SF	92,713		
18	3213.0504 Barrier Free Ramp Type M-2	32 13 20	EA	3		
19	3213.0509 Barrier Free Ramp, Type C-2	32 13 20	EA	3		
20	3213.0506 Barrier Free Ramp, Type P-1	32 13 20	EA	25		
21	3216.0101 6" Conc Curb and Gutter	32 16 13	LF	18,822		
22	3217.0101 6" SLD Pvmnt Marking HAS (W)	32 17 23	LF	4,597		
23	3217.0102 6" SLD Pvmnt Marking HAS (Y)	32 17 23	LF	2,324		
24	3217.0103 6" BRK Pvmnt Marking HAS (W)	32 17 23	LF	2,042		
25	3217.0104 6" DOT Pvmnt Marking HAS (W)	32 17 23	LF	71		
26	3217.028" SLD Pvmnt Marking HAS (W)	32 17 23	LF	453		
27	3217.0401 18" SLD Pvmnt Marking HAE (W)	32 17 23	LF	588		
28	3217.0501 24" SLD Pvmnt Marking HAE (W)	32 17 23	LF	783		
29	3217.1002 Lane Legend Arrow	32 17 23	EA	25		
30	3217.1003 Lane Legend DBL Arrow	32 17 23	EA	2		
31	3217.1004 Lane Legend Only	32 17 23	EA	11		
32	3217.2104 REFL Raised Marker TY II-C-R	32 17 23	EA	227		
33	3217.2103 REFL Raised Marker TY II-A-A	32 17 23	EA	27		
34	3217.4301 Remove 4" Pvmnt Marking	32 17 23	LF	1,360		
35	3217.4303 Remove 8" Pvmnt Marking	32 17 23	LF	275		
36	3217.4307 Remove Raised Marker	32 17 23	EA	250		
37	3232.0201 TxDOT Std Ret Wall - RW 1 (L) A	32 32 13	SF	527		
38	3291.0100 Topsoil	32 91 19	CY	5,953		
39	3292.0100 Block Sod Placement	32 92 13	SY	18,643		
40	3292.0400 Seeding, Hydromulch	32 92 13	SY	4,411		
41	3292.0500 Seeding, Soil Retention Blanket	32 92 13	SY	12,664		
42	3441.3501 Salvage Street Light Pole	34 41 20	EA	1		
43	3441.4003 Furnish/Install Alum Sign Ground Mount City Std.	34 41 30	EA	22		
44	9999.0011 Monolithic Concrete Median Nose	99 99 11	SY	42		
45	9999.0012 6" SLD Pvmnt Marking HAE (Black)	99 99 12	LF	900		
46	9999.0013 12" DOT Pvmnt Marking HAS (W)	99 99 13	LF	37		
47	9999.0014 18" SLD Pvmnt Marking HAE (Y)	99 99 14	LF	25		
48	9999.0015 Yield Lines	99 99 15	LF	14		
49	9999.0016 Flexible Delineator Post (Y)	99 99 16	EA	5		
50	9999.0017 Remove Gravel Driveway	99 99 17	SF	9,126		
51	9999.0018 Remove Cattle Guard	99 99 18	LS	1		
52	9999.0019 Remove Gate	99 99 19	LS	1		
<b>TOTAL UNIT IV: PAVING IMPROVEMENTS</b>						



SECTION 00 42 43  
Developer Awarded Projects - PROPOSAL FORM

IPRC21-0050

UNIT PRICE BID - EAST BAILEY BOSWELL ROAD

Bidder's Application

Project Item Information					Bidder's Proposal	
Bidlist Item No.	Description	Specification Section No.	Unit of Measure	Bid Quantity	Unit Price	Bid Value
<b>UNIT V: STREET LIGHTING IMPROVEMENTS</b>						
1	2605.0112 Install Elec Serv Pedestal	26 05 00	EA	1		
2	2605.3015 2" CONDT PVC SCH 80 (T)	26 05 33	LF	4950		
3	3441.1502 Ground Box Type B, w/ Apron	34 41 10	EA	24		
4	3441.1645 Furnish/Install Type 33A Arm	34 41 20	EA	44		
5	3441.3003 Rdwy Illum Assmby TY 18	34 41 20	EA	26		
6	3441.3201 LED Lighting Fixture	34 41 20	EA	44		
7	3441.3302 Rdwy Illum Foundation TY 3	34 41 20	EA	26		
8	3441.1405 No. 2 Insulated Elec Conduit	34 41 10	LF	24111		
<b>TOTAL UNIT V: STREET LIGHTING IMPROVEMENTS</b>						
<b>UNIT VI: TRAFFIC SIGNAL IMPROVEMENTS</b>						
1	2605.0111 Furnish/Install Elec Serv Pedestal	26 05 00	EA	1		
2	2605.3015 2" CONDT PVC SCH 80 (T)	26 05 33	LF	98		
3	2605.3016 2" CONDT PVC SCH 80 (B)	26 05 33	LF	50		
4	2605.3025 3" CONDT PVC SCH 80 (T)	26 05 33	LF	194		
5	2605.3034 4" CONDT PVC SCH 80 (B)	26 05 33	LF	407		
6	3441.1001 3-Sect Signal Head Assmby	34 41 10	EA	8		
7	3441.1002 4-Sect Signal Head Assmby	34 41 10	EA	5		
8	3441.1011 Ped Signal Head Assmby	34 41 10	EA	8		
9	3441.1031 Audible Pedestrian Pushbutton Station	34 41 10	EA	8		
10	3441.1209 Furnish/Install BBU System EXT Mounted	34 41 10	EA	1		
11	3441.1221 Furnish/Install Model 712 Preemption Detector	34 41 10	EA	3		
12	3441.1230 Furnish/Install Radar Presence Detection Device	34 41 10	EA	4		
13	3441.1231 Furnish/Install Radar Advance Detection Device	34 41 10	EA	3		
14	3441.1234 Furnish/Install Radar Cable	34 41 10	LF	1,360		
15	3441.1311 5/C 14 AWG Multi-Conductor Cable	34 41 10	LF	172		
16	3441.1312 7/C 14 AWG Multi-Conductor Cable	34 41 10	LF	637		
17	3441.1315 20/C 14 AWG Multi-Conductor Cable	34 41 10	LF	571		
18	3441.1322 3/C 14 AWG Multi-Conductor Cable	34 41 10	LF	1,155		
19	3441.1408 NO 6 Insulated Elec Condr	34 41 10	LF	8		
20	3441.1409 NO 8 Insulated Elec Condr	34 41 10	LF	2,000		
21	3441.1413 NO 6 Bare Elec Condr SLD	34 41 10	LF	4		
22	3441.1502 Ground Box Type B, w/Apron	34 41 10	EA	5		
23	3441.1503 Ground Box Type D, w/Apron	34 41 10	EA	1		
24	3441.1601 Furnish/Install 5' Pedestrian Push Button Pole	34 41 10	EA	3		
25	3441.1603 Furnish/Install 10' - 14' Ped Pole Assmby	34 41 10	EA	2		
26	3441.1611 Furnish/Install Type 41 Signal Pole	34 41 10	EA	1		
27	3441.1612 Furnish/Install Type 42 Signal Pole	34 41 10	EA	1		
28	3441.1615 Furnish/Install Type 45 Signal Pole	34 41 10	EA	2		
29	3441.1623 Furnish/Install Mast Arm 16' - 36'	34 41 10	EA	2		
30	3441.1625 Furnish/Install Mast Arm 52' - 60'	34 41 10	EA	2		
31	3441.1701 TY 1 Signal Foundation	34 41 10	EA	5		
32	3441.1703 TY 3 Signal Foundation	34 41 10	EA	2		
33	3441.1705 TY 5 Signal Foundation	34 41 10	EA	2		
34	3441.1715 Signal Cabinet Foundation - 352i & BBU	34 41 10	EA	1		
36	3441.1741 Furnish/Install 352i Controller Cabinet Assembly	34 41 10	EA	1		
37	3441.1901 Powder Coat Sig Pole and MA 16' - 36'	34 41 10	EA	2		
38	3441.1903 Powder Coat Sig Pole and MA 52' - 60'	34 41 10	EA	2		
39	3441.1904 Powder Coat Ped Pole	34 41 10	EA	2		
40	3441.1905 Powder Coat Ped Pushbutton Pole	34 41 10	EA	3		
41	3441.3052 Furnish/Install LED Lighting Fixture (187 watt ATB2 Cobra Head)	34 41 20	EA	3		
42	3441.4001 Furnish/Install Alum Sign Mast Arm Mount	34 41 30	EA	10		
43	9999.0020 Opticom Detector Cable	99 99 20	LF	620		
44	9999.0021 PTZ Camera	99 99 21	EA	1		
45	9999.0022 PTZ Camera Cable	99 99 22	SY	95		
<b>TOTAL UNIT VI: TRAFFIC SIGNAL IMPROVEMENTS</b>						

Bid Summary

UNIT I: WATER IMPROVEMENTS	
UNIT II: SANITARY SEWER IMPROVEMENTS	
UNIT III: DRAINAGE IMPROVEMENTS	
UNIT IV: PAVING IMPROVEMENTS	
UNIT V: STREET LIGHTING IMPROVEMENTS	
UNIT VI: TRAFFIC SIGNAL IMPROVEMENTS	

**SECTION 00 42 43**  
Developer Awarded Projects - PROPOSAL FORM

IPRC21-0050

**UNIT PRICE BID - EAST BAILEY BOSWELL ROAD**

**Bidder's Application**

Project Item Information					Bidder's Proposal	
Bidlist Item No.	Description	Specification Section No.	Unit of Measure	Bid Quantity	Unit Price	Bid Value
<b>Total Construction Bid</b>						

**This Bid is submitted by the entity named below:**

**BIDDER:**

<Company Name Here>  
<Address Here>  
<Address Here or Blank>  
<City, State Zip Code Here>

**BY:** <Name of Principal Here>

<Signature Here>

**TITLE:** <Title Here>

**DATE:** <Date Here>

Contractor agrees to complete WORK for FINAL ACCEPTANCE within  
CONTRACT commences to run as provided in the General Conditions.

**243** working days after the date when the

END OF SECTION

**SECTION 00 43 13**  
**DAP - BID BOND**

**BY THESE PRESENTS:**

That we, \_\_\_\_\_ called the Principal, and \_\_\_\_\_ a corporation or firm duly authorized to transact surety business in the State of Texas, hereinafter called the Surety, are held and firmly bound unto the City, hereinafter called the Obligee, in the sum of \_\_\_\_\_ and No/100 Dollars said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firm by these presents.

WHEREAS the Principal has submitted a proposal to perform work for the following project of the Obligee identified as:

*East Bailey Boswell Road*

NOW, THEREFORE, if the Obligee shall award the Contract for the foregoing project to the Principal, and the Principal shall satisfy all requirements and conditions required for the execution of the Contract and shall enter into the Contract in writing with the Obligee in accordance with the terms of such proposal, then this bond shall be null and void. If the Principal fails to execute such Contract in accordance with the terms of such proposal or fails to satisfy all requirements and conditions required for the execution of the Contract in accordance with the proposal, this bond shall become the property of the Obligee, without recourse of the Principal and/or Surety, not to exceed the penalty hereof, and shall be used to compensate Obligee for the difference between Principal's Total Bid Amount and the next selected Bidder's Total Bid Amount.

SIGNED this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

By:

\_\_\_\_\_  
(Signature and Title of Principal)

By:

\_\_\_\_\_  
(Signature of Attorney-of-Fact)

\*Attach Power of Attorney (Surety) for Attorney-in-Fact

Impressed  
Surety Seal  
Only

**END OF SECTION**

## SECTION 00 45 11 BIDDERS PREQUALIFICATIONS

- 1. Summary.** All contractors are required to be prequalified by the City prior to submitting bids. To be eligible to bid the contractor must submit Section 00 45 12, Prequalification Statement for the work type(s) listed with their Bid. Any contractor or subcontractor who is not prequalified for the work type(s) listed must submit Section 00 45 13, Bidder Prequalification Application in accordance with the requirements below.

The prequalification process will establish a bid limit based on a technical evaluation and financial analysis of the contractor. The information must be submitted seven (7) days prior to the date of the opening of bids. For example, a contractor wishing to submit bids on projects to be opened on the 7th of April must file the information by the 31st day of March in order to bid on these projects. In order to expedite and facilitate the approval of a Bidder's Prequalification Application, the following must accompany the submission.

- a. A complete set of audited or reviewed financial statements.
    - (1) Classified Balance Sheet
    - (2) Income Statement
    - (3) Statement of Cash Flows
    - (4) Statement of Retained Earnings
    - (5) Notes to the Financial Statements, if any
  - b. A certified copy of the firm's organizational documents (Corporate Charter, Articles of Incorporation, Articles of Organization, Certificate of Formation, LLC Regulations, Certificate of Limited Partnership Agreement).
  - c. A completed Bidder Prequalification Application.
    - (1) The firm's Texas Taxpayer Identification Number as issued by the Texas Comptroller of Public Accounts. To obtain a Texas Taxpayer Identification number visit the Texas Comptroller of Public Accounts online at the following web address [www.window.state.tx.us/taxpermit/](http://www.window.state.tx.us/taxpermit/) and fill out the application to apply for your Texas tax ID.
    - (2) The firm's e-mail address and fax number.
    - (3) The firm's DUNS number as issued by Dun & Bradstreet. This number is used by the City for required reporting on Federal Aid projects. The DUNS number may be obtained at [www.dnb.com](http://www.dnb.com).
  - d. Resumes reflecting the construction experience of the principles of the firm for firms submitting their initial prequalification. These resumes should include the size and scope of the work performed.
  - e. Other information as requested by the City.
- 2. Prequalification Requirements**
- a. *Financial Statements.* Financial statement submission must be provided in accordance with the following:
    - (1) The City requires that the original Financial Statement or a certified copy be submitted for consideration.

- (2) To be satisfactory, the financial statements must be audited or reviewed by an independent, certified public accounting firm registered and in good standing in any state. Current Texas statutes also require that accounting firms performing audits or reviews on business entities within the State of Texas be properly licensed or registered with the Texas State Board of Public Accountancy.
  - (3) The accounting firm should state in the audit report or review whether the contractor is an individual, corporation, or limited liability company.
  - (4) Financial Statements must be presented in U.S. dollars at the current rate of exchange of the Balance Sheet date.
  - (5) The City will not recognize any certified public accountant as independent who is not, in fact, independent.
  - (6) The accountant's opinion on the financial statements of the contracting company should state that the audit or review has been conducted in accordance with auditing standards generally accepted in the United States of America. This must be stated in the accounting firm's opinion. It should: (1) express an unqualified opinion, or (2) express a qualified opinion on the statements taken as a whole.
  - (7) The City reserves the right to require a new statement at any time.
  - (8) The financial statement must be prepared as of the last day of any month, not more than one year old and must be on file with the City 16 months thereafter, in accordance with Paragraph 1.
  - (9) The City will determine a contractor's bidding capacity for the purposes of awarding contracts. Bidding capacity is determined by multiplying the positive net working capital (working capital = current assets – current liabilities) by a factor of 10. Only those statements reflecting a positive net working capital position will be considered satisfactory for prequalification purposes.
  - (10) In the case that a bidding date falls within the time a new financial statement is being prepared, the previous statement shall be updated with proper verification.
- b. *Bidder Prequalification Application.* A Bidder Prequalification Application must be submitted along with audited or reviewed financial statements by firms wishing to be eligible to bid on all classes of construction and maintenance projects. Incomplete Applications will be rejected.
- (1) In those schedules where there is nothing to report, the notation of "None" or "N/A" should be inserted.
  - (2) A minimum of five (5) references of related work must be provided.
  - (3) Submission of an equipment schedule which indicates equipment under the control of the Contractor and which is related to the type of work for which the Contractor is seeking prequalification. The schedule must include the manufacturer, model and general common description of each piece of equipment. Abbreviations or means of describing equipment other than provided above will not be accepted.

### **3. Eligibility to Bid**

- a. The City shall be the sole judge as to a contractor's prequalification.
- b. The City may reject, suspend, or modify any prequalification for failure by the contractor to demonstrate acceptable financial ability or performance.
- c. The City will issue a letter as to the status of the prequalification approval.

- d. If a contractor has a valid prequalification letter, the contractor will be eligible to bid the prequalified work types until the expiration date stated in the letter.

**END OF SECTION**

**SECTION 00 45 12**  
**DAP – PREQUALIFICATION STATEMENT**

Each Bidder is required to complete the information below by identifying the prequalified contractors and/or subcontractors whom they intend to utilize for the major work type(s) listed. In the “Major Work Type” box provide the complete major work type and actual description as provided by the Water Department for water and sewer and TPW for paving.

Major Work Type	Contractor/Subcontractor Company Name	Prequalification Expiration Date
Auger Boring – 24-inch diameter casing and less		
Water Distribution – Development, 12-inch diameter and smaller		
CCTV, 12-inches and smaller		
Sewer Collection System, Development, 12-inch diameter and smaller		
Sewer Interceptors, Development, 24-inches and smaller		
Concrete Paving Construction/Reconstruction (15,000 SY and Greater)		
Roadway and Pedestrian Lighting		

The undersigned hereby certifies that the contractors and/or subcontractors described in the table above are currently prequalified for the work types listed.

**BIDDER:**

BY:

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

TITLE:

DATE:

**END OF SECTION**



**SECTION 00 45 13**  
**BIDDER PREQUALIFICATION APPLICATION**

Date of Balance Sheet \_\_\_\_\_

Mark only one:

\_\_\_\_\_  
Name under which you wish to qualify

- Individual
- Limited Partnership
- General Partnership
- Corporation
- Limited Liability Company

\_\_\_\_\_  
Post Office Box                                      City                                      State                                      Zip Code

\_\_\_\_\_  
Street Address (required)                                      City                                      State                                      Zip Code

(    )                                      (    )  
\_\_\_\_\_  
Telephone                                      Fax                                      Email

Texas Taxpayer Identification No.

Federal Employers Identification No.

DUNS No. (if applicable)

MAIL THIS QUESTIONNAIRE ALONG WITH FINANCIAL STATEMENTS TO:  
CITY OF FORT WORTH TEXAS  
200 TEXAS STREET  
FORT WORTH, TEXAS 76102-6311  
AND MARK THE ENVELOPE: "BIDDER PREQUALIFICATION APPLICATION"



**BUSINESS CLASSIFICATION**

The following should be completed in order that we may properly classify your firm:

(Check the block(s) which are applicable – Block 3 is to be left blank if Block 1 and/or Block 2 is checked)

- Has fewer than 100 employees  
and/or
- Has less than \$6,000,000.00 in annual gross receipts

**OR**

- Does not meet the criteria for being designated a small business as provided in Section 2006.001 of the Texas Government Code.

The classification of your firm as a small or large business is not a factor in determining eligibility to become prequalified.

**MAJOR WORK CATEGORIES**

**Water Department**

- Augur Boring - 24-inch diameter casing and less
- Augur Boring - Greater than 24-inch diameter casing and greater
- Tunneling – 36-Inches – 60 –inches, and 350 LF or less
- Tunneling - 36-Inches – 60 –inches, and greater than 350 LF
- Tunneling – 66” and greater, 350 LF and greater
- Tunneling – 66” and greater, 350 LF or Less
- Cathodic Protection
- Water Distribution, Development, 8-inch diameter and smaller
- Water Distribution, Urban and Renewal, 8-inch diameter and smaller
- Water Distribution, Development, 12-inch diameter and smaller
- Water Distribution, Urban and Renewal, 12-inch diameter and smaller
- Water Transmission, Development, 24-inches and smaller
- Water Transmission, Urban/Renewal, 24-inches and smaller
- Water Transmission, Development, 42-inches and smaller
- Water Transmission, Urban/Renewal, 42-inches and smaller
- Water Transmission, Development, All Sizes
- Water Transmission, Urban/Renewal, All Sizes
- Sewer Bypass Pumping, 18-inches and smaller
- Sewer Bypass Pumping, 18-inches – 36-inches
- Sewer Bypass Pumping 42-inches and larger
- CCTV, 8-inches and smaller
- CCTV, 12-inches and smaller
- CCTV, 18-inches and smaller
- CCTV, 24-inches and smaller
- CCTV, 42-inches and smaller
- CCTV, 48-inches and smaller

**MAJOR WORK CATEGORIES, CONTINUED**

- Sewer CIPP, 12-inches and smaller
- Sewer CIPP, 24-inches and smaller
- Sewer CIPP, 42-inches and smaller
- Sewer CIPP, All Sizes
- Sewer Collection System, Development, 8-inches and smaller
- Sewer Collection System, Urban/Renewal, 8-inches and smaller
- Sewer Collection System, Development, 12-inches and smaller
- Sewer Collection System, Urban/Renewal, 12-inches and smaller
- Sewer Interceptors, Development, 24-inches and smaller
- Sewer Interceptors, Urban/Renewal, 24-inches and smaller
- Sewer Interceptors, Development, 42-inches and smaller
- Sewer Interceptors, Urban/Renewal, 42-inches and smaller
- Sewer Interceptors, Development, 48-inches and smaller
- Sewer Interceptors, Urban/Renewal, 48-inches and smaller
- Sewer Pipe Enlargement 12-inches and smaller
- Sewer Pipe Enlargement 24-inches and smaller
- Sewer Pipe Enlargement, All Sizes
- Sewer Cleaning , 24-inches and smaller
- Sewer Cleaning , 42-inches and smaller
- Sewer Cleaning , All Sizes
- Sewer Cleaning, 8-inches and smaller
- Sewer Cleaning, 12-inches and smaller
- Sewer Siphons 12-inches or less
- Sewer Siphons 24-inches or less
- Sewer Siphons 42-inches or less
- Sewer Siphons All Sizes

**Transportation Public Works**

- Asphalt Paving Construction/Reconstruction (LESS THAN 15,000 square yards)
- Asphalt Paving Construction/Reconstruction (15,000 square yards and GREATER)
- Asphalt Paving Heavy Maintenance (UNDER \$1,000,000)
- Asphalt Paving Heavy Maintenance (\$1,000,000 and OVER)
- Concrete Paving Construction/Reconstruction (LESS THAN 15,000 square yards)
- Concrete Paving Construction/Reconstruction (15,000 square yards and GREATER)
- Roadway and Pedestrian Lighting

1. List equipment you do not own but which is available by renting

DESCRIPTION OF EQUIPMENT	NAME AND DETAILED ADDRESS OF OWNER

2. How many years has your organization been in business as a general contractor under your present name? \_\_\_\_\_

List previous business names: \_\_\_\_\_

3. How many years of experience in \_\_\_\_\_ construction work has your organization had:

(a) As a General Contractor: \_\_\_\_\_ (b) As a Sub-Contractor: \_\_\_\_\_

4. \*What projects has your organization completed in Texas and elsewhere?

CONTRACT AMOUNT	CLASS OF WORK	DATE COMPLETED	LOCATION CITY-COUNTY-STATE	NAME AND DETAILED ADDRESS OF OFFICIAL TO WHOM YOU REFER

\*If requalifying only show work performed since last statement.

5. Have you ever failed to complete any work awarded to you? \_\_\_\_\_

If so, where and why? \_\_\_\_\_

6. Has any officer or owner of your organization ever been an officer of another organization that failed to complete a contract? \_\_\_\_\_

If so, state the name of the individual, other organization and reason. \_\_\_\_\_

7. Has any officer or owner of your organization ever failed to complete a contract executed in his/her name? \_\_\_\_\_

If so, state the name of the individual, name of owner and reason. \_\_\_\_\_

8. In what other lines of business are you financially interested? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

9. Have you ever performed any work for the City? \_\_\_\_\_  
 If so, when and to whom do you refer? \_\_\_\_\_

10. State names and detailed addresses of all producers from whom you have purchased principal materials during the last three years.

NAME OF FIRM OR COMPANY	DETAILED ADDRESS

11. Give the names of any affiliates or relatives currently debarred by the City. Indicate your relationship to this person or firm. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

12. What is the construction experience of the principal individuals in your organization?

NAME	PRESENT POSITION OR OFFICE	YEARS OF EXPERIENCE	MAGNITUDE AND TYPE OF WORK	IN WHAT CAPACITY

13. If any owner, officer, director, or stockholder of your firm is an employee of the City, or shares the same household with a City employee, please list the name of the City employee and the relationship. In addition, list any City employee who is the spouse, child, or parent of an owner, officer, stockholder, or director who does not live in the same household but who receives care and assistance from that person as a direct result of a documented medical condition. This includes foster children or those related by adoption or marriage. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<b>CORPORATION BLOCK</b>	<b>PARTNERSHIP BLOCK</b>
<b>If a corporation:</b>	<b>If a partnership:</b>
Date of Incorporation _____	State of Organization _____
Charter/File No. _____	Date of organization _____
President _____	Is partnership general, limited, or registered limited liability partnership?
Vice Presidents _____	File No. (if Limited Partnership) _____
	General Partners/Officers
Secretary _____	Limited Partners (if applicable)
Treasurer _____	
<b>LIMITED LIABILITY COMPANY BLOCK</b>	
<b>If a corporation:</b>	
State of Incorporation _____	
Date of organization _____	
File No. _____	Individuals authorized to sign for Partnership
Officers or Managers (with titles, if any) _____	

**Except for limited partners, the individuals listed in the blocks above are presumed to have full signature authority for your firm unless otherwise advised. Should you wish to grant signature authority for additional individuals, please attach a certified copy of the corporate resolution, corporate minutes, partnership agreement, power of attorney or other legal documentation which grants this authority.**

14. Equipment

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

			<b>TOTAL</b>
ITEM	QUANTITY	ITEM DESCRIPTION	BALANCE SHEET VALUE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
		Various-	
		<b>TOTAL</b>	

Similar types of equipment may be lumped together. If your firm has more than 30 types of equipment, you may show these 30 types and show the remainder as "various". The City, by allowing you to show only 30 types of equipment, reserves the right to request a complete, detailed list of all your equipment.

The equipment list is a representation of equipment under the control of the firm and which is related to the type of work for which the firm is seeking qualification. In the description include, the manufacturer, model, and general common description of each.

**BIDDER PREQUALIFICATION AFFIDAVIT**

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

The undersigned hereby declares that the foregoing is a true statement of the financial condition of the entity herein first named, as of the date herein first given; that this statement is for the express purpose of inducing the party to whom it is submitted to award the submitter a contract; and that the accountant who prepared the balance sheet accompanying this report as well as any depository, vendor or any other agency herein named is hereby authorized to supply each party with any information, while this statement is in force, necessary to verify said statement.

\_\_\_\_\_, being duly sworn, deposes and says that he/she is the \_\_\_\_\_ of \_\_\_\_\_, the entity described in and which executed the foregoing statement that he/she is familiar with the books of the said entity showing its financial condition; that the foregoing financial statement taken from the books of the said entity as of the date thereof and that the answers to the questions of the foregoing Bidder Prequalification Application are correct and true as of the date of this affidavit.

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

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

Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

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

**Notary Public must not be an officer, director, or stockholder or relative thereof.**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40

**SECTION 00 45 26**

**CONTRACTOR COMPLIANCE WITH WORKER'S COMPENSATION LAW**

Pursuant to Texas Labor Code Section 406.096(a), as amended, Contractor certifies that it provides worker's compensation insurance coverage for all of its employees employed on City Project No. 103320 Contractor further certifies that, pursuant to Texas Labor Code, Section 406.096(b), as amended, it will provide to City its subcontractor's certificates of compliance with worker's compensation coverage.

**CONTRACTOR:**

\_\_\_\_\_  
Company By: \_\_\_\_\_  
(Please Print)

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

\_\_\_\_\_  
City/State/Zip Title: \_\_\_\_\_  
(Please Print)

THE STATE OF TEXAS §

COUNTY OF TARRANT §

BEFORE ME, the undersigned authority, on this day personally appeared \_\_\_\_\_, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed the same as the act and deed of \_\_\_\_\_ for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public in and for the State of Texas

**END OF SECTION**





**These forms can be found on-line at:**

Business Equity Utilization Form

<https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60%20-%20MWBE%20NEW%20Business%20Equity%20Ordinance%20Business%20Equity%20Utilization%20Form.pdf>

Business Equity Prime Contractor Waiver Form

<https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60%20-%20MWBE/NEW%20Business%20Equity%20Ordinance/Business%20Equity%20Prime%20Contractor%20Waiver.pdf>

Business Equity Good Faith Effort Form

<https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60%20-%20MWBE/NEW%20Business%20Equity%20Ordinance/Business%20Equity%20Good%20Faith%20Effort%20Form.pdf>

Business Equity Joint Venture Form

<https://apps.fortworthtexas.gov/ProjectResources/ResourcesP/60%20-%20MWBE/NEW%20Business%20Equity%20Ordinance/Business%20Equity%20Joint%20Venture.pdf>

**FAILURE TO COMPLY WITH THE CITY'S BUSINESS EQUITY ORDINANCE WILL RESULT IN THE BID BEING CONSIDERED NON-RESPONSIVE TO SPECIFICATIONS.**

**FAILURE TO SUBMIT THE REQUIRED BUSINESS EQUITY DOCUMENTATION WILL RESULT IN THE BID BEING CONSIDERED NON-RESPONSIVE. A SECOND FAILURE WILL RESULT IN THE OFFEROR BEING DISQUALIFIED FOR A PERIOD OF ONE YEAR. THREE FAILURES IN A FIVE YEAR PERIOD WILL RESULT IN A DISQUALIFICATION PERIOD OF THREE YEARS.**

**Any Questions, Please Contact The Business Equity Division at (817) 392-2674.**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
6/2/2021	Patrick Buckley	Adding Business Equity to City's participation for Developer led projects.

**SECTION 00 52 43**  
**AGREEMENT**

**THIS AGREEMENT**, authorized on \_\_\_\_\_ is made by and between the Developer, Cow Town Owner, L.L.C, authorized to do business in Texas (“Developer”) , and \_\_\_\_\_, authorized to do business in Texas, acting by and through its duly authorized representative, (“Contractor”).

Developer 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 for the Project identified herein.

**Article 2. PROJECT**

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

*East Bailey Boswell Road*  
*City Project Number 103320*

**Article 3. CONTRACT TIME**

3.1 Time is of the essence.

All time limits for Milestones, if any, and Final Acceptance as stated in the Contract Documents are of the essence to this Contract. Milestones are listed in Section 01 11 00 Summary of Work.

3.2 Final Acceptance.

The Work will be complete for Final Acceptance within **243** working days after the date when the Contract Time commences to run as provided in Paragraph 12.04 of the Standard City Conditions of the Construction Contract for Developer Awarded Projects.

3.3 Liquidated damages

Contractor recognizes that time is of the essence of this Agreement and that Developer will suffer financial loss if the Work is not completed within the times specified in Paragraph 3.2 above, plus any extension thereof allowed in accordance with Article 10 of the Standard City Conditions of the Construction Contract for Developer Awarded Projects. The Contractor also recognizes the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by the Developer if the Work is not completed on time. Accordingly, instead of requiring any such proof , Contractor agrees that as liquidated damages for delay (but not as a penalty), Contractor shall pay Developer fifteen hundred Dollars (\$1,500.00) for each day that expires after the time specified in Paragraph 3.2 for Final Acceptance until the City issues the Final Letter of Acceptance.

38 **Article 4. CONTRACT PRICE**

39 Developer agrees to pay Contractor for performance of the Work in accordance with the Contract  
40 Documents an amount in current funds of \_\_\_\_\_ Dollars  
41 (\$\_\_\_\_\_).

42 **Article 5. CONTRACT DOCUMENTS**

43 5.1 CONTENTS:

- 44 A. The Contract Documents which comprise the entire agreement between Developer and  
45 Contractor concerning the Work consist of the following:
- 46 1. This Agreement.
  - 47 2. Attachments to this Agreement:
    - 48 a. Bid Form (As provided by Developer)
    - 49 1) Proposal Form (DAP Version)
    - 50 2) Prequalification Statement
    - 51 3) State and Federal documents (*project specific*)
    - 52 b. Insurance ACORD Form(s)
    - 53 c. Payment Bond (DAP Version)
    - 54 d. Performance Bond (DAP Version)
    - 55 e. Maintenance Bond (DAP Version)
    - 56 f. Power of Attorney for the Bonds
    - 57 g. Worker’s Compensation Affidavit
    - 58 h. Business Equity Specifications
  - 59 3. Standard City General Conditions of the Construction Contract for Developer  
60 Awarded Projects.
  - 61 4. Supplementary Conditions.
  - 62 5. Specifications specifically made a part of the Contract Documents by attachment  
63 or, if not attached, as incorporated by reference and described in the Table of  
64 Contents of the Project’s Contract Documents.
  - 65 6. Drawings.
  - 66 7. Addenda.
  - 67 8. Documentation submitted by Contractor prior to Notice of Award.
  - 68 9. The following which may be delivered or issued after the Effective Date of the  
69 Agreement and, if issued, become an incorporated part of the Contract Documents:
    - 70 a. Notice to Proceed.
    - 71 b. Field Orders.
    - 72 c. Change Orders.
    - 73 d. Letter of Final Acceptance.
    - 74
    - 75

76 **Article 6. INDEMNIFICATION**

77 **6.1 Contractor covenants and agrees to indemnify, hold harmless and defend, at its own**  
78 **expense, the city, its officers, servants and employees, from and against any and all**  
79 **claims arising out of, or alleged to arise out of, the work and services to be performed**  
80 **by the contractor, its officers, agents, employees, subcontractors, licenses or invitees**  
81 **under this contract. This indemnification provision is specifically intended to operate**  
82 **and be effective even if it is alleged or proven that all or some of the damages being**  
83 **sought were caused, in whole or in part, by any act, omission or negligence of the city.**  
84 **This indemnity provision is intended to include, without limitation, indemnity for**  
85 **costs, expenses and legal fees incurred by the city in defending against such claims and**  
86 **causes of actions.**

87  
88 **6.2 Contractor covenants and agrees to indemnify and hold harmless, at its own expense,**  
89 **the city, its officers, servants and employees, from and against any and all loss, damage**  
90 **or destruction of property of the city, arising out of, or alleged to arise out of, the work**  
91 **and services to be performed by the contractor, its officers, agents, employees,**  
92 **subcontractors, licensees or invitees under this contract. This indemnification**  
93 **provision is specifically intended to operate and be effective even if it is alleged or**  
94 **proven that all or some of the damages being sought were caused, in whole or in part,**  
95 **by any act, omission or negligence of the city**

96  
97 **6.3 To the fullest extent permitted by applicable law, Contractor agrees to indemnify,**  
98 **defend and hold harmless Developer, Transwestern Development Company and the**  
99 **development manager (collectively, the foregoing are referred to as “Developer**  
100 **Parties”); and each of their respective affiliated companies, partners, successors,**  
101 **assigns, heirs, legal representatives, devisees, officers, directors, shareholders,**  
102 **employees, consultants and agents, now existing or which may hereafter exist, (herein**  
103 **collectively “Indemnitees”) for, from and against any and all claims, liabilities, suits,**  
104 **actions, legal proceedings, awards, judgments, damages, fines, penalties, losses, costs**  
105 **and expenses, including attorneys’ fees (whether or not suit is filed) and costs and**  
106 **expenses of litigation and of investigation (collectively “Losses and Liabilities”) to the**  
107 **extent caused by or resulting from the negligence of, fault of, or breach of this**  
108 **Contract by Contractor, any Subcontractor, anyone directly or indirectly employed by**  
109 **either the Contractor or Subcontractor, or anyone that the Contractor or**  
110 **Subcontractor control or exercise control.**

111 **6.4 In claims against any person or entity indemnified under this Section 6.4 by an**  
112 **employee of the Contractor, a Subcontractor, anyone directly or indirectly employed**  
113 **by them or anyone for whose acts they may be liable, the indemnification obligation**  
114 **under Section 6.4 shall not be limited by a limitation on amount or type of damages,**  
115 **compensation or benefits payable by or for the Contractor or a Subcontractor under**  
116 **workers’ compensation acts, disability benefit acts or other employee benefit acts.**  
117 **Without intending to limit the scope of liabilities in any way, and to the extent**  
118 **permitted by applicable law, the Contractor expressly waives its immunity under the**  
119 **applicable worker’s compensation statute in connection with any indemnitee’s claim**  
120 **for indemnification under this Section 6.4.**

121

122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163

**Article 7. MISCELLANEOUS**

7.1 Terms.

Terms used in this Agreement are defined in Article 1 of the Standard City Conditions of the Construction Contract for Developer Awarded Projects.

7.2 Assignment of Contract.

This Agreement, including all of the Contract Documents may not be assigned by the Contractor without the advanced express written consent of the Developer.

7.3 Successors and Assigns.

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

7.4 Severability.

Any provision or part of the Contract Documents held to be unconstitutional, void or unenforceable by a court of competent jurisdiction shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon DEVELOPER and CONTRACTOR.

7.5 Governing Law and Venue.

This Agreement, including all of the Contract Documents is performable in the State of Texas. Venue shall be Tarrant County, Texas, or the United States District Court for the Northern District of Texas, Fort Worth Division.

7.6 Authority to Sign.

Contractor shall attach evidence of authority to sign Agreement, if other than duly authorized signatory of the Contractor.

IN WITNESS WHEREOF, Developer and Contractor have executed this Agreement in multiple counterparts.

This Agreement is effective as of the last date signed by the Parties (“Effective Date”).

Contractor:  
\_\_\_\_\_

Developer:  
*Cow Town Owner, L.L.C.*  
\_\_\_\_\_

By:  
\_\_\_\_\_  
(Signature)

By:  
\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
\_\_\_\_\_  
(Printed Name)

Title:  
Company Name:  
Address:  
\_\_\_\_\_  
\_\_\_\_\_

Title:  
Company name:  
Address:  
\_\_\_\_\_  
\_\_\_\_\_

City/State/Zip:  
\_\_\_\_\_

City/State/Zip:  
\_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

164

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30

**SECTION 00 61 25**  
CERTIFICATE OF INSURANCE

**END OF SECTION**



**SECTION 00 62 13**  
**PERFORMANCE BOND**

**THE STATE OF TEXAS**                    §  
   §            **KNOW ALL BY THESE PRESENTS:**  
**COUNTY OF TARRANT**                §

That we, \_\_\_\_\_, known as “Principal” herein and \_\_\_\_\_, a corporate surety(sureties, if more than one) duly authorized to do business in the State of Texas, known as “Surety” herein (whether one or more), are held and firmly bound unto the Developer, Cow Town Owner, L.L.C., authorized to do business in Texas (“Developer”) and the City of Fort Worth, a Texas municipal corporation (“City”), in the penal sum of, \_\_\_\_\_ Dollars (\$\_\_\_\_\_), lawful money of the United States, to be paid in Fort Worth, Tarrant County, Texas for the payment of which sum well and truly to be made jointly unto the Developer and the City as dual obligees, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, Developer and City have entered into an Agreement for the construction of community facilities in the City of Fort Worth by and through a Community Facilities Agreement, CFA Number CFA21-0088 and

**WHEREAS**, the Principal has entered into a certain written contract with the Developer awarded the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, which Contract is hereby referred to and made a part hereof for all purposes as if fully set forth herein, to furnish all materials, equipment labor and other accessories defined by law, in the prosecution of the Work, including any Change Orders, as provided for in said Contract designated as *East Bailey Boswell Road*.

**NOW, THEREFORE**, the condition of this obligation is such that if the said Principal shall faithfully perform it obligations under the Contract and shall in all respects duly and faithfully perform the Work, including Change Orders, under the Contract, according to the plans, specifications, and contract documents therein referred to, and as well during any period of extension of the Contract that may be granted on the part of the Developer and/or City, then this obligation shall be and become null and 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 Tarrant County, Texas or the United States District Court for the Northern District of Texas, Fort Worth Division.

1 This bond is made and executed in compliance with the provisions of Chapter 2253 of the Texas  
2 Government Code, as amended, and all liabilities on this bond shall be determined in accordance with the  
3 provisions of said statute.

4 **IN WITNESS WHEREOF**, the Principal and the Surety have SIGNED and SEALED this  
5 instrument by duly authorized agents and officers on this the \_\_\_\_\_ day of \_\_\_\_\_  
6 \_\_\_\_\_, 20\_\_\_\_.

7 PRINCIPAL:  
8 \_\_\_\_\_  
9 \_\_\_\_\_

10 BY: \_\_\_\_\_  
11 Signature

12 ATTEST:  
13 \_\_\_\_\_  
14 (Principal) Secretary

15 \_\_\_\_\_  
16 Name and Title

17 Address: \_\_\_\_\_  
18 \_\_\_\_\_  
19 \_\_\_\_\_

20 \_\_\_\_\_  
21 Witness as to Principal

22 SURETY:  
23 \_\_\_\_\_  
24 \_\_\_\_\_

25 BY: \_\_\_\_\_  
26 Signature

27 \_\_\_\_\_  
28 Name and Title

29 Address: \_\_\_\_\_  
30 \_\_\_\_\_  
31 \_\_\_\_\_

32 \_\_\_\_\_  
33 Witness as to Surety

34 Telephone Number: \_\_\_\_\_

35 \*Note: If signed by an officer of the Surety Company, there must be on file a certified extract from the  
36 by-laws showing that this person has authority to sign such obligation. If Surety's physical  
37 address is different from its mailing address, both must be provided.

38 The date of the bond shall not be prior to the date the Contract is awarded.



1 This bond is made and executed in compliance with the provisions of Chapter 2253 of the  
2 Texas Government Code, as amended, and all liabilities on this bond shall be determined in  
3 accordance with the provisions of said statute.

4 **IN WITNESS WHEREOF**, the Principal and Surety have each SIGNED and SEALED  
5 this instrument by duly authorized agents and officers on this the \_\_\_\_\_ day of  
6 \_\_\_\_\_, 20 \_\_\_\_.

7

PRINCIPAL:

\_\_\_\_\_  
\_\_\_\_\_

ATTEST:

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

\_\_\_\_\_  
(Principal) Secretary

\_\_\_\_\_  
Name and Title

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

\_\_\_\_\_  
Witness as to Principal

SURETY:

\_\_\_\_\_  
\_\_\_\_\_

ATTEST:

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

\_\_\_\_\_  
(Surety) Secretary

\_\_\_\_\_  
Name and Title

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

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

Telephone Number: \_\_\_\_\_

8

9 Note: If signed by an officer of the Surety, there must be on file a certified extract from the  
10 bylaws showing that this person has authority to sign such obligation. If Surety's physical  
11 address is different from its mailing address, both must be provided.

12

13 The date of the bond shall not be prior to the date the Contract is awarded.

14

**END OF SECTION**



1           **WHEREAS**, Principal binds itself to repair or reconstruct the Work in whole or in part  
2 upon receiving notice from the Developer and/or City of the need thereof at any time within the  
3 Maintenance Period.

4  
5           **NOW THEREFORE**, the condition of this obligation is such that if Principal shall  
6 remedy any defective Work, for which timely notice was provided by Developer or City, to a  
7 completion satisfactory to the City, then this obligation shall become null and void; otherwise to  
8 remain in full force and effect.

9  
10           **PROVIDED, HOWEVER**, if Principal shall fail so to repair or reconstruct any timely  
11 noticed defective Work, it is agreed that the Developer or City may cause any and all such  
12 defective Work to be repaired and/or reconstructed with all associated costs thereof being borne  
13 by the Principal and the Surety under this Maintenance Bond; and

14  
15           **PROVIDED FURTHER**, that if any legal action be filed on this Bond, venue shall lie in  
16 Tarrant County, Texas or the United States District Court for the Northern District of Texas, Fort  
17 Worth Division; and

18  
19           **PROVIDED FURTHER**, that this obligation shall be continuous in nature and  
20 successive recoveries may be had hereon for successive breaches.

21  
22  
23

1 **IN WITNESS WHEREOF**, the Principal and the Surety have each SIGNED and SEALED this  
2 instrument by duly authorized agents and officers on this the \_\_\_\_\_ day of \_\_\_\_\_  
3 \_\_\_\_\_, 20\_\_\_\_.

4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42

PRINCIPAL:  
\_\_\_\_\_  
\_\_\_\_\_

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

ATTEST:  
\_\_\_\_\_  
(Principal) Secretary

\_\_\_\_\_  
Name and Title  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Witness as to Principal

SURETY:  
\_\_\_\_\_  
\_\_\_\_\_

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

ATTEST:  
\_\_\_\_\_  
(Surety) Secretary

\_\_\_\_\_  
Name and Title  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

Telephone Number: \_\_\_\_\_

\*Note: If signed by an officer of the Surety Company, there must be on file a certified extract from the by-laws showing that this person has authority to sign such obligation. If Surety's physical address is different from its mailing address, both must be provided.

The date of the bond shall not be prior to the date the Contract is awarded.



# AIA<sup>®</sup> Document A201<sup>®</sup> – 2017

## General Conditions of the Contract for Construction

### for the following PROJECT:

*(Name and location or address)*

North Cowtown Crossing – Buildings 1, 2 and 3  
Fort Worth, Texas

### THE OWNER:

*(Name, legal status and address)*

Cow Town, LLC, a Delaware limited liability company  
2300 North Field Street, Suite 2000  
Dallas, Texas 75201  
(972) 774-2500

### THE ARCHITECT:

*(Name, legal status and address)*

Alliance Architects, Inc.  
1600 H. Collins Boulevard, Suite 1000  
Richard, Texas 75080  
(972) 233-0400

#27232023 v.2

### ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503<sup>™</sup>, Guide for Supplementary Conditions.

Init.

/



## TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
3	CONTRACTOR
4	ARCHITECT
5	SUBCONTRACTORS
6	CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7	CHANGES IN THE WORK
8	TIME
9	PAYMENTS AND COMPLETION
10	PROTECTION OF PERSONS AND PROPERTY
11	INSURANCE AND BONDS
12	UNCOVERING AND CORRECTION OF WORK
13	MISCELLANEOUS PROVISIONS
14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES

## INDEX

(Topics and numbers in bold are Section headings.)

### Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3

### Access to Work

**3.16**, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,  
10.2.8, 13.3.2, 14.1, 15.1.2, 15.2

Addenda

1.1.1

Additional Costs, Claims for

3.7.4, 3.7.5, 10.3.2, 15.1.5

### Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.4**

### Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.6**

### Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

### Allowances

**3.8**

### Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.5.4, 9.6.3, 9.7, 9.10

Approvals

2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9,  
3.12.10.1, 4.2.7, 9.3.2, 13.4.1

### Arbitration

8.3.1, 15.3.2, **15.4**

## ARCHITECT

**4**

Architect, Definition of

#### 4.1.1

Architect, Extent of Authority

2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2,  
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,  
13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1

Architect, Limitations of Authority and Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3,  
4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4, 9.4.2,  
9.5.4, 9.6.4, 15.1.4, 15.2

Architect's Additional Services and Expenses

2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,  
7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,  
13.4.2, 15.2

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.4

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,  
3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16,  
3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,  
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.6.8, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

### Award of Subcontracts and Other Contracts for Portions of the Work

**5.2**

### Basic Definitions

**1.1**

Bidding Requirements

1.1.1

Binding Dispute Resolution

8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5,  
15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1

Bonds, Lien

7.3.4.4, 9.6.8, 9.10.2, 9.10.3

### Bonds, Performance, and Payment

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**, 11.1.3, **11.5**

### Building Information Models Use and Reliance

**1.8**

Building Permit

3.7.1

### Capitalization

**1.3**

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Init.

/

**AIA Document A201® – 2017.** Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. The "American Institute of Architects," "AIA," the AIA Logo, "A201," and "AIA Contract Documents" are registered trademarks and may not be used without permission. This document was produced by AIA software at 15:40:13 ET on 08/06/2021 under Order No.9817765449 which expires on 03/01/2022, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail [copyright@aia.org](mailto:copyright@aia.org).

**User Notes:**

(1196582995)

## **Certificates for Payment**

4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4

Certificates of Inspection, Testing or Approval  
13.4.4

Certificates of Insurance  
9.10.2

## **Change Orders**

1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3, 7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2

**Change Orders**, Definition of

### **7.2.1**

## **CHANGES IN THE WORK**

2.2.2, 3.11, 4.2.8, **7**, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1, 11.5

**Claims**, Definition of

### **15.1.1**

Claims, Notice of  
1.6.2, 15.1.3

## **CLAIMS AND DISPUTES**

3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4  
Claims and Timely Assertion of Claims

15.4.1

### **Claims for Additional Cost**

3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, **15.1.5**

### **Claims for Additional Time**

3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, **15.1.6**

### **Concealed or Unknown Conditions, Claims for**

3.7.4  
Claims for Damages

3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3, 11.3.2, 14.2.4, 15.1.7

Claims Subject to Arbitration  
15.4.1

## **Cleaning Up**

**3.15**, 6.3

Commencement of the Work, Conditions Relating to  
2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3, 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, **15.1.5**

**Commencement of the Work**, Definition of  
**8.1.2**

## **Communications**

3.9.1, **4.2.4**

Completion, Conditions Relating to

3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1, 9.10, 12.2, 14.1.2, 15.1.2

## **COMPLETION, PAYMENTS AND**

**9**

Completion, Substantial

3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2

Compliance with Laws

2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions

3.7.4, 4.2.8, 8.3.1, 10.3

Conditions of the Contract

1.1.1, 6.1.1, 6.1.4

Consent, Written

3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2, 15.4.4.2

## **Consolidation or Joinder**

### **15.4.4**

## **CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

1.1.4, **6**

**Construction Change Directive**, Definition of  
**7.3.1**

### **Construction Change Directives**

1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, **7.3**, 9.3.1.1

Construction Schedules, Contractor's

3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

### **Contingent Assignment of Subcontracts**

**5.4**, 14.2.2.2

### **Continuing Contract Performance**

**15.1.4**

**Contract**, Definition of

### **1.1.2**

## **CONTRACT, TERMINATION OR SUSPENSION OF THE**

5.4.1.1, 5.4.2, 11.5, **14**

Contract Administration

3.1.3, 4, 9.4, 9.5

Contract Award and Execution, Conditions Relating to

3.7.1, 3.10, 5.2, 6.1

Contract Documents, Copies Furnished and Use of  
1.5.2, 2.3.6, 5.3

**Contract Documents**, Definition of

### **1.1.1**

### **Contract Sum**

2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4, **9.1**, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2, 12.3, 14.2.4, 14.3.2, 15.1.4.2, **15.1.5**, **15.2.5**

**Contract Sum**, Definition of

### **9.1**

Contract Time

1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5, 7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7.3.10, 7.4, 8.1.1, 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2, 14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5

**Contract Time**, Definition of

### **8.1.1**

## **CONTRACTOR**

**3**

Contractor, Definition of

### **3.1**, **6.1.2**

### **3**

Contractor, Definition of

### **3.1**, **6.1.2**

**Contractor's Construction and Submittal Schedules**

**3.10**, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2

Init.

/

Contractor's Employees  
2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2,  
10.3, 11.3, 14.1, 14.2.1.1

### **Contractor's Liability Insurance**

#### **11.1**

Contractor's Relationship with Separate Contractors  
and Owner's Forces

3.12.5, 3.14.2, 4.2.4, 6, 11.3, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 2.2.4, 3.3.2, 3.18.1, 3.18.2, 4.2.4, 5, 9.6.2, 9.6.7,  
9.10.2, 11.2, 11.3, 11.4

Contractor's Relationship with the Architect

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,  
3.5.1, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.2, 5.2, 6.2.2,  
7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3,  
11.3, 12, 13.4, 15.1.3, 15.2.1

Contractor's Representations

3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the  
Work

3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents

3.2

Contractor's Right to Stop the Work

2.2.2, 9.7

Contractor's Right to Terminate the Contract

14.1

Contractor's Submittals

3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2,  
9.8.3, 9.9.1, 9.10.2, 9.10.3

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction

Procedures

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3,  
7.3.4, 7.3.6, 8.2, 10, 12, 14, 15.1.4

Coordination and Correlation

1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications

1.5, 2.3.6, 3.11

Copyrights

1.5, **3.17**

Correction of Work

2.5, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, **12.2**, 12.3,  
15.1.3.1, 15.1.3.2, 15.2.1

**Correlation and Intent of the Contract Documents**

**1.2**

**Cost**, Definition of

**7.3.4**

Costs

2.5, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3,  
7.3.3.3, 7.3.4, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.2,  
12.1.2, 12.2.1, 12.2.4, 13.4, 14

**Cutting and Patching**

**3.14**, 6.2.5

Damage to Construction of Owner or Separate  
Contractors

3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4

Damage to the Work

3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4

Damages, Claims for

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2,  
11.3, 14.2.4, 15.1.7

Damages for Delay

6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2

**Date of Commencement of the Work**, Definition of

**8.1.2**

**Date of Substantial Completion**, Definition of

**8.1.3**

**Day**, Definition of

**8.1.4**

Decisions of the Architect

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4,  
7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2,  
14.2.2, 14.2.4, 15.1, 15.2

**Decisions to Withhold Certification**

9.4.1, **9.5**, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance,  
Rejection and Correction of

2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3,  
9.10.4, 12.2.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1,  
6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1

**Delays and Extensions of Time**

**3.2**, **3.7.4**, 5.2.3, 7.2.1, 7.3.1, **7.4**, **8.3**, 9.5.1, **9.7**,  
10.3.2, **10.4**, 14.3.2, **15.1.6**, 15.2.5

**Digital Data Use and Transmission**

**1.7**

Disputes

6.3, 7.3.9, 15.1, 15.2

**Documents and Samples at the Site**

**3.11**

**Drawings**, Definition of

**1.1.5**

Drawings and Specifications, Use and Ownership of

3.11

Effective Date of Insurance

8.2.2

**Emergencies**

**10.4**, 14.1.1.2, **15.1.5**

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2,  
10.3.3, 11.3, 14.1, 14.2.1.1

Equipment, Labor, or Materials

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,  
4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3,  
9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Execution and Progress of the Work

1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1,  
3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1,  
9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4

Extensions of Time  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,  
10.4, 14.3, 15.1.6, **15.2.5**

#### **Failure of Payment**

9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

Faulty Work

(See Defective or Nonconforming Work)

#### **Final Completion and Final Payment**

4.2.1, 4.2.9, 9.8.2, **9.10**, 12.3, 14.2.4, 14.4.3

Financial Arrangements, Owner's

2.2.1, 13.2.2, 14.1.1.4

### **GENERAL PROVISIONS**

#### **1**

#### **Governing Law**

##### **13.1**

Guarantees (See Warranty)

#### **Hazardous Materials and Substances**

10.2.4, **10.3**

Identification of Subcontractors and Suppliers

5.2.1

#### **Indemnification**

3.17, **3.18**, 9.6.8, 9.10.2, 10.3.3, 11.3

#### **Information and Services Required of the Owner**

2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5,

9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2,

14.1.1.4, 14.1.4, 15.1.4

#### **Initial Decision**

##### **15.2**

#### **Initial Decision Maker, Definition of**

1.1.8

Initial Decision Maker, Decisions

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Initial Decision Maker, Extent of Authority

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

#### **Injury or Damage to Person or Property**

**10.2.8**, 10.4

Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,

9.9.2, 9.10.1, 12.2.1, 13.4

Instructions to Bidders

1.1.1

Instructions to the Contractor

3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2

#### **Instruments of Service, Definition of**

##### **1.1.7**

Insurance

6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5, **11**

Insurance, Notice of Cancellation or Expiration

11.1.4, 11.2.3

#### **Insurance, Contractor's Liability**

##### **11.1**

Insurance, Effective Date of

8.2.2, 14.4.2

#### **Insurance, Owner's Liability**

##### **11.2**

#### **Insurance, Property**

**10.2.5**, 11.2, 11.4, 11.5

Insurance, Stored Materials

9.3.2

### **INSURANCE AND BONDS**

#### **11**

Insurance Companies, Consent to Partial Occupancy

9.9.1

Insured loss, Adjustment and Settlement of

11.5

Intent of the Contract Documents

1.2.1, 4.2.7, 4.2.12, 4.2.13

#### **Interest**

##### **13.5**

#### **Interpretation**

1.1.8, 1.2.3, **1.4**, 4.1.1, 5.1, 6.1.2, 15.1.1

Interpretations, Written

4.2.11, 4.2.12

Judgment on Final Award

15.4.2

#### **Labor and Materials, Equipment**

1.1.3, 1.1.6, **3.4**, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,

5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1,

10.2.4, 14.2.1.1, 14.2.1.2

Labor Disputes

8.3.1

Laws and Regulations

1.5, 2.3.2, 3.2.3, 3.2.4, 3.6, 3.7, 3.12.10, 3.13, 9.6.4,

9.9.1, 10.2.2, 13.1, 13.3.1, 13.4.2, 13.5, 14, 15.2.8,

15.4

Liens

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Limitations, Statutes of

12.2.5, 15.1.2, 15.4.1.1

Limitations of Liability

3.2.2, 3.5, 3.12.10, 3.12.10.1, 3.17, 3.18.1, 4.2.6,

4.2.7, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.6.8, 10.2.5, 10.3.3,

11.3, 12.2.5, 13.3.1

Limitations of Time

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,

5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,

9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15,

15.1.2, 15.1.3, 15.1.5

#### **Materials, Hazardous**

10.2.4, **10.3**

Materials, Labor, Equipment and

1.1.3, 1.1.6, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,

5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2,

10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2

Means, Methods, Techniques, Sequences and

Procedures of Construction

3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

#### **Mediation**

8.3.1, 15.1.3.2, 15.2.1, 15.2.5, 15.2.6, **15.3**, 15.4.1,

15.4.1.1

#### **Minor Changes in the Work**

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1, **7.4**

Init.

/

## MISCELLANEOUS PROVISIONS

### 13

#### Modifications, Definition of

##### 1.1.1

#### Modifications to the Contract

1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2

#### Mutual Responsibility

### 6.2

#### Nonconforming Work, Acceptance of

9.6.6, 9.9.3, **12.3**

Nonconforming Work, Rejection and Correction of  
2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2

#### Notice

**1.6**, 1.6.1, 1.6.2, 2.1.2, 2.2.2., 2.2.3, 2.2.4, 2.5, 3.2.4, 3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4, 8.2.2, 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1, 13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5, 15.1.6, 15.4.1

#### Notice of Cancellation or Expiration of Insurance

11.1.4, 11.2.3

#### Notice of Claims

1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, **15.1.3**, 15.1.5, 15.1.6, 15.2.8, 15.3.2, 15.4.1

#### Notice of Testing and Inspections

13.4.1, 13.4.2

#### Observations, Contractor's

3.2, 3.7.4

#### Occupancy

2.3.1, 9.6.6, 9.8

#### Orders, Written

1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2, 14.3.1

## OWNER

### 2

#### Owner, Definition of

##### 2.1.1

#### Owner, Evidence of Financial Arrangements

**2.2**, 13.2.2, 14.1.1.4

#### Owner, Information and Services Required of the

2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4

#### Owner's Authority

1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7

#### Owner's Insurance

### 11.2

#### Owner's Relationship with Subcontractors

1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

#### Owner's Right to Carry Out the Work

**2.5**, 14.2.2

#### Owner's Right to Clean Up

### 6.3

#### Owner's Right to Perform Construction and to Award Separate Contracts

### 6.1

#### Owner's Right to Stop the Work

### 2.4

#### Owner's Right to Suspend the Work

14.3

#### Owner's Right to Terminate the Contract

14.2, 14.4

#### Ownership and Use of Drawings, Specifications and Other Instruments of Service

1.1.1, 1.1.6, 1.1.7, **1.5**, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12, 5.3

#### Partial Occupancy or Use

9.6.6, **9.9**

#### Patching, Cutting and

**3.14**, 6.2.5

#### Patents

3.17

#### Payment, Applications for

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3

#### Payment, Certificates for

4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4

#### Payment, Failure of

9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

#### Payment, Final

4.2.1, 4.2.9, **9.10**, 12.3, 14.2.4, 14.4.3

#### Payment Bond, Performance Bond and

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**

#### Payments, Progress

9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4

## PAYMENTS AND COMPLETION

### 9

#### Payments to Subcontractors

5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2

#### PCB

10.3.1

#### Performance Bond and Payment Bond

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**

#### Permits, Fees, Notices and Compliance with Laws

2.3.1, **3.7**, 3.13, 7.3.4.4, 10.2.2

## PERSONS AND PROPERTY, PROTECTION OF

### 10

#### Polychlorinated Biphenyl

10.3.1

#### Product Data, Definition of

### 3.12.2

#### Product Data and Samples, Shop Drawings

3.11, **3.12**, 4.2.7

#### Progress and Completion

4.2.2, **8.2**, 9.8, 9.9.1, 14.1.4, 15.1.4

#### Progress Payments

9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4

Init.

/

**Project, Definition of**  
**1.1.4**  
Project Representatives  
4.2.10  
**Property Insurance**  
10.2.5, **11.2**  
**Proposal Requirements**  
1.1.1  
**PROTECTION OF PERSONS AND PROPERTY**  
**10**  
Regulations and Laws  
1.5, 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1,  
10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14, 15.2.8, 15.4  
Rejection of Work  
4.2.6, 12.2.1  
Releases and Waivers of Liens  
9.3.1, 9.10.2  
Representations  
3.2.1, 3.5, 3.12.6, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.10.1  
Representatives  
2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.10, 13.2.1  
Responsibility for Those Performing the Work  
3.3.2, 3.18, 4.2.2, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10  
Retainage  
9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3  
**Review of Contract Documents and Field**  
**Conditions by Contractor**  
**3.2**, 3.12.7, 6.1.3  
Review of Contractor's Submittals by Owner and  
Architect  
3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2  
Review of Shop Drawings, Product Data and Samples  
by Contractor  
3.12  
**Rights and Remedies**  
1.1.2, 2.4, 2.5, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1,  
6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.1, 12.2.2,  
12.2.4, **13.3**, 14, 15.4  
**Royalties, Patents and Copyrights**  
**3.17**  
Rules and Notices for Arbitration  
15.4.1  
**Safety of Persons and Property**  
**10.2**, 10.4  
**Safety Precautions and Programs**  
3.3.1, 4.2.2, 4.2.7, 5.3, **10.1**, 10.2, 10.4  
**Samples, Definition of**  
**3.12.3**  
**Samples, Shop Drawings, Product Data and**  
3.11, **3.12**, 4.2.7  
**Samples at the Site, Documents and**  
**3.11**  
**Schedule of Values**  
**9.2**, 9.3.1  
Schedules, Construction  
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Separate Contracts and Contractors  
1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2  
**Separate Contractors, Definition of**  
**6.1.1**  
**Shop Drawings, Definition of**  
**3.12.1**  
**Shop Drawings, Product Data and Samples**  
3.11, **3.12**, 4.2.7  
**Site, Use of**  
**3.13**, 6.1.1, 6.2.1  
Site Inspections  
3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4  
Site Visits, Architect's  
3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4  
Special Inspections and Testing  
4.2.6, 12.2.1, 13.4  
**Specifications, Definition of**  
**1.1.6**  
**Specifications**  
1.1.1, **1.1.6**, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14  
Statute of Limitations  
15.1.2, 15.4.1.1  
Stopping the Work  
2.2.2, 2.4, 9.7, 10.3, 14.1  
Stored Materials  
6.2.1, 9.3.2, 10.2.1.2, 10.2.4  
**Subcontractor, Definition of**  
**5.1.1**  
**SUBCONTRACTORS**  
**5**  
Subcontractors, Work by  
1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2,  
9.6.7  
**Subcontractual Relations**  
**5.3**, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1  
Submittals  
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3, 9.8,  
9.9.1, 9.10.2, 9.10.3  
Submittal Schedule  
3.10.2, 3.12.5, 4.2.7  
**Subrogation, Waivers of**  
6.1.1, **11.3**  
**Substances, Hazardous**  
**10.3**  
**Substantial Completion**  
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3, 12.2,  
15.1.2  
**Substantial Completion, Definition of**  
**9.8.1**  
Substitution of Subcontractors  
5.2.3, 5.2.4  
Substitution of Architect  
2.3.3  
Substitutions of Materials  
3.4.2, 3.5, 7.3.8  
**Sub-subcontractor, Definition of**  
**5.1.2**

Subsurface Conditions  
3.7.4

**Successors and Assigns**  
**13.2**

**Superintendent**  
**3.9, 10.2.6**

**Supervision and Construction Procedures**  
1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3,  
7.3.4, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.4

Suppliers  
1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6,  
9.10.5, 14.2.1

Surety  
5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2,  
15.2.7

Surety, Consent of  
9.8.5, 9.10.2, 9.10.3

Surveys  
1.1.7, 2.3.4

**Suspension by the Owner for Convenience**  
**14.3**

Suspension of the Work  
3.7.5, 5.4.2, 14.3  
Suspension or Termination of the Contract  
5.4.1.1, 14

**Taxes**  
3.6, 3.8.2.1, 7.3.4.4

**Termination by the Contractor**  
**14.1, 15.1.7**

**Termination by the Owner for Cause**  
5.4.1.1, **14.2**, 15.1.7

**Termination by the Owner for Convenience**  
**14.4**

Termination of the Architect  
2.3.3  
Termination of the Contractor Employment  
14.2.2

**TERMINATION OR SUSPENSION OF THE CONTRACT**

**14**

**Tests and Inspections**  
3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,  
9.9.2, 9.10.1, 10.3.2, 12.2.1, **13.4**

**TIME**  
**8**

**Time, Delays and Extensions of**  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7,  
10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

**Time Limits**

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2,  
5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1,  
9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15.1.2,  
15.1.3, 15.4

**Time Limits on Claims**

3.7.4, 10.2.8, 15.1.2, 15.1.3

Title to Work

9.3.2, 9.3.3

**UNCOVERING AND CORRECTION OF WORK**  
**12**

**Uncovering of Work**  
**12.1**

Unforeseen Conditions, Concealed or Unknown  
3.7.4, 8.3.1, 10.3

Unit Prices

7.3.3.2, 9.1.2

Use of Documents

1.1.1, 1.5, 2.3.6, 3.12.6, 5.3

**Use of Site**

**3.13**, 6.1.1, 6.2.1

**Values, Schedule of**

**9.2**, 9.3.1

Waiver of Claims by the Architect  
13.3.2

Waiver of Claims by the Contractor  
9.10.5, 13.3.2, **15.1.7**

Waiver of Claims by the Owner  
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, **15.1.7**

Waiver of Consequential Damages  
14.2.4, 15.1.7

Waiver of Liens  
9.3, 9.10.2, 9.10.4

**Waivers of Subrogation**

6.1.1, **11.3**

**Warranty**

**3.5**, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2,  
15.1.2

Weather Delays

8.3, 15.1.6.2

**Work, Definition of**  
**1.1.3**

Written Consent  
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3,  
13.2, 13.3.2, 15.4.4.2

Written Interpretations

4.2.11, 4.2.12

Written Orders

1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1



## ARTICLE 1 GENERAL PROVISIONS

### § 1.1 Basic Definitions

#### § 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the "Agreement") and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A "Modification" is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect or Owner pursuant to the provisions hereof. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements. All Change Order, Application and Certificate for Payment, Certificate of Substantial Completion, and other forms used during construction shall be, as the Owner may elect, either (i) the current AIA form, or (ii) modifications thereto or other form approved or reasonably required by the Owner. All terms used but not defined in these General Conditions shall have the meaning ascribed to same in the other Contract Documents.

#### § 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, except as set forth in Section 5.3 and Section 5.4, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

#### § 1.1.3 The Work

The term "Work" means the construction and services required by and reasonably inferable from the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations set forth in the Contract Documents. The Work may constitute the whole or a part of the Project.

#### § 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractor (hereafter defined).

#### § 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

#### § 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

#### § 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

*(Paragraphs deleted)*

#### § 1.1.8 The Project Manual

The Project Manual is a volume assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

Init.

### **§1.1.9 Knowledge**

The terms "knowledge," "recognize," and "discover," their respective derivatives, and similar terms in the Contract Documents, as used in reference to the Contractor, shall be interpreted to mean that which the Contractor knows, recognizes, and discovers in exercising the degree of care, skill, competence and diligence ordinarily possessed by reputable contractors practicing in the locale of the Project with experience in the construction of buildings and other improvements similar to those detailed in the Contract Documents, but expressly does not include any inference that Contractor "should have known", "should have recognized" or "should have discovered" together with any respective derivatives of those terms, it being the intention to only include actual knowledge, actual recognition and actual discovery. However, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor familiar with the Project and exercising the degree of care, skill, competence and diligence ordinarily possessed by reputable contractors practicing in the locale of the Project with experience in the construction of buildings and other improvements similar to those detailed in the Contract Documents.

### **1.1.10 Equal to (or Approved Equal)**

Products by manufacturers other than those specified in the Contract Documents which the Contractor may submit for substitution as equal to those specified in the Contract Documents and which may be incorporated in the Work after review and approval by the Architect of the information about such products and acceptance by the owner in writing.

### **1.1.11 Punch List**

A written list of items that are uncompleted, damaged, or unacceptable items of the Work that do not interfere with the Owner's or any of its tenants' or other occupants' use and occupancy of any part of the Project.

### **1.1.12 Intellectual Property Rights**

Intellectual Property Rights shall mean: (a) all software, source code and object code, and modifications (including software under development), ideas and discoveries and inventions (whether or not patentable), trade secrets, information (confidential or otherwise), technical data, techniques, processes, methods, plans, designs, drawings, schematics, specifications, communications protocols, test procedures, algorithms, technology, know-how, customer lists, marketing and customer information, documentation, materials and works of authorship which are the subject matter of copyright, regardless of how embodied; and (b) all intangible intellectual property rights therein, including the right to make, sell, license or otherwise distribute, and use, and any and all applications for United States or foreign patents or issued patents; all trademarks, service marks, trade names, or trade dress, and all pending or issued United States or foreign registrations thereof; and copyrights and United States and foreign applications and registrations thereof, including the rights to copy, sell, license or otherwise distribute, display, publish and create derivative works therefrom.

### **§ 1.1.13 Safety**

When the word "safety," or any derivative thereof, is used in the Contract Documents, it shall be construed to mean "safety and health."

### **§ 1.1.14 Contractor's Sole Cost or Expense**

When the words "Contractor's sole cost," "Contractor's sole expense," or words of similar effect are used in the Contract Documents, it shall be construed to mean that the cost or expense is a non-reimbursable expense under the Contract.

### **§ 1.1.15 Pronouns and Titles**

All personal pronouns used in this Contract, whether used in the masculine, feminine, or neuter gender, shall include all other genders, and the singular shall include the plural and vice versa. Titles of articles and sections are for convenience only and neither limit nor amplify the provisions of this Contract in itself.

### **§ 1.1.16 "Including"**

The use herein of the word "including," when following any general statement, term, or matter, shall not be construed to limit such statement, term, or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such words as "without limitation," or "but not limited to," or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term, or matter.

### § 1.1.17 "Herein"

The words "herein," hereunder," and similar words mean and refer to this entire Contract and not merely the provision in which such term is used.

### § 1.1.18 "Costs" or "costs"

"Costs" or "costs" as used in the Contract Documents shall be actual costs paid by the Contractor, less all discounts, rebates, and salvages that shall be taken by the Contractor, subject to Article 9 of the Agreement. All payments made by the Owner pursuant to Article 7 of the Agreement, whether those payments are actually made before or after the execution of the Contract, are included within the Guaranteed Maximum Price ("GMP") specified in Section 5.2 of the Agreement; provided, however, that in no event shall the Owner be required to reimburse the Contractor for any portion of the Cost of the Work (except for preconstruction costs which are expressly identified as part of the General Conditions Costs) incurred prior to the Commencement Date unless the Contractor has received the Owner's written consent prior to incurring such cost. The Cost of the Work shall include only the items set forth in Article 7 of the Agreement.

## § 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 If Contractor has actual knowledge that Work is required in a manner to make it impossible to produce work of the quality required by or reasonably inferred from the Contract Documents, or should discrepancies appear among the Contract Documents, the Contractor shall request in writing an interpretation from the Architect before proceeding with the Work. If the Contractor has actual knowledge of the facts described in the preceding grammatical sentence and fails to make such a request, no excuse will thereafter be entertained for failure to carry out Work in the required manner or provide required guarantees or warranties, and the Contractor shall not be entitled to any change in the Contract Sum or the Contract Time on account of such failure.

## § 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

## § 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

## § 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Drawings, Specifications and other documents, including those in electronic form, even if prepared by or on behalf of Contractor, and all copyrights and other intellectual property rights in such Drawings, Specifications, and other documents, as between Owner and Contractor are the property of the Owner. All Instruments of Service and other Contract Documents shall be used by the Contractor solely on the Project. They shall not be used on any other

project without the written consent of the Owner, and the Contractor shall advise its Subcontractors and suppliers by written notice of this contractual requirement. The Contractor, Subcontractors, sub-subcontractors and material and equipment suppliers are granted a limited license to use and reproduce applicable portions of the Instruments of Service and other Contract Documents appropriate to and for use in the execution of their Work under the Contract Documents.

**§ 1.5.2** The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

### **§ 1.6 Notice**

**§ 1.6.1** Except as otherwise provided in Section 13.3, where the Contract Documents require one party to notify or give notice to the other party, including, without limitation, notice of Claims, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

*(Paragraph deleted)*

### **§ 1.7 Digital Data Use and Transmission**

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

### **§ 1.8 Building Information Models Use and Reliance**

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

## **ARTICLE 2 OWNER**

### **§ 2.1 General**

**§ 2.1.1** The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

**§ 2.1.2** The Owner has furnished to the Contractor information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights, and Contractor acknowledges receipt of the same. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein. As of the date of execution of the Contract, Contractor acknowledges receipt of the same and agrees that such information satisfies any and all Legal Requirements relating thereto.

### **§ 2.2 Information and Services Required of the Owner**

**§ 2.2.1** The Owner has delivered to Contractor satisfactory evidence that Owner has made financial arrangements to fulfill Owner's obligations under this Agreement and, as of the date of execution of the Contract, Contractor acknowledges receipt of the same and agrees that such evidence satisfies any and all Legal Requirements relating thereto.

**§ 2.2.2** Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements,

Init.

assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

**§ 2.2.3** The Owner shall furnish general property surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work and shall immediately notify Owner if Contractor believes that the document or information supplied by the Owner is inadequate, incomplete or incorrect.

**§ 2.2.4** The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services. The Contractor shall review all documents and information received from the Owner and Contractor shall notify Owner promptly if the Contractor discovers or has reason to believe that the documents or information supplied by the Owner are inadequate, incomplete or incorrect.

*(Paragraph deleted)*

**§ 2.2.5** Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

**§ 2.2.6** The Owner's participation in the Project shall in no way relieve the Contractor of its duties and responsibilities under applicable Legal Requirements or the Contract Documents, except in the event of the Owner's fault or negligence.

**§ 2.2.7** The Owner shall not be responsible for the resolution of differences or disputes between or among the Contractor Parties.

### **§ 2.3 Owner's Right to Stop the Work**

**§ 2.3.1** If Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; provided, however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

**§ 2.3.2** After consultation with the Architect, if suspension of the Work is warranted by reason of unforeseen conditions which may adversely affect the Work if such Work were continued, the Owner may suspend the Work by written notice to the Contractor. In such event, the Contract Time shall be adjusted accordingly, and the Contract Sum shall be adjusted to the extent that additional costs are incurred by reason of such suspension, as more particularly described in Section 14.3. If the Contractor, in its reasonable judgment, believes a suspension is warranted by unforeseen circumstances which may adversely affect the Work if the Work were continued, the Contractor shall immediately notify the Owner and the Architect of such belief and describe in detail the particular reasons therefor.

*(Paragraphs deleted)*

### **§ 2.4 Owner's Right to Carry Out the Work**

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

### **§ 2.5 Extent of Owner's Rights**

**§ 2.5.1** The rights stated in this Section 2 and elsewhere in the Contract Documents are cumulative and not in limitation of any rights of Owner granted in the Contract Documents, at law, or in equity.

Init.

§ 2.5.2 In no event shall the Owner have control over, charge of, or any responsibility for construction means, methods, techniques, sequences, or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner in the Contract Documents.

### § 2.6 Owner's Right to Audit

§ 2.6.1 The Contractor's records, which shall include but not be limited to accounting records, written policies and procedures, subcontractor files (including proposals of successful and unsuccessful bidders), original estimates, estimating work sheets, correspondence, change order files (including documentation covering negotiated settlements), and any other supporting evidence necessary to substantiate charges related to this Agreement (all of the foregoing hereinafter referred to as "Records") shall be open to inspection and subject to audit and/or reproduction, upon reasonable advance written notice from Owner, during normal working hours by Owner's agent or authorized representative to the extent necessary to adequately permit evaluation and verification of any invoices, payments or claims submitted by the Contractor or any of his payees pursuant to the execution of the Work on the Project and the Cost of the Work of the Project. Such Records shall also include, without limitation, those documents or other records deemed necessary by Owner to evaluate and verify direct and indirect costs (including overhead allocations) as they may apply to costs associated with this Agreement.

§ 2.6.2 For the purposes of such audits, inspections, examinations and evaluations, the Owner's agent or authorized representative shall have access to said Records from the effective date of this Agreement for duration of the Work and until three (3) years (or longer if required by law), after the date of the final payment by Owner to Contractor pursuant to this Agreement. If requested in writing by Owner, Contractor shall transfer or deliver a complete copy of the Records to Owner upon final payment, with the reasonable copying expense to be paid by Owner.

§ 2.6.3 Owner's agent or its authorized representative shall have access to the Contractor's facilities, shall have access to all necessary Records and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with the provisions of this Section 2.6. Owner's agent or authorized representative shall give Contractor reasonable notice of intended audits.

§ 2.6.4 To the extent practicable, Contractor shall use good faith efforts to require all subcontractors and material suppliers ("Payees") to comply with the provisions of this Section 2.6 by insertion of the requirements hereof into each written agreement between Contractor and Payees solely as to Change Orders.

§ 2.6.5 If an audit, inspection or examination in accordance with Section 2.6 discloses overcharges (of any nature ) by the Contractor to Owner in excess of one percent (1%) of the total billings pursuant to this Agreement, the reasonable cost of the Owner's audit shall be paid by the Contractor.

### § 2.7 ACCELERATIONS FOR OWNER'S CONVENIENCE

§ 2.7.1 Owner shall be entitled to direct the acceleration or re-sequencing of the Work in order to achieve completion prior to the milestone dates or the scheduled Substantial Completion Date. In the event Owner desires to accelerate the base-line Project Schedule or the latest revised Project Schedule as applicable, in whole or in part, for reasons other than delays caused by or attributable in whole or in part to a concurrent delay, Owner shall so notify the Contractor in writing and shall equitably adjust the Contract Time and Contract Sum accordingly.

§ 2.7.2 Upon receipt of such written instruction, Contractor shall provide Owner with a plan, provided such plan is feasible, to achieve the acceleration and its anticipated not-to-exceed cost. Before proceeding with any such Owner-directed acceleration plan under this Section 2.7, the Contractor shall have received the Owner's prior written approval of the plan and its anticipated not-to-exceed cost. Upon approval by Owner, Contractor shall require its personnel and its Subcontractors to work such overtime hours and/or to increase their respective work forces as may be reasonably necessary to meet Owner's acceleration schedule.

§ 2.7.3 Such written acceleration instructions shall be considered a Construction Change Directive and Contractor shall respond in accordance with Section 7.3; provided, however, that if Owner has accepted Contractor's plan in full, the accepted plan shall govern adjustments to the Contract Sum and Contract Time.

## ARTICLE 3 CONTRACTOR

### § 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 Except as expressly provided for in the Contract Documents to the contrary, the Contractor, at its sole cost, risk, and expense, shall construct, equip, provide, purchase, pay for, perform and furnish all of the Work in accordance with the Contract Documents, Applicable Laws governmental codes and regulations as they apply to performance of the Work and as shown in the Contract Documents, but Contractor shall remain responsible for complying with governmental codes and regulations relating to means, methods and procedures applicable to Contractor's performance of the Work. Without limiting the foregoing, Contractor shall purchase all materials, equipment and services required for the Work, except for those items designated by Owner as the responsibility of the Owner to furnish and/or install ("Owner-furnished Items").

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.1.4 The Contractor represents and warrants the following to the Owner (in addition to the other representations and warranties in the Contract Documents), as an inducement to the Owner to execute the Agreement, which representations and warranties shall survive the execution and delivery of the Agreement and the final completion of the Work: (a) that the Contractor is financially solvent, able to pay its debts as they mature and possessed of sufficient working capital to complete the Work and perform its obligations under the Contract Documents, (b) that the Contractor is able to furnish the plant, tools, material, supplies, equipment and labor required to complete the Work and perform its obligations hereunder and has sufficient experience and competence to do so, and (c) that the Contractor is authorized to do business in the state where the Project is located and properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over it and over the Work and the site of the Project.

### § 3.1.5 OFAC REPRESENTATION

Contractor further represents and warrants that Contractor is not and shall not be, and, after making due inquiry, no person or entity ("Person") who owns a controlling interest in or otherwise controls Contractor, is an employee, agent or contractor of Contractor is or shall be (a) listed on the Specially Designated Nationals and Blocked Persons List (the "SDN List") maintained by the Office of Foreign Assets Control ("OFAC"), Department of the Treasury, and/or on any other similar list ("Other Lists" and, collectively with the SDN List, the "Lists") maintained by the OFAC pursuant to any authorizing statute, Executive Order or regulation (collectively, "OFAC Laws and Regulations"); or (b) a Person (a "Designated Person") either (i) included within the term "designated national" as defined in the Cuban Assets Control Regulations, 31 C.F.R. Part 515, or (ii) designated under Sections 1(a), 1(b), 1(c) or 1(d) of Executive Order No. 13224, 66Fed. Reg. 49079 (published September 25, 2001) or similarly designated under any related enabling legislation, or any other similar Executive Orders (collectively, the "Executive Orders"). The OFAC Laws and Regulations and the Executive Orders are collectively referred to in this Agreement as the "Anti-Terrorism Laws". Contractor also shall require, and shall take reasonable measures to ensure compliance with the requirement, that no Person who owns any other direct interest in Contractor is or shall be listed on any of the Lists or is or shall be a Designated Person. This Section shall not apply to any Person to the extent that such Person's interest in the Contractor is through a U.S. Publicly-Traded Entity. As used in this Agreement, "U.S. Publicly-Traded Entity" means a Person (other than an individual) whose securities are listed on a national securities exchange, or quoted on an automated quotation system, in the United States, or a wholly-owned subsidiary of such a Person.

§ 3.1.6 **Background Checks.** Contractor has no actual knowledge that any of "Contractor's Employees" (which shall include employees of Contractor and employees of Contractor's subcontractors and consultants of whatever tier) would not pass a reasonable background check with respect to criminal behavior that could endanger other Contractor Employees and authorized guests and invitees at the Project site.

§ 3.1.7 **Proof of Employment Eligibility.** Contractor warrants that all Contractor Employees names and social security

Init.

AIA Document A201® – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. The "American Institute of Architects," "AIA," the AIA Logo, "A201," and "AIA Contract Documents" are registered trademarks and may not be used without permission. This document was produced by AIA software at 15:40:13 ET on 08/06/2021 under Order No. 9817765449 which expires on 03/01/2022, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail [copyright@aia.org](mailto:copyright@aia.org).

User Notes:

(1196582995)

numbers match and that all Contractor Employees hired after the date of this Agreement are United States citizens or they have one of the documents currently accepted by the USCIS as proof of employment eligibility, as shown on USCIS website's instructions for Form I-9 ([www.uscis.gov/portal/site/uscis](http://www.uscis.gov/portal/site/uscis)). For Contractor Employees hired prior to the date of this Agreement, Contractor warrants that all Contractor Employees are United States citizens or they provided proof of employment eligibility documents accepted by the USCIS or its predecessors at the time of said Contractor Employee's hire. Any Contractor Employee whose proof of employment eligibility documents (such as temporary work visas issued by USCIS, Bureau of Citizenship and Immigration Service or Immigration and Naturalization Service) expire while said Contractor Employee is providing services, must have their I-9 form re-verified according to USCIS requirements.

### **§ 3.2 Review of Contract Documents and Field Conditions by Contractor**

**§ 3.2.1** The Contractor acknowledges that it has visited the site of the Project prior to submitting a proposal. Such site visit shall be for the purpose of familiarizing the Contractor with the conditions as they exist and the character of the operations to be carried on under the Contract Documents, including all existing site conditions, access to the site, physical characteristics of the site and surrounding areas; provided, however, and notwithstanding anything in the foregoing provisions which may be interpreted to the contrary, the representations and/or warranties contained in this Section 3.2.1 shall not be interpreted to imply that the Contractor, after reasonable diligence and/or investigation consistent with the Contractor's applicable standard of care, is responsible for unknown underground condition for which the Contractor did not have knowledge.

**§ 3.2.1.1** Execution of the Contract by the Contractor is a representation that the Contractor has examined the site and its surroundings and become familiar with the conditions (based on Contractor's observations and tests and studies provided by Owner on which Contractor may rely as provided herein and tests and studies performed by or for Contractor [herein referred to as the "Known Information"]) under which the Work is to be performed. Although the Contractor may be entitled to rely upon the accuracy of the Known Information, the Contractor may not rely upon such information or any other information provided by or on behalf of the Owner when the Contractor knows that such information is inaccurate, inadequate, noncomplete or otherwise unfit for its intended purpose. As provided below, Contractor shall promptly notify Owner whenever Contractor has actual knowledge that any of the Known Information or other information provided by the Owner is inaccurate, inadequate, noncomplete or otherwise unfit for its intended purpose. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

Prior to execution of the Agreement, the Contractor evaluated and satisfied itself as to the conditions and limitations under which the Work is to be performed, including, without limitation: (a) the location, condition, layout and nature of the Project site and surrounding areas, (b) technical reports (c) generally prevailing climatic conditions, (d) anticipated labor supply and costs, (e) availability and cost of materials, tools and equipment, and (f) other similar issues. The Guaranteed Maximum Price has been calculated and Contract Time established on the basis of the documents provided in Exhibit B to the Agreement, which represent approximately [ ] % completion of the final Drawings and Specifications. In determining the Guaranteed Maximum Price and Contract Time, the Contractor has taken into account the level of completeness of these documents and has exercised the best skill and efforts of the Contractor to make (i) appropriate judgments and inferences in connection with the requirements of such documents and (ii) all inquiries of the Owner to clarify these documents as necessary to calculate and establish both the Guaranteed Maximum Price and the Contract Time.

**§ 3.2.1.2** Except as otherwise required to be included in a clarification document or supplemental document that may contain value engineering refinements and other required classifications, the Contractor acknowledges and warrants that (i) it has closely examined all the Contract Documents in order to enable the Contractor to complete the Work in a timely manner for the Contract Sum, (ii) that, to the best of Contractor's knowledge, information, and belief, the Contract Documents are sufficient to enable the Contractor to determine the Cost of Work as shown in the Contract Documents, and (iii) to the best of its knowledge the Drawings, Specifications and addenda do not vary with applicable Legal Requirements. The Contractor further acknowledges that, having carefully examined all Drawings, Specifications and other documents, to the best of its knowledge there are no material discrepancies among the Contract Documents.

**§ 3.2.1.3** While the exactness of grades, elevations, dimensions, or locations given on any Drawings issued by the Architect or Architect's consultants, or the work installed by other contractors, is not guaranteed by the Owner, the

Init.

/



Contractor may rely on the drawings. The Contractor is not expected to perform exhaustive verification of existing grades, benchmarks, inverts, property lines or other empirical data that is required for the accuracy and basis of the placement of structures and construction of the Project, but shall perform customary verification of such items. The Contractor shall, therefore, based on reliance on benchmarks, inverts and property lines shall satisfy itself as to the accuracy of all design grades, elevations, dimensions, and locations. In addition, Contractor may specifically rely on the Architect's and Engineer's dimensions, chain of dimensions and coordination of the documents by the Owner's Consultants in order to establish layout. In all cases of interconnection of its Work with existing or other work, it shall verify at the site all dimensions relating to such existing or other work. In the event of discovered errors or issues, prior to or at the time of the performance of Contractor's Work affected by such errors or issues, the Contractor will stop any Work affected by such errors or issues and immediately notify the Owner and Architect. If any Work is required to be corrected or replaced due to Contractor's failure to timely perform its obligations under this Section 3.2.1, it shall be promptly corrected or replaced by the Contractor at no cost or expense to Owner.

**§ 3.2.2** Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner, Architect or Architect's consultants, pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe and verify any conditions at the site affecting it, which can be ascertained by a reasonable on-site inspection or pursuant to tests furnished by Owner and/or obtained by Contractor. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect and Owner any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

**§ 3.2.3** The recommendations and advice of the Contractor concerning design alternatives shall be subject to the review and approval of the Owner and the Owner's professional consultants. Although the Contractor shall exercise an applicable standard of care in connection with its services and the Work, the Contractor is not required to ascertain that the Contract Documents are in accordance with Applicable Laws, except those drawings prepared by the Contractor or its Subcontractors, but the Contractor shall promptly report to the Architect and Owner in writing of any nonconformity or variance from Applicable Laws the Contractor recognizes, discovers, learns or knows, and necessary changes shall be accomplished by appropriate Modification. However, if the Contractor performs any construction activity when it knew it was not in accordance with Applicable Laws without such notice to the Architect, with a copy to Owner, and instruction to proceed, the Contractor shall be liable for any damages, costs or liability resulting therefrom, including, without limitation, any fines, Architect's fees, consulting fees, and costs attributable to correction of the Work.

**§ 3.2.4** If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to Applicable Laws, unless Contractor recognized such error, inconsistency or omission and knowingly failed to promptly report it to the Architect or Owner.

### **§ 3.3 Supervision and Construction Procedures**

**§ 3.3.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect, which notice

Init.

shall specify the Contractor's concerns and shall propose alternative means, methods, techniques, sequences or procedures and the reasons therefor and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

**§ 3.3.1.1** The Contractor shall furnish only skilled properly trained staff for the performance of the Work. The key members of the Contractor's staff shall be persons agreed upon with the Owner and identified in the "Schedule of Key Personnel" attached to the Agreement as Exhibit J.

**§ 3.3.1.2** Such key members of the Contractor's staff shall not be changed without the mutual consent of the Owner and Contractor, which consent shall not be unreasonably withheld, unless such person becomes unable to perform any required duties due to death, disability, transfer, resignation or termination of employment with the Contractor. If a key member is no longer capable of performing in the capacity described in Exhibit J to the Agreement, the Owner and the Contractor shall agree on a mutually acceptable substitute, which agreement shall not be unreasonably withheld.

**§ 3.3.2** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors, Sub-subcontractors (which includes, but is not limited to, suppliers and materialmen), and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors or Sub-subcontractors. The Contractor shall be responsible to the Owner for all damages, losses, costs and expenses resulting from the acts and omissions of the Contractor's employees, Subcontractors, and their agents and employees, and other persons performing any of the Work under a contract with the Contractor or supplying any material for the Work.

**§ 3.3.3** The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

**§ 3.3.3.1** In addition to the foregoing, the Contractor shall require each of its Subcontractors and Sub-subcontractors to inspect Work in place prior to proceeding with the Subcontractor's or Sub-subcontractor's Work to determine that such Work is in proper condition to receive the Subcontractor's or Sub-subcontractor's Work. The Contractor shall attempt to include in each subcontract a provision that a decision by a Subcontractor or Sub-subcontractor to proceed with its Work shall constitute an acknowledgement that the Subcontractor or Sub-subcontractor in question has inspected the Work in place, a provision that the Work is in proper condition to receive the Subcontractor's or Sub-subcontractor's Work, and a waiver of any Claims related to or resulting from such failure to make such inspection.

**§ 3.3.4** The Contractor acknowledges that it is the Contractor's responsibility to hire all personnel for the proper and diligent performance of the Work and the Contractor shall use its best efforts to maintain labor peace for the duration of the Project. In the event of a labor dispute unique to the Project and not a general labor dispute, the Contractor shall not be entitled to any increase in the Contract Sum or extension of the Contract Time.

**§ 3.3.5** The Contractor shall keep and maintain on the Project site at all times and make available to the Owner one or more copies, as reasonably required by the Owner, of the Contractor's daily log, all Drawings, Specifications, field orders, Samples, approved Shop Drawings, Change Orders, catalog cuts and the like, in good order and marked to record all changes made during construction. The daily log form shall be subject to Owner's approval and shall contain details of the weather conditions, materials delivered, Work performed, operating hours, equipment counts, any failure on any person's part to perform its Work, the number of persons workings on the Project for Contactor and each Subcontractor (itemized per job title and trade), and any delays. The daily log shall be provided to the Owner and the Architect weekly (which may be provided on an online records site. Each subcontractor shall be require to prepare similar reports which shall be available to the Owner upon request. All of the above documents shall be delivered to the Owner upon Substantial Completion.

**§ 3.3.6** The Contractor shall make all Work fit together and function properly as set forth in Contract Documents. The Contractor shall perform or cause to be performed, all cutting, fitting or patching of the Work, whether originally performed by the Contractor, a Subcontractor or anyone else under the Contractor's control, that may be required to

make all parts of the Work fit together and function properly, in conformity with the Contract Documents and so as not to endanger the Work or any part of it; and to that end the Contractor shall diligently coordinate, inspect, and supervise all aspects of the Work, whether performed by the Contractor or any of its Subcontractors, shall guard against any and all defects and deficiencies, shall stop any part of the Work that does not meet the requirements of the Contract Documents, and shall replace all and any of such Work irrespective of whether the same shall be fabricated, installed or completed.

§ 3.3.7 The Contractor shall familiarize the Owner's personnel with the operation of all systems and equipment. In cooperation with the Architect, the Contractor, prior to Substantial Completion, shall provide the Owner with such services as may be necessary or useful in checking for readiness of the utilities, systems and equipment installed in the Project, assist in their initial start-up and testing, and provide initial training of such personnel to make them familiar with such systems and equipment, and videotape such training sessions.

§ 3.3.8 Consistent with the need to avoid impeding progress of the Work and the availability of materials at the time of placing orders, the Contractor shall use its good faith efforts to keep the amount of surplus construction materials to a minimum and to avoid unnecessary stockpiling of materials at the Project site in advance of the time when such materials will be needed.

§ 3.3.9 The Contractor shall keep the floors and stairs of the Project site reasonably clean and safe at all times. Owner acknowledges that as a process of construction materials/debris will accumulate, then are cleaned within a reasonable time and the process repeats. The Contractor acknowledges that the Owner may from time to time visit the Project site and may bring any lenders, investors, affiliates and their representatives. All such visitors shall follow the safety procedures and precautions established by the Contractor.

#### § 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Owner or Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and Owner and in accordance with a Change Order or Construction Change Directive. If the Contractor submits an alternate product or method in lieu of what has been specified or shown in the Contract Documents, the following provisions apply.

§ 3.4.2.1 The Contractor must submit to the Architect and the Owner (a) a full explanation of the proposed substitution and submittal of all supporting data, including technical information, catalog cuts, warranties, test results, installation instructions, operating procedures, and other like information necessary for a complete evaluation of the substitution; (b) a written explanation of the reasons the substitution is advantageous and necessary, including the benefits to the Owner and the Work in the event the substitution is acceptable; (c) the adjustment, if any, in the Contract Sum, in the event the substitution is acceptable; (d) the adjustment, if any, in the Completion Date and the construction schedule in the event the substitution is acceptable; (e) an identification of all Drawings and Specifications that may be affected by the substitution, changes required thereto, and the adjustment, if any, in the Guaranteed Maximum Price and/or Contract Time, in the event that substitution is acceptable; and (f) written confirmation that the proposed substitution conforms to and meets all the requirements of the pertinent Specifications and the requirements shown on the Drawings, and that the Contractor accepts the warranty and correction obligations in connection with the proposed substitution as if originally specified by the Architect. Proposals for substitutions shall be submitted in triplicate to the Architect and Owner in sufficient time to allow the Architect no less than ten (10) working days for review. No substitutions will be considered or allowed without the Contractor's submittal of complete substantiating data and information as required in this Section 3.4.2.1.

§ 3.4.2.2 Substitutions and alternates may be rejected without explanation and will be considered only under one or more of the following conditions: (a) the proposal is required for compliance with interpretation of code requirements or insurance regulations then existing; (b) specified products are unavailable through no fault of the Contractor; (c) subsequent information discloses the inability of specified products to perform properly or to fit in the designated space; (d) the manufacturer/fabricator refuses to certify or guarantee the performance of the specified product as

required; and (e) when in the judgment of the Owner or the Architect, a substitution would be substantially in the Owner's best interests, in terms of cost, time or other considerations.

**§ 3.4.3** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. Any employee of Contractor or any of its Subcontractors or Sub-Subcontractors whom the Owner reasonably deems to be unsuitable in qualifications, performance, and conduct shall be dismissed from the Work by the Contractor upon notice from the Owner, with no increase in the Guaranteed Maximum Price or Contract Time.

### **§ 3.5 Warranty**

**§ 3.5.1** The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit, and that the Work will be performed in a good and workmanlike manner. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. Modifications, extensions, attachments to, completion of, or repair to systems in the Work by persons other than by or through the Contractor (including the Owner or tenants performing tenant improvement work), shall not void the Contractor's warranty so long as the same are done in accordance with the original design and installation standards. If required by the Architect or Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. All manufactured articles, materials and equipment shall be applied, installed, connected, created, used, cleaned and conditioned in accordance with the manufacturer's written or printed instructions unless otherwise indicated in the Contract Documents. Other warranties or guarantees may be detailed elsewhere in the Contract Documents with specified coverages or time periods, but these shall in no event be construed to negate or diminish the warranty detailed in this Section 3.5. The Contractor does not warrant or guarantee the design or sufficiency of the design of the improvements or that the materials and equipment furnished (except for any of Contractor's design-build portions of the Project, such as pre-engineered trusses and fire protection), assuming that they are the materials and equipment specified, will accomplish the purposes intended by the design professional.

**§ 3.5.2** The Contractor acknowledges that the cost for all Contractor's warranty work and obligations has been included in the GMP, and that the Contractor will not be entitled to additional compensation for such Contractor's warranty Work.

**§ 3.5.3** The Contractor agrees to assign to the Owner at the time of final completion of the Work any and all manufacturer's warranties relating to materials and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties. If necessary as a matter of law, the Contractor may retain the right to enforce directly any such manufacturers' warranties during the one-year period following the date of Substantial Completion, referred to in Section 12.2 of this Agreement.

### **§ 3.6 Taxes**

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect and all required employment-related taxes imposed on Contractor.

**§ 3.6.1** If any governmental authority assesses any tax against the Owner, which tax is the obligation of a Contractor Party, including any sales tax on materials purchased by a Contractor Party, then within ten (10) days after the Owner's request for payment from the Contractor, the Owner may deduct the amount of the tax and any penalty from any amount due the Contractor and/or the Contractor shall be obligated to reimburse the Owner an amount equal to the assessed tax and any penalties associated with such assessed tax plus interest at the rate set forth in Section 15.2 of this Agreement.

### **§ 3.7 Permits, Fees, Notices and Compliance with Laws**

**§ 3.7.1** The Contractor shall secure all building permits (the "Permits") required for the Project with the Drawings and Specifications provided by the Owner and provide a list of all such required Permits to the Owner. The cost of any

Init.

Permits shall be included in the Contract Sum, without an increase in the Contract Sum, all other trade permits, governmental fees, licenses and inspections necessary for proper execution and completion of the Work which are customarily secured after execution of the Agreement and which are legally required when bids are received or negotiations concluded. Among other things, the Contractor shall provide licenses and related fees, inspection fees, special inspection fees, and taxes on such fees, and give all notices necessary and incidental to the due and lawful prosecution of the Work. The Contractor shall post copies of all obtained Permits at the Project site and deliver copies of all such Permits to the Owner and Architect prior to execution of the Work and originals upon Substantial Completion. Certificates of inspection, use and occupancy shall be delivered to the Owner upon Substantial Completion of the Work in accordance with the deadlines set forth in the Contract Documents.

§ 3.7.2 The Contractor shall comply with, and give notices required by, Applicable Laws, and lawful orders of public authorities applicable to performance of the Work. The Contractor shall coordinate its Work with public or private authorities, such as utility companies, as required or necessary for performance of the Work. The Contractor shall procure and perform the Work so that the Owner may obtain the release of all bonds required of the Owner or the Contractor by the locality in which the Project is located or any other public or private body with jurisdiction over the Project.

§ 3.7.3 Intentionally Omitted

#### § 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed. The Architect or Owner will promptly investigate such conditions and, if the Owner determines that the conditions differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, Contractor shall be entitled to an equitable adjustment in the Contract Sum or Contract Time, or both. If the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Owner (or its Architect) shall promptly notify the Contractor, in writing, stating the reasons. If Contractor disputes the Owner's determination or recommendation, Contractor may submit a Claim as provided in Article 15. No adjustment in the Contract Time or Contract Sum shall be permitted, however, in connection with a concealed or unknown condition that does not differ materially from those conditions disclosed by the Contractor's prior inspections, tests, reviews, and preconstruction services for the Project, or inspections, tests, reviews, and preconstruction services that the Contractor had the opportunity to make or should have performed in connection with the project.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15. Notwithstanding the foregoing, no adjustment in the Guaranteed Maximum Price or Contract Time shall be allowed to the extent that the Contractor knew of those conditions prior to the date of the Agreement. All items of value or significance discovered at the Project site shall be deemed to be the absolute property of Owner.

#### § 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

Init.

- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 The Contractor shall give the Owner at least ten (10) business days' notice of when selections under each allowance should be made, and materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

### § 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent and qualified project superintendent (the "Project Superintendent") and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications (including notice from the Owner or the Architect to such Project Superintendent in connection with defective Work, instructions for performance of the Work, or any other matters pertaining to the Work) given to the Project Superintendent shall be as binding as if given to the Contractor. The Contractor shall provide such on-site supervision as is necessary in order to properly manage and execute the Work. The Contractor warrants that the Project Superintendent will direct and supervise the Work. The Project Superintendent shall be in charge of the Work, fully authorized to act on behalf of the Contractor, and be present at the Property during performance of the Work until final completion of the Work.

§ 3.9.2 Contractor shall not change or reassign key Project staff members, including project managers, project engineers, superintendents, and their assistants assigned to this Project without approval of Owner, unless that individual ceases to be employed by Contractor, as more particularly described in Article 2 of the Agreement. Contractor shall keep Owner continuously informed, by organization chart or other similar method, of the identities of all Contractor's employees performing in a supervisory, administrative, or management role with responsibility for this Project at all times during the course of the Work.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

### § 3.10 Contractor's Construction Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor, working with the Architect, shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and deliver the same to Owner for Owner's approval, with a copy to the Architect. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in accordance with the most recent schedules submitted to, and approved by, the Owner and Architect.

§ 3.10.4 The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedule and shall promptly advise the Owner and the Architect of any delays or potential delays. The accepted construction schedule shall be updated to reflect actual conditions as set forth in Section 3.10.1 or if

requested by the Owner or the Architect. If Contractor indicates any delays, the Contractor shall propose an affirmative plan to correct the delay (if feasible), including overtime and additional labor. In no event shall any report by the Contractor of any delay be deemed an adjustment to the Contract Time or Contract Sum unless agreed to by the Owner (within a reasonable time) and authorized in writing by a Change Order executed by all parties.

**§ 3.10.5** (a) The Contractor, Architect and/or Owner will meet bi-weekly or more often if required by the Owner, at the Project, to review the progress of the Work and determine if the Work is on schedule.

(b) If the Owner, in good faith, determines that the Contractor is behind the Project Schedule or Contract Time, and the impact is due to the fault of the Contractor, including, without limitation, any Subcontractor or supplier, the Owner shall give the Contractor thirty (30) days to bring the Work back in conformance with the Project Schedule and Contract Time; provided, however, that the Contractor may decide to compress the Project Schedule at any time during the Contract Time to bring the Work back in conformance with the Contract Time by written notice to Owner of such recovery plan within thirty (30) days following receipt of Owner's demand to accelerate the Work. The Contractor shall provide Owner with reasonable evidence that the applicable Subcontractors and/or suppliers have agreed to such revised Project Schedule, including the reasonable compression of the Project Schedule, by delivery of meeting minutes reflecting such reasonable compression of the Project Schedule. Additionally, the Owner may request the Contractor to arrange a meeting for Owner with Contractor and the applicable Subcontractors and suppliers so that Contractor can cause the applicable Subcontractors and suppliers to confirm to Owner such compression of the Project Schedule. After such thirty (30) day period, if the Owner determines that the Work is still behind the Project Schedule or Contract Time or the agreed upon (by Contractor, Subcontractors and/or suppliers) adjustment in the Project Schedule by compressing the schedule for the Work, the Owner shall give the Contractor another three (3) days to take whatever action is necessary to return the Work to adherence to the Project Schedule and Contract Time or Project Schedule adjustment pursuant to the approved compression schedule. After such three (3) day period, if the Owner determines that the Work is still behind schedule and/or the Owner has not received the approved compression schedule that provides an adjustment of the Project Schedule acceptable to Owner in the exercise of reasonable judgment, the Owner may terminate the Contract and pursue the remedies as provided in Section 14.2 of the A201-2017 AIA General Conditions ("General Conditions") or correct the deficiency at the Contractor's expense as provided in Sections 2.4.1 and 2.5 of the General Conditions.

(c) It is understood that modifications to the Project Schedule or Contract Time may be required occasionally. Any such modifications to the Contract Time to become effective must be agreed to by the Contractor and Owner and contained in a Change Order to the Contract signed by both parties.

**§ 3.10.6** Contractor will record on a daily basis whether its critical path job progress has been materially affected by adverse weather conditions. Contractor will report to the Owner of any such adverse weather delays in writing on a weekly basis. The Contractor will further report to the Owner substantiating any days claimed to have been lost, over and above those allotted for in the Project Schedule, due to adverse weather conditions. Claims for additional time shall be awarded per Section 8.3.1 of the General Conditions. All adverse weather days beyond those included in the Project Schedule that cause the delay in the critical path shall be reimbursed by Owner at a pre-agreed daily rate for General Conditions Costs, subject to the provisions of Section 8.3.1 of the General Conditions. The Contractor shall include in the Project Schedule the average number of adverse weather days based on the historical data from the National Weather Service. The historical data will be indexed to the zip code of the Project site.

### **§ 3.11 Documents and Samples at the Site**

**§ 3.11.1** The Contractor shall maintain at the Project site for the Owner one record copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to record all changes to the Work, indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and Owner and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed. Said "record" documents shall show the location, size and configuration of all underground or otherwise concealed conditions of the Work which may vary from the Contract Documents. Prior to final payment, the Contractor shall transfer all such "record" information onto a set of reproducible Drawings and submit same to the Architect for the Architect's review. The Contractor shall be responsible for the completeness and accuracy of such "record" Drawings and Specifications, notwithstanding any review of same by the Architect.

§ 3.11.1.1 Two (2) complete sets of "as-built / red-line" Drawings which correctly indicate the Work as finally constructed shall be delivered to the Owner upon Substantial Completion of the Project. These sets will be in electronic format and delivered via compact disk and via email to the Owner.

§ 3.11.1.2 The Contractor shall certify by letter that the record copy of all documents which it delivers to the Owner are, to the best of the Contractor's knowledge, accurate and represent actual field conditions at Substantial Completion of the Project with any and all Modifications shown and described thereon.

§ 3.11.2 The Contractor shall keep the record copy of all documents up-to-date as the Work progresses and changes occur. Recorded changes shall include all architectural and structural changes; plumbing, heating, ventilating, air conditioning, and electrical Work changes; and changes to grades, utilities and other Work as well as Work required by Change Orders.

### § 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 The term Shop Drawings includes fabrication, erection, layout and setting drawings, manufacturer's standard drawings, diagrams, schematics, schedules, descriptive literature, illustrations, catalogs and brochures, performance and test data, wiring and control diagrams, other drawings and descriptive data prepared and furnished by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or vendor pertaining to and illustrating some portion of the Work, including materials, equipment, piping, duct and conduit systems, and methods of construction as required to show that materials, equipment or systems, and the positions thereof, conform to the Contract Documents. The term "manufacture(d)" applies to and means standard units usually mass produced. The term "fabricate(d)" means specifically assembled or made out of selected materials to meet individual design requirements. Shop Drawings shall establish actual detail of all manufactured or fabricated items, indicate their proper relation to adjoining Work, amplify design details of mechanical and electrical equipment in proper relation to physical spaces on the structure, and incorporate minor changes of design or construction to suit actual conditions.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action. All Shop Drawings shall (i) comply with performance Specifications and other criteria established by the Architect; and (ii) permit the Work, when completed, to conform with the requirements of the Contract Documents. Shop Drawings shall be modified at no cost to the Owner as necessary to obtain any Permits, certificate or approvals and as required to comply with any requirements of the Contract Documents. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Architect's approval thereof.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate contractors, while allowing the Architect at least 15 business days to respond to the submittal. The Contractor shall sign each submittal and stamp it, in its capacity as a contractor and not as a licensed design professional, with "REVIEWED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS WITH NO EXCEPTIONS TAKEN OR AS NOTED.". Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action, for correction by the Contractor.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, for the limited purpose of

Init.



(2) determining and verifying materials, field measurements and field construction criteria related thereto, or will do so, and (3) checking and coordinating the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Owner and Architect may rely on such information.

**§ 3.12.7** The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

**§ 3.12.7.1** Shop Drawings, Product Data and Samples shall be properly identified with the name of the Project, the Contract, the Subcontractor and the date. Each set submitted shall be accompanied by an approved transmittal form referring to the name of the Project, to the number of the Specifications section and to the Section number, when applicable, for identification of each item. Shop Drawings for each section of the Work shall be numbered consecutively and the numbering system shall be retained throughout all revisions. Each Shop Drawing and Sample shall be retained throughout all revisions. Each Shop Drawing and Sample shall have a clear space for the stamps of the Contractor and Architect. Where a clear space is not available on Samples, Samples should be submitted with tags or stickers attached thereto.

**§ 3.12.7.2** Shop Drawings and Samples shall bear the Contractor's stamp certifying that the Contractor has verified (as to existing conditions) or will verify (as to Work not then constructed or installed) all materials, field measurements and field conditions applicable thereto, and that such Shop Drawings and Samples have been coordinated and checked by the Contractor for completeness and compliance with the Contract Documents, Submissions without this stamp and submissions which, in the Architect's opinion, are incomplete, contain numerous errors, or have not been checked or have only been checked superficially, will be returned for resubmission. Proposed deviations and substitutions from the Contract Documents shall be clearly noted on the submittals and handled as elsewhere herein described. The Contractor shall be solely responsible for any quantities and dimensions which may be shown on the submittals.

**§ 3.12.7.3** Samples of materials which are generally furnished in containers bearing manufacturer's descriptive labels and printed application instructions shall, if not submitted in standard containers, be furnished with such labels and application instructions.

**§ 3.12.7.4** The Contractor shall prepare or cause to be prepared, coordination drawings that depict composite Shop Drawings and field installation layouts to depict all conditions as necessary to coordinate the Work and to depict proposed solutions for tight field conditions. These Shop Drawings and field installation layouts shall be coordinated in the field by the Contractor and Subcontractors for proper relationship to the Work of all other trades based on field conditions. Before materials are fabricated or Work begun, the Contractor shall submit to the Architect complete Shop Drawings at not less than the scale of Architect's Drawings. The Contractor shall make the Shop Drawings and installation layouts available at all times at the Project site. The Contractor shall coordinate all field work and Shop Drawings of the various trades prior to installation of the Work. In spaces where various installations cannot be accommodated, the Contractor shall, prior to fabrication or installation of the Work, notify the Architect and Owner and shall cooperate with the Architect and Owner in developing a solution to the problem. The Contractor shall be responsible for coordinating the various trades involving the location and size of all sleeves, electrical outlets, inserts, piping, conduits, hangers, ducts and similar installations. The Contractor agrees that all such installations shall be clear of obstructions and shall be constructed in a manner presenting an orderly appearance at no additional cost or increase in time to the Owner.

**§ 3.12.8** The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Owner or Architect (if permitted under the Contract Documents) has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

**§ 3.12.9** The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

Init.

**§ 3.12.10** The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures and as Applicable Laws bear upon the performance of the Work. The Contractor shall not be required to provide professional services in violation of applicable law.

If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. If the Contractor Party's design professional needs further information from the Architect, the Contractor shall promptly so inform the Owner and Architect in writing. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional and who shall comply with the reasonable requirements of the Owner regarding qualifications and insurance. 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 the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

*(Paragraphs deleted)*

**§ 3.12.10.1** If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

### **§ 3.13 Use of Site**

**§ 3.13.1.** The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. After equipment is no longer required for the Work, it shall be promptly removed from the project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall provide a clean and secure site so as to limit Project site damage from vandalism, theft, and other occurrences. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the site of the Work shall be free from all debris, building materials, and equipment likely to cause hazardous conditions. Upon request by Owner, but in no case later than thirty (30) days after execution of the Agreement, the Contractor shall prepare for the Owner's review, and the Contractor shall use, a plan for efficient and effective use of the Project site and for secure storage of materials and equipment by the Contractor any and/or all Subcontractors.

**§ 3.13.2** Neither the Contractor nor any subcontractor shall interrupt utility service to adjacent or nearby occupied buildings or the portions of the Project site that are in use and occupied by others. If Contractor or any subcontractor is required to interrupt utility services to perform the Work, the Contractor shall coordinate such interruption with the Owner and any affected persons so as to avoid any damage to the Owner or the affected persons. Neither the Contractor nor any subcontractor shall interrupt utility service to occupied buildings or portions of the Project site that are in use and occupied by others during business hours for any reason unless required by the Contract Documents, and the Contractor shall pay any related outage fee and/or premium or overtime charges if such interruption is due to the Contractor's or subcontractor's negligence.

**§ 3.13.3** Neither the Contractor nor any subcontractor nor any Contractor related party (the "Contractor Parties") shall interfere with the occupancy or beneficial use of (i) any areas and buildings adjacent to or nearby the Project site and (ii) the Project site in the event of partial occupancy. The Contractor shall ensure that the Work does not encumber the free, convenient, and direct access to properties neighboring and nearby the Project site, or the use of the alley, street and sidewalk, to the extent reasonably possible. The Owner and the Contractor shall work together to coordinate any

planned disruptions of the street, sidewalk, and alley areas with affected adjacent property owners and property managers. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the Project site shall be free from all debris, building materials, and equipment likely to cause hazardous conditions.

§ 3.13.4 Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project site including lavatories, toilets, entrances, and parking areas other than those designated by the Owner.

§ 3.13.5 The Contractor Parties shall not encroach upon adjacent property for storage of materials or any other reason, nor shall any of the Contractor Parties' employees be permitted on said properties without permission of the adjacent property owners, with a copy of such permission provided to the Owner. As between the Owner and the Contractor, the Contractor shall repair at its sole cost and expense any and all damage or injury to adjacent property caused by performance of the Work and leave the property in as good condition as before work was started. The Contractor shall, at its sole cost and expense, indemnify, defend and hold harmless the Owner from any liability or responsibility for any claims due to such damage or injury.

§ 3.13.6 While on the Project site or at the Owner's offices, the Contractor Parties shall comply with all policies, rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project site and the Work outlined on Exhibit B attached to the Agreement, as such rules and regulations may be amended from time-to-time, including, without limitation: (i) no smoking; (ii) drug-free environment; (iii) dress code; (iv) non-harassment; (y) travel/expense guidelines; (vi) time reporting; (vii) all safety and security policies (including a prohibition against weapons); (viii) computer security and use policies; and (ix) Owner's Physical Security Policy. All of Contractor's employees ("Contractor Employees") may be required to attend a short orientation program prior to performing services on Owner's premises. Owner may require Contractor to immediately remove any of its personnel that do not comply with these policies or who are otherwise objectionable to Owner for any reason. The Contractor shall immediately notify the Owner if, during the performance of the Work, the Contractor finds compliance with any portion of such rules and regulations to be impracticable, setting forth the problems of such compliance and suggesting alternatives through which the same results intended by such portions of the rules and regulations can be achieved. The Owner may, in the Owner's sole discretion, adopt such suggestions, develop new alternatives, or require compliance with the existing requirements.

§ 3.13.7 Only materials and equipment that are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor Parties. After equipment is no longer required for the Work, it shall be promptly removed from the Project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor.

§ 3.13.8 The Contractor Parties shall not be permitted, without the Owner's consent (which may be withheld in the reasonable discretion of the Owner), to place any signs stating the name of any of the Contractor Parties at the Project site.

### § 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, and patching shall be restored to the condition existing prior to the cutting, fitting, and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor, such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, the Contractor's consent to cutting or otherwise altering the Work.

### § 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract as more particularly described in Sections 3.15.3 below, and as also required by the Specifications. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

Init.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.15.3 During its Work, Contractor and each Subcontractor shall keep the Work neat and orderly by frequent periodic waste removal and cleanup. Crates and cartons in which materials, equipment or fixtures are received shall be removed daily. Upon completion of its division of the Work, each Subcontractor shall collect and remove all rubbish, surplus material, tools and scaffolding pertaining to its Work. The Contractor is fully responsible for all rodent control until Substantial Completion of the entire Work, and any rodent problems affecting the Owner or its tenants shall be remediated by the Contractor. Contractor and each Subcontractor shall be responsible for collection and disposal of rubbish created by its materials, workers and Work. Contractor shall perform periodic broom cleaning of the building areas after pouring of concrete floor slabs and concrete fill. Contractor shall be responsible for cleanup of debris, dirt and dust in the Work area.

§ 3.15.4 At the Date of Substantial Completion of the Project, Contractor in addition to removal of accumulated debris and rubbish, shall clean all glass, and replace any broken glass, remove stains, spots and marks from finish work and hardware. Building hard floors shall be damp mop clean, and carpeted floors shall be vacuumed at the time they are turned over to Owner.

§ 3.15.5 Garbage, used wrappings, and other refuse generated during lunch and break periods, and cups used at drinking facilities shall be immediately placed in waste containers provided by Contractor; said containers shall be emptied daily or weekly to prevent any rodent problems and unsanitary conditions.

§ 3.15.6 Contractor's employees and Subcontractor's employees shall not use the air-conditioned finished areas of the Project for lunch or break areas without the prior written approval of the Owner.

§ 3.15.7 Contractor shall maintain streets and sidewalks around the Project site in a clean condition. Contractor shall remove all spillage and tracking arising from the performance of the Work from such areas, shall repair any damage to such areas, and shall establish a regular maintenance program of sweeping and hosing to minimize accumulation of dirt and dust upon such area.

### § 3.16 Access to Work

The Contractor shall provide the Owner, Owner's other representatives, Lender, Separate Contractors, if any, and Architect access to the Work in preparation and progress wherever located.

### § 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

### § 3.18 Indemnification

§ 3.18.1 The Contractor shall, to the fullest extent permitted by law, with respect to its obligations under the Contract Documents, indemnify, defend and hold harmless Owner and its constituent partners and/or members, any subsidiary or affiliated company of Owner, Owner's asset manager, Owner's development manager and Owner's and its affiliates' lender(s), as well as the foregoing parties' respective employees, officers, directors, direct and indirect managers, partners and shareholders, trustees, counsel, advisors and agents and the respective heirs, executors, administrators, successors and assigns of all of them (including Owner an "Indemnified Party", and collectively, the "Indemnified Parties") from and against each and all of the following:

§ 3.18.1.1 Any claims, liabilities, losses, damages, costs, expenses, including attorney's fees, awards, fines or judgments, resulting from or arising out of (i) any default under the Contract Documents (including failure in the performance of the Work), other than a default caused solely by any Indemnified Party, or (ii) damage or injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or

Init.

omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18. Notwithstanding the foregoing or anything else to the contrary appearing herein, it is understood and agreed that the obligations of the Contractor under this paragraph shall not extend to liability for the errors or omissions of the Architect, the Architect's consultants, and agents and employees of any of them arising in whole or in part out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, designs or specifications, or (2) the giving of or failure to give directions or instructions by the Architect, the Architect's consultants, and agents and employees of any of them, it being understood that Owner shall look solely to Architects and its insurers in the event of any loss, injury or damage due in whole or in part to the causes set forth above, subject, however, to Contractor's responsibilities hereunder with respect to Contractor's actual knowledge of errors or omissions in the Drawings and Specifications.

**§ 3.18.1.2** Any and all liens and charges of every type, nature, kind or description, including attorney's fees, which may at any time be filed or claimed against the Project, or any portion thereof, as a consequence of acts or omissions of Contractor, Contractor's agents, servants, employees, Subcontractors, Sub-subcontractors or any or all of them and which are not due to Owner's failure to perform its obligations under the Contract Documents.

**§ 3.18.1.3** Any claim, liability, loss, cost, damage or expense, including attorneys' fees, arising out of or in connection with any claim for the bodily injury or death of any employee of Contractor, employee of any Subcontractor, employee of any Sub-subcontractor, anyone employed directly or indirectly by any of them or for whose acts they may be liable. Contractor shall be obligated to indemnify and hold harmless an Indemnified Party even if the concurrent negligence or fault of Owner or another Indemnified Party is alleged or proven.

**§ 3.18.1.4** Any claim, damages, liability, fine, penalty, loss, costs, judgment, or expense, including attorneys' fees, arising out of or in connection with any violations or alleged violations of the Immigration Reform and Control Act, 8 U.S.C. § 1324a, et seq., associated with employees hired to perform Work on the project by Contractor, any Subcontractor, any Sub-subcontractor, or anyone employed directly or indirectly by any of them or for whose acts they may be liable.

**§ 3.18.2** Owner shall have the right, at its option, upon notice to Contractor, to approve (in the exercise of reasonable judgment) such counsel as Contractor deems necessary to represent Owner in connection with any liability indemnified under this Section 3.18 (provided that if Contractor's insurer reserves the right to select such counsel, the counsel selected by Contractor's insurer shall be deemed approved by Owner), and all reasonable fees and expenses of such counsel shall be the sole responsibility of Contractor.

**§ 3.18.3** TO THE MAXIMUM EXTENT PERMITTED BY LAW, WITH RESPECT TO ANY CLAIM, LIABILITY, LOSS, COST, DAMAGE OR EXPENSE, INCLUDING ATTORNEYS' FEES, ARISING OUT OF OR IN CONNECTION WITH ANY CLAIM FOR THE BODILY INJURY OR DEATH OF ANY EMPLOYEE OF CONTRACTOR, EMPLOYEE OF ANY SUBCONTRACTOR, EMPLOYEE OF ANY SUB-SUBCONTRACTOR, ANYONE EMPLOYED DIRECTLY OR INDIRECTLY BY ANY OF THEM OR FOR WHOSE ACTS THEY MAY BE LIABLE, CONTRACTOR SHALL BE OBLIGATED TO DEFEND, INDEMNIFY, AND HOLD HARMLESS AN INDEMNIFIED PARTY EVEN IF THE SOLE OR CONCURRENT NEGLIGENCE OR FAULT OF OWNER OR ANOTHER INDEMNIFIED PARTY IS ALLEGED OR PROVEN.

**§ 3.18.4** Additionally, in any and all claims against any Indemnified Party by any employee of Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation 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 Subcontractor of any tier under workers' compensation acts, disability benefit acts or other employee benefit acts, it being clearly agreed and understood by the parties hereto that Contractor and/or each Subcontractor, as applicable, expressly waive for purposes of the indemnification obligations hereunder any immunity it might otherwise have or assert under the workers' compensation laws of the state in which the Property is located.

### **§ 3.19 RECORD DRAWINGS**

**§ 3.19.1** All record drawings shall be kept electronically.

Init.

§ 3.19.2 Contractor shall supply electronic copies of all maintenance manuals, installation instructions, and warranties for all products or equipment installed or furnished to the Project.

§ 3.19.3 Proper Record Drawings shall be submitted to the Architect as soon as possible after completion of the Work and before request for Final Payment, if possible.

§ 3.19.4 Record Drawings shall include the following additional drawings of as-built conditions: (1) for any new building, a drawing to show location of each building as built on the property and its said location to be certified by registered surveyor; and (2) drawings of any underground lines, tanks, or structures shall indicate the locations, identifications and sizes of such lines, tanks, and structures.

### § 3.20 Certificate of Occupancy

Contractor shall obtain Certificates of Occupancy if and as required by governing Town, City, County or State authorities, and give same to Owner at the earliest feasible date, but in no event later than the Date of Substantial Completion, unless withheld for reasons beyond Contractor's scope or control. As provided in the Agreement, there may be multiple Substantial Completion dates and certificates of occupancy with respect to the Project.

## ARTICLE 4 ARCHITECT

### § 4.1 General

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner may in its sole discretion, from time to time, assign to others some of the Architect's functions or duties, for any period of time as determined by the Owner. The duties and functions of the Architect may be partially assumed and partially assigned and may be divided among several different persons or entities, all as the Owner deems fit, provided Owner selects one of these persons or entities as its decision maker in matters pertaining to the Architect. Whether singular or plural in number, the above described parties are referred to throughout the Contract Documents as singular in number.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect whose status under the Contract Documents shall be that of the Architect.

### § 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.1.1 The Architect's services and administration of the Contract shall be limited in accordance with the executed agreement between the Owner and Architect.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become familiar with the progress and quality of the portion of the Work completed, to determine if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents, and to keep Owner apprised of progress of the Work. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the

Init.

Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

**§ 4.2.4 Communications Facilitating Contract Administration**

The Owner and Contractor shall endeavor to communicate with each other about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. Notwithstanding anything to the contrary, the Owner has not relinquished its right to communicate directly with the Architect's consultants or with the Contractor.

**§ 4.2.5** Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

**§ 4.2.6** The Architect and the Owner have s authority to reasonably reject Work that does not conform to the Contract Documents. Whenever the Architect or the Owner considers it necessary or advisable, the Architect or the Owner will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect or the Owner, nor a decision made in good faith either to exercise or not to exercise such authority, or the Owner shall give rise to a duty or responsibility of the Architect or the Owner to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work. All costs, including compensation for the Owner's and the Architect's services and expenses, made necessary by such failure of the Work to conform to the Contract Documents, including those of repeated procedures, shall not result in an increase in the Guaranteed Maximum Price.

**§ 4.2.7** The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

**§ 4.2.8** The Architect (if directed by Owner) or the Owner will prepare Construction Change Directives, and may authorize minor changes in the Work whereas Change Orders shall be prepared by the Contractor, as provided in Section 7.4. The Architect or the Owner will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

**§ 4.2.9** The Architect and the Owner will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; the Architect shall issue Certificates of Substantial Completion pursuant to Section 9.8; the Architect shall receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and the Architect shall issue a final Certificate for Payment pursuant to Section 9.10.

**§ 4.2.10** If the Owner and Architect agree, the Architect or the Owner will provide one or more Project representatives to assist in carrying out the Architect's responsibilities during the Project at the site. The duties, responsibilities and limitations of authority of the Project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret requirements of the Contract Documents and make recommendations on performance thereafter. The Architect's interpretations will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 Decisions of the Architect shall not be binding upon Owner and Contractor to the extent of any Claim Owner or Contractor may have against each other relating to such decision.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site, or supply materials and/or equipment for the Work. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the separate contractor or subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site, or supply materials and/or equipment for the Work. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

### § 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 The Contractor may subcontract all or a portion of the Work. Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within fourteen (14) days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection. Subcontracts shall be competitively bid in accordance with the Contract Documents. Each proposed Subcontractor shall be financially sound and shall be experienced and skilled to perform its portion of the Work.

§ 5.2.1.1 Except as may be otherwise directed or approved by Owner and wherever reasonably possible, all subcontracts and purchase orders shall be awarded pursuant to competitive bids and according to the procedures set forth in Article 10 of the Agreement and in Section 5.2 herein. The Contractor must disclose to Owner its intention to perform any Work, other than supervision of the Work, by the Contractor's own forces. Upon Owner's request, the Contractor shall be required to solicit competitive bids from other qualified subcontractors for the Work the Contractor proposes to perform with its own forces in compliance with the same procedures.

- .1 Contractor shall provide Exhibit K to the Agreement containing a list of the "Major Subcontractors" (defined herein as those Subcontractors providing more than \$250,000 of labor and/or materials to the Project), and any trade or vendor for which the Contractor will receive less than three (3) bidders. The Owner understands that due to current market conditions the quantity of qualified and available bidders may be limited, and Owner agrees that less than three (3) bidders may be provided as described in Exhibit G to the Agreement. The Owner may designate specific persons from which the Contractor shall obtain bids. Otherwise, the Contractor shall obtain bids from Subcontractors and



from suppliers of materials or equipment fabricated to a special design for the Work from the list of acceptable entities previously developed pursuant to Section 10.1 of the Agreement.

**.2** The Contractor shall prepare written requests for proposals for all bid packages.

**§ 5.2.1.2** Except as otherwise agreed to by the Owner and the Contractor, the Contractor shall competitively bid any trade Work that the Contractor wishes to perform with the Contractor's own labor, or through a related party, and shall obtain no fewer than two (2) additional responsive bids (if possible) from responsible Subcontractors acceptable to the Owner. The Contractor, or a related party, shall be permitted to perform such trade Work only if the Owner consents thereto after full written disclosure by the Contractor to the Owner of the affiliation or relationship of such related party to the Contractor and the Owner approves any subcontract, contract, purchase order, agreement or other arrangement between the Contractor and such related party in form and substance. If a related party is performing Work, it shall do so under a subcontract meeting the requirements set forth herein and in the Contract Documents. If approved by the Owner, the Contractor shall submit the bid for its self perform work in advance of the receipt of competitive subcontractor bids. Competitive bids for any self perform category, shall be submitted directly to the Owner in a sealed envelope and will be opened in the presence of the Owner and General Contractor. In addition, the Owner shall be permitted to review the Contractor's bid estimate in detail. The Owner, in its sole and absolute discretion, shall determine whether or not to accept the bid recommended by the Contractor or whether to select another bid furnished by the Contractor, and the Contractor shall follow the Owner's direction in that regard. If the Owner fails to authorize a transaction with a related party, the Contractor shall procure the Work, equipment, goods or service from some person or entity other than a related party according to the terms of Article 10 of the Agreement.

**§ 5.2.2** The Contractor shall not contract with a proposed person or entity to whom the Owner, Owner's lenders, or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

**§ 5.2.3** If the Owner, Owner's lenders, or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Owner's lenders, or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

**§ 5.2.4** The Contractor shall not substitute a Subcontractor, person, or entity previously selected if the Owner or Architect makes reasonable objection to such substitution. If the Contractor proposes to terminate a Subcontractor, the Contractor shall advise the Owner and the Architect of all information relating to the proposed termination. Costs related to any such termination or related re-procurement shall not constitute a basis for an increase in the Contract Time or Guaranteed Maximum Price, except to the extent that the applicable subcontract was initially entered into between the Owner and the Subcontractor and subsequently assigned or novated to the Contractor. The Owner may require the Contractor to change any Subcontractor or Sub-subcontractor previously approved based on Owner's reasonable objection(s) as to such Subcontractor's or Sub-subcontractor's performance with respect to the Project and, if at such time the Contractor is not in default hereunder, the Contract Sum shall be increased or decreased by the difference in cost occasioned by such change.

**§ 5.2.5** Acceptance of or failure to object to any or all listed Subcontractors by the Owner or the Architect does not relieve the Contractor from any responsibility for its Subcontractors.

**§ 5.3 Subcontractual Relations**

**§ 5.3.1** By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has

Init.

against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

**§ 5.3.2** Contractor shall use good faith efforts to cause each subcontract agreement and/or purchase order, as applicable, in excess of \$10,000 (herein referred to as a "Major Subcontract" and the Subcontractor under the Major Subcontract being referred to as "Major Subcontractor") to be in writing on Contractor's standard form subcontract agreement or purchase order, as applicable, with general terms and conditions. If requested in writing by Owner, Contractor shall deliver copies of certain executed subcontract agreements and purchase orders to Owner within five (5) days after the effective date hereof with respect to those subcontract agreements and purchase orders entered into as of such date. With respect to subcontract agreements and purchase orders entered into after the effective date hereof, copies of requested subcontract agreements shall be delivered to Owner within five (5) days following the execution thereof. Contractor also shall use good faith efforts to cause each written subcontract agreement to:

- (1) require that the Work be performed in accordance with the requirements of the Contract Documents;
- (2) require submission to Contractor of applications for payment under each subcontract to which Contractor is a party, in reasonable time to enable Contractor to apply for payment;
- (3) require the Subcontractor to carry and maintain liability insurance in accordance with the Contract Documents;
- (4) provide that Owner is a third-party beneficiary of the subcontract;
- (5) indemnify the Indemnified Parties to the same extent as Contractor is required to indemnify the Indemnified Parties under the Contract Documents;
- (6) furnish a release or waiver of rights to liens in form and substance acceptable to Owner as required by the Contract Documents; and
- (7) require the Subcontractor to furnish to Contractor in a timely fashion all information necessary for the preparation and submission of the reports required under the Contract Documents.

In addition, the subcontract shall provide that (a) the Subcontractor shall not be entitled to any increase in the amount due under the subcontract in the event of an assignment, except as set forth in Section 5.4.3; and (b) if a Subcontract is terminated, the Subcontractor shall notify the appropriate government authorities and close out or transfer (at the Owner's specific request and election) its permit at no additional cost. The Contractor shall also require its surety, if any, to approve such assignments.

#### **§ 5.4 Contingent Assignment of Subcontracts**

**§ 5.4.1** Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner, Owner's assigns and/or Owner's lenders, accepts the assignment of a subcontract agreement, the Owner, Owner's assigns and/or Owner's lenders assumes the Contractor's rights and obligations under the subcontract. The Contractor shall also require its surety, if any, to approve such assignments.

**§ 5.4.2** Upon such assignment to the Owner, Owner's assigns and/or Owner's lenders, under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the

subcontract to a successor contractor or other entity, the Owner shall not remain legally responsible for the successor contractor's obligations under the subcontract.

§ 5.4.3 Upon such assignment, if the Work of a particular Subcontractor has been suspended for more than 60 days, such Subcontractor's compensation shall be equitably adjusted for documented increases in cost resulting from the suspension.

§ 5.4.4 The Owner assumes no liability in connection with the Contractor's use of any other Contractor Party to perform its obligations under this Contract. All rights and remedies of any Contractor Party shall be against the Contractor; provided, however, that nothing herein shall be construed to affect any Contractor Party's in rem rights against the Project arising under applicable lien laws, if any such rights exist.

## **ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

### **§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts**

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Contractor shall provide for coordination of the activities of the Owner's own forces including, without limitation, any of Owner's tenants' contractors, special equipment installers, telephone/data vendors, signage installers, and furniture installers, and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule as (i) required by Owner (if Contractor claims additional costs is involved because of such revisions to the scheduled Contractor shall make such claim for such costs as well as for additional days to perform such revisions as provided elsewhere in the Contract Documents), and (ii) deemed necessary after a joint review and mutual agreement by the Owner and the Contractor. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

### **§ 6.1.5 Owner-Furnished Items.**

Notwithstanding Contractor's coordination and cooperation responsibility, Contractor shall not be liable for any defects in the work done by Owner's separate contractors, except to the extent that such work is damaged by Contractor or any subcontractor of Contractor. Contractor agrees to fully cooperate with Owner in order to efficiently incorporate the Owner-furnished Items into the Work. Owner shall require its separate contractors to cooperate and coordinate with Contractor. With respect to the Owner-furnished Items to be installed by Contractor. Contractor shall remain fully responsible for furnishing the necessary services and other items necessary to install and incorporate such Owner-furnished Items. Provided that Contractor installs such Owner-furnished Items in accordance with the instructions furnished by Owner with respect thereto and does not damage such Owner-furnished Items, Contractor shall have no warranty liability with respect to such Owner-furnished Items themselves, only with respect to the installation of such Owner-furnished Items.

Contractor will visually inspect any Owner-furnished Items to be installed by Contractor as part of the Work before incorporating such Owner-furnished Items into the Work and shall promptly inform Owner in writing of any apparent

Init.

deficiencies such as visible damage, but excluding latent defects, observed by Contractor in such Owner-furnished Items or any other objections that Contractor has to using such Owner-furnished Items in connection with the Work. Notwithstanding anything contained in this Section 6 to the contrary, Contractor's failure to inform the Owner in writing of any such observed deficiencies or objections, when such deficiencies or objections become known shall constitute a waiver by Contractor of any claims or damages based on Owner having furnished the Owner-furnished Items instead of Contractor and Contractor, at no cost or expense to Owner, shall be responsible for causing such defective Owner-furnished Items to be replaced with non-defective Owner-furnished Items.

## **§ 6.2 Mutual Responsibility**

**§ 6.2.1** The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

**§ 6.2.2** If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

**§ 6.2.3** The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

**§ 6.2.4** The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

**§ 6.2.5** The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

**§ 6.2.6** If any Separate Contractor initiates legal or any other proceedings against the Owner on account of any damage caused by the Contractor, the Owner shall notify the Contractor, who shall defend such proceedings at its own expense, and if any judgment or award against the Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorneys' fees and court and other costs which the Owner has incurred over and above those paid for directly by the Contractor. The Owner shall require other contractors that perform work in the areas where the Work is performed under this Agreement to indemnify and defend the Owner and the Contractor and to hold the Owner and the Contractor harmless from all claims for bodily injury and property damage that may arise from the Separate Contractor's operations.

## **§ 6.3 Owner's Right to Clean Up**

If a dispute arises among the Contractor, Separate Contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Owner (or the Architect if so designated by Owner) will allocate the cost among those responsible as part of the Contract Sum.

## **ARTICLE 7 CHANGES IN THE WORK**

### **§ 7.1 General**

**§ 7.1.1** Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

**§ 7.1.2** A Change Order shall be based upon agreement among the Owner, Contractor, and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Owner or the Architect (to the extent directed by Owner) alone.

**§ 7.1.3** Changes in the Work shall be performed under applicable provisions of the Contract Documents; and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work. Except as permitted in Section 7.3 and Section 9.7.2, a change in the Contract Sum or the Contract Time shall be accomplished only by Change Order. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alteration or addition to the Work, whether or not there is, in fact, any unjust enrichment to the Work, shall be the basis of any claim to any increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents.

## **§ 7.2 Change Orders**

**§ 7.2.1** A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and if Owner requests the same, the Architect, stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

**§ 7.2.2** Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum, the Contract Time, and the construction schedule.

**§ 7.2.3** All Change Orders shall be accompanied by a complete itemization of costs, including labor, and materials. Subcontracts shall be itemized similarly. Contractor shall submit proposed Change Order pricing promptly, and if possible within fourteen (14) calendar days after it has received the information relating to the change from Owner and/or Architect. If the preparation of the Change Order will take more than fourteen (14) calendar days, the Contractor will promptly notify the Owner in writing via email of the anticipated additional time required.

**§ 7.2.4** If Contractor becomes aware of any proposed change that it believes will produce results inconsistent with the intent of the Contract Documents, the design or nature of the Work indicated by the Drawings and Specifications or cause mechanical or procedural problems with respect to the performance of the Work or delay the critical path schedule for the Work, Contractor shall promptly notify Owner and Architect.

**§ 7.2.5** In the event of a credit Change Order, the Contractor's Fee shall be included in the credited amount.

**§ 7.2.6** The Guaranteed Maximum Price or Contract Time shall not be adjusted unless the net effect of all Changes in the Work require such adjustment as provided in Section 5.1.2 of the Agreement.

## **§ 7.3 Construction Change Directives**

**§ 7.3.1** A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly. The Owner at any time may also by Construction Change Directive, without invalidating the Contract, order the Contractor to perform work in the event of a dispute with the Contractor as to whether such work is part of the Work under the Contract Documents.

**§ 7.3.2** A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

**§ 7.3.3** If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents without any additional mark-up or as subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

Init.

**§ 7.3.4** If

*(Paragraphs deleted)*

unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

**§ 7.3.5** Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Owner of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

**§ 7.3.6** A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

**§ 7.3.7** Contractor has twenty-one (21) days following receipt of a Construction Change Directive or minor change in the work to inform the Owner and Architect in writing that it disagrees with (i) the amount or method for determining the amount set forth in the Construction Change Directive for change in the Contract Sum or Contract Time, or (ii) if it believes that the minor change in the work involves an adjustment in the Contract Sum or extension of the Contract Time or is inconsistent with the design or nature of the Work indicated by the Drawings and Specifications or the intent of the Contract Documents, or (iii) will cause mechanical or procedural problems with respect to the performance of the Work. If Contractor should fail to timely respond (as outlined above) to any applicable Construction Change Order, the Contractor shall be deemed to have irrevocably consented to and agreed to all terms and information contained in the applicable Construction Change Order.

**§ 7.3.8** If agreement cannot be reached, the cost of the Construction Change Directive shall be the sum of the following:

1. Labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
2. Actual costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
3. Reasonable rental costs of machinery and equipment, exclusive of hand tools, obtained specifically for such Work, whether rented from Contractor or others;
4. Costs of premiums for all bonds, insurance, permit fees, and sales, use or similar taxes related to the Work in accordance with the laws in effect on the date of the Change Order; and
5. Additional costs of on-site supervision and field office personnel directly attributable to the change.

**§ 7.3.9** The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

**§ 7.3.10** Pending final determination of the total cost of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs. For any portion of such cost that remains in dispute, the Owner will make an interim determination for purposes of monthly certification for payment for those costs. That determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a claim in accordance with Article 15.5.

**§ 7.3.11** When the Owner and Contractor agree with the determination made by the Owner concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.

**§ 7.4 Minor Changes in the Work**

**§ 7.4.1** The Owner (or the Architect if elected by the Owner, and then only to the extent and under the conditions directed by Owner) has authority to order minor changes in the Work not involving adjustment in the Contract Sum or

Init.

extension of the Contract Time, will not delay a critical path schedule item for the Work, not inconsistent with the intent of the Contract Documents, and will not cause mechanical or procedural problems with respect to the performance of the Work. A change shall not be considered a minor change if it involves an alteration, addition or deletion in the Work which increases or decreases the Cost of the Work or changes the critical path of the performance of the Work as a direct result of: (i) the addition of a new element of scope to the Work that is not required by, or reasonably inferable from, the Contract Documents and is not covered by an allowance or alternate set forth in the Contract Documents, or (ii) a requirement of additional construction means, methods, techniques, sequences or procedures that differ substantially from those that would have been used, but for such change in the Work that is not caused by or attributable to the fault or neglect, in whole or in part, of the Contractor, a Subcontractor, or any person performing Work on any of their behalf or for whom the Contractor or any Subcontractor may be responsible, including, without limitation, the failure to perform the Work in strict compliance with the requirements of the Contract Documents.

**§ 7.4.2** Notwithstanding anything contained in Article 7 to the contrary, in no event shall any changes in the Work with respect to the manufacturer of a specified item or material, or the color, quality or grade, or physical composition of any specific item or material be made without the written consent of the Owner, nor shall any change in any dimension of any component of the Work or equipment incorporated into the Work be made without the written consent of Owner if such changes affect the operation or functionality of the Project or aesthetics of the Project, even if any of the above described changes would otherwise be considered a minor change in the Work.

**§ 7.5** Overhead and profit will not be paid by the Owner for overtime.

## **ARTICLE 8 TIME**

### **§ 8.1 Definitions**

**§ 8.1.1** Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

**§ 8.1.2** The date of commencement of the Work is the date established in the Agreement.

**§ 8.1.3** The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

**§ 8.1.4** The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined. The overall duration of the Project is expressed in calendar days.

**§ 8.1.5** The term "work day" or "business day" in the Contract document shall mean Monday through Friday exclusive of weekends, and any state or federal holidays. Construction activities contained within the construction schedule are based on "work days."

**§ 8.1.6** All time limits and durations set forth herein are subject to adjustment by Owner, in Owner's reasonable discretion, to accommodate third party timing concerns, including, without limitation, competing timing requirements of its lender(s), investor(s) and title insurer(s)..

### **§ 8.2 Progress and Completion**

**§ 8.2.1** Time is of the essence with respect to the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

**§ 8.2.2** The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

**§ 8.2.3** The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

### **§ 8.3 Delays and Extensions of Time**

**§ 8.3.1** If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, or of an employee of either, or of a Separate Contractor employed by the Owner; or by

Init.

changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and litigation or arbitration, if applicable; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect and Owner may determine.

**§ 8.3.1.1** Notwithstanding the provisions of Section 8.3.1 above, no extension of time shall be granted unless the Contractor shall demonstrate that the delay in completion of the Work was caused by a delay in a portion of the Work that was on the critical path of the Project. The completion time contemplated by this Agreement includes the number of lost days of the critical path of the Project due to normal inclement weather conditions, based on the historical average days of inclement weather as documented by the National Weather Service and indexed to the zip code of the Project ("NWS Delays"). The Contractor further acknowledges and agrees that adjustments in the Contract Time will be permitted for a delay in the critical path of the Project attributable to inclement weather in excess of the NWS Delays only to the extent that such delay: (1) is not caused, or could not have been reasonably anticipated, or prevented by the Contractor; (2) could not be limited or avoided by the Contractor's timely notice to the Owner of the delay; and (3) is of a duration not less than one (1) day.

**§ 8.3.2** Claims relating to time shall be made in accordance with applicable provisions of Article 15.

**§ 8.3.3** Contract Time, to the extent permitted under Section 8.3.1, shall be the sole remedy of the Contractor for any (i) delay in the commencement, prosecution, or completion of the Work, (ii) hindrance, interference, suspension or obstruction in the performance of the Work, (iii) loss of productivity, or (iv) other similar claims (items i through iv herein collectively referred to in this Section 8.3.3 as "Delays") whether or not such Delays are foreseeable, unless a Delay is caused by acts of the Owner constituting intentional interference with the Contractor's performance of the Work, and only to the extent such acts continue after the Contractor furnishes the Owner with notice of such interference. Except where, as a matter of law or equity, liquidated damages are not an available remedy to Owner, in no event shall the Contractor be entitled to any compensation or recovery of any damages, in connection with any Delay, including, without limitation, consequential damages, lost opportunity costs, impact damages, or other similar remuneration. The Owner's exercise of any of its rights or remedies under the Contract Documents (including, without limitation, ordering changes in the Work, or directing suspension, rescheduling, or correction of the Work), regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be construed as intentional interference with the Contractor's performance of the Work.

## **ARTICLE 9 PAYMENTS AND COMPLETION**

### **§ 9.1 Contract Sum**

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

*(Paragraphs deleted)*

### **§ 9.2 Schedule of Values**

**§ 9.2.1** Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Owner and the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner or the Architect may reasonably require. This schedule shall be used as a basis for reviewing the Contractor's Applications for Payment.

**§ 9.2.2** As soon as Subcontractors and Vendors are identified, the Contractor shall identify, by submitting a list to the Owner, of all Subcontractors who will be working on or furnishing material or equipment to the Project.

### **§ 9.3 Applications for Payment**

**§ 9.3.1** Except as otherwise provided in Article 5 of the Agreement, at least five (5) days before the date established for each progress payment, the Contractor shall submit to the Owner and Architect an itemized Application for Payment prepared in accordance with the Schedule of Values, if required under Section 9.2., for completed portions of the Work. Such application shall be notarized and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.



§ 9.3.1.1 Based upon Applications for Payment in a form reasonably satisfactory to the Owner and the Architect and accompanied by all supporting documentation required by Owner and the Architect on the Application for Payment, including all required mechanic's lien waivers and releases, submitted to the Owner and the Architect by the Contractor and Certificates for Payment issued by the Owner and the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents. As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Owner and the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay, and if payment is received but for some reason not paid to the Subcontractors, Sub-subcontractors or material suppliers, that portion of the payment shall be returned to the Owner not later than seven (7) days after receipt.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work.

§ 9.3.4 In each Application for Payment, on forms AIA G702 and G703, the Contractor shall certify that except for any "Contested Lien" (hereafter defined) there are no known mechanic's or materialmen's liens or claims outstanding on the date of the Application, that all due and payable bills with respect to the Work have been paid to date or are included in the amount requested in the current Application, that all bills or obligations for which funds were requested in all previous Applications have been paid, and that, except for such bills not paid but so included, there is no known basis for the filing of any mechanic's or materialmen's liens on the Work, or for asserting mechanic's or materialmen's claims with respect thereto.

§ 9.3.4.1 The Contractor shall provide all notices required or permitted by the laws of the state in which the Project is located for protection of the Owner from liens and claims of lien if permitted or required by applicable law. The Contractor shall be responsible for filing the appropriate court or other governmental office records all such notices as required or permitted by the laws of the state in which the Project is located. The Contractor shall provide the Owner with copies of all notices received by the Contractor from subcontractors, sub-subcontractors, and/or suppliers to the Contractor. Provided that Owner has paid Contractor all sums then payable under the Contract Documents, if any materialmen's, mechanic's or other similar lien or claim is filed by any Subcontractor, supplier or laborer (herein called "Lien Claim"), and if the Contractor does not within ten (10) days after notice of such filing either (a) cause such Lien Claim to be released and discharged in a manner reasonably satisfactory to the Owner, its lender and any of Owner's or such lender's title insurer, or (b) furnish a bond satisfactory to the Owner and in compliance with the laws of the state in which the Property is located to bond around such Lien Claim and indemnify the Owner and its property against such Lien Claim, the Owner shall have the right to pay all sums necessary to obtain such release and discharge and deduct all amounts so paid from the Contract Sum and offset the amounts so paid against the amounts owing to the Contractor under the next succeeding Applications for Payment until the total amount of the same shall be recouped by the Owner. For the period ending on the date which is ten (10) days after the date the Contractor is notified of the existence of the Lien Claim, the Lien Claim shall be considered a "Contested Lien" for purposes of this Agreement if the Contractor has promptly notified the Owner in writing of its intent to contest the Lien claim or bond around the Lien Claim. Further, any Lien Claim which has been bonded around as provided hereunder shall be considered a "Contested Lien" for all purposes of this Agreement. The Contractor shall indemnify and hold harmless the Owner

and the Project from all claims, losses, demands, causes of actions or suits of whatever nature arising out of or incurred in connection with any such Lien Claim.

**§ 9.3.4.2** Contractor acknowledges that Owner will borrow certain funds to finance the construction of the Work and, that as a condition to any loans to Owner, the Lender may require from time to time certain statements, certificates, and documents from Contractor. Contractor, for itself and all subcontractors, covenants and agrees that any lien, statutory, expressed or implied, right and interest (whether choate or inchoate and including, without limitation, all mechanics' and materialmen's liens under the Applicable Laws and statutes of the state where the Project is located) which are owned or claimed by Contractor or shall exist or shall hereafter accrue to the benefit of Contractor for labor performed, materials furnished and Work done on this Project, shall be and remain subordinate, second and inferior to a first lien securing the payment of an interim construction loan and all advances made thereunder, and to any renewals, extensions or rearrangements thereof. Neither Contractor nor any subcontractor or other party shall be permitted to remove any improvements or other property constructed or installed or delivered in connection with the Work notwithstanding that such improvements or other property can be removed without material injury to any improvements not sought to be removed by any lien claimant and without such injury to any improvements sought to be removed by any lien claimant. A subordination provision to this effect applicable to liens and lien rights of Subcontractors shall be contained in all Subcontracts entered into by Contractor. Contractor shall execute, and shall cause its Subcontractors to execute, such further an additional evidence of the subordination of liens, rights and interests as Owner, Owner's interim or permanent lenders, investors, or any lessee may require. The subordination of lien is made in consideration of and as an inducement to the execution and delivery of the Contract, and shall be applicable despite any dispute between the parties hereto or any others, or any default by Owner under the Contract or otherwise.

**§ 9.3.4.3** The Contractor shall promptly advise the Owner of any action, administrative or legal proceeding or investigation as to which this indemnification may apply, and the Contractor, at the Contractor's expense, shall assume on behalf of the Owner and Lender and conduct with due diligence and in good faith the defense thereof with counsel satisfactory to the Owner or Lender, provided that (i) the Owner or Lender shall have the right to be represented therein by advisory counsel of its own selection and at its own expense, and (ii) if the Owner or Lender reasonably conclude that there may be legal defenses available to any of them which are different from or additional to, or inconsistent with, those available to the Contractor, or if the Owner or Lender reasonably concludes the Contractor has a conflict of interest and cannot adequately represent the Owner or Lender, then the Owner and Lender shall have the right to select separate counsel to participate in the defense of such action on their own behalf. In the event of failure by the Contractor to fully perform in accordance with this indemnification section, the Owner or Lender, at the option of either of them, and without relieving the Contractor of its obligations hereunder, may so perform, but all costs and expenses including attorneys' fees and expert fees so incurred by the Owner or Lender in that event shall be reimbursed by the Contractor to the Owner or Lender, together with interest on the same from the date that any such expense was paid by the Owner or Lender until reimbursed by the Contractor, at the rate of interest provided in Section 15.2 of the Agreement. The obligations of the Contractor under this Section shall survive the completion of the Work and the expiration or termination of the Contract.

#### **§ 9.4 Certificates for Payment**

**§ 9.4.1** The Architect will, within seven (7) days after receipt, or as may be required to facilitate Owner's processing per Article 12 of the Agreement, of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1. All Certificates and payments, including those pursuant to a pending Claim, shall be subject to the Owner's approval, and it shall not be necessary for the Architect to make any statement to this effect.

**§ 9.4.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's observations at the site, evaluation of the Work, and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1)

Init.

made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

### § 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- .7 persistent failure to carry out the Work in accordance with the Contract Documents.
- .8 the filing of a lien, except if the lien is one that the Contractor is not required to discharge pursuant to Section 13.8 or the Contractor has provided a bond in an amount sufficient to discharge the lien;
- .9 erroneous estimates by the Contractor of the values of the Work performed; or
- .10 a material breach of the Contract.

Notwithstanding anything to the contrary contained in the Contract Documents, the Owner may also withhold a reasonable portion of any payment for any of the above-stated reasons. The Owner shall inform the Contractor of such reason for withholding.

§ 9.5.2 Notwithstanding anything to the contrary contained in the Contract Documents, the Owner also may withhold any payment to the Contractor hereunder for the reasons listed in Section 9.5.1, above; provided, however, that any such holdback shall be limited to the amount sufficient in the reasonable opinion of the Owner to cure, or to otherwise protect Owner from loss resulting from, any such default or failure of performance by the Contractor. When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

*(Paragraph deleted)*

§ 9.5.4 If the Contractor disputes any determination by the Architect or the Owner with respect to any Application for Payment or any Certificate of Payment, the Contractor shall nevertheless expeditiously continue to prosecute the Work.

### § 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner. Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven (7) days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents, acceptance of stored materials, or a waiver of any right or Claim by the Owner regarding such Work or stored materials.

§ 9.6.7 The Owner may, at any time, and from time to time, provided such action by the Owner is reasonable under the circumstances or the Contractor is in default under this Contract beyond any applicable notice or cure period, pay Subcontractors (or lower tier Sub-subcontractors) and/or material suppliers by joint check payable to the order of the Contractor, such Subcontractor and Sub-Subcontractor, or such material supplier, as applicable, and upon any such payment the amount thereof shall be deducted from the amounts due or to become due to the Contractor hereunder.

*(Paragraph deleted)*

#### § 9.7 Failure of Payment

If, through no fault of the Contractor, the Owner does not pay the Contractor within fourteen (14) days after the date established in the Contract Documents the amount properly due Contractor under the terms of the Contract or awarded by dispute resolution or a judge, as applicable, then the Contractor may, upon seven (7) additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. Notwithstanding the foregoing or anything to the contrary in the Contract Documents, nonpayment of amounts that are subject to a good faith dispute shall not entitle the Contractor to stop the Work. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.7.1 If the Owner is entitled to reimbursement or payment from the Contractor under or pursuant to the Contract Documents, provided that the Owner is not in default of the payment provisions of the Contract, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective Work caused by the negligent act or omission and/or willful misconduct of the Contractor, the Owner shall have an absolute right to offset such amount (and applicable interest) against the GMP and may, in the Owner's sole discretion, after five (5) business days written notice to the Contractor, elect either to: (i) deduct an amount equal to that which the Owner is entitled (from any payment then or thereafter due the Contractor from the Owner) or (ii) issue a written notice to the Contractor reducing the GMP by an amount equal to that which the Owner is entitled.

#### § 9.8 Substantial Completion

§ 9.8.1 "Substantial Completion" or "Substantially Complete" means the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use; provided, however, as a condition precedent to Substantial Completion, the Owner has received all certificates of occupancy and any other permits, approvals, licenses, and other

Init.

documents from any governmental authority having jurisdiction thereof necessary for the beneficial occupancy of the Project unless receipt of such permits and approvals is delayed by others.

**§ 9.8.2** When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is Substantially Complete, the Contractor shall prepare and submit to the Architect and the Owner a comprehensive list of items to be completed or corrected prior to final payment. The Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**§ 9.8.3** Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

**§ 9.8.4** When the Work or designated Portion thereof is Substantially Complete, the Architect will prepare a Certificate of Substantial Completion that, when approved by Owner, shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the entire Work (all Portions) unless otherwise approved by Owner and provided in the Certificate of Substantial Completion.

**§ 9.8.5** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to such Work or designated Portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents and shall be subject to Lender approval.

**§ 9.8.6** The Contractor shall endeavor to complete any punchlist Work by the tenth (10<sup>th</sup>) day (the "Punchlist Finish Date"), but in no event more than thirty (30) days (the "Outside Punchlist Finish Date") following the delivery of the punchlist for the Project to the Contractor.

**§ 9.8.7** The Contractor acknowledges and recognizes that the Owner is entitled to full and beneficial occupancy and use of the completed Work following expiration of the Contract Time, as modified by Change Orders and Contractor's excusable or otherwise approved delays, that the Owner may enter into binding agreements demising all or part of the premises where Work is to be completed, and that Owner may have entered into financing agreements based upon the Contractor's achieving Substantial Completion of the Work within the Contract Time as modified by Change Orders and Contractor's excusable or otherwise approved delays. The Contractor further acknowledges and agrees that if the Contractor fails to cause the Substantial Completion of any portion of the Work within the specified Contract Time, the Owner may sustain extensive damages and serious loss as a result of such failure.

## **§ 9.9 Partial Occupancy or Use**

**§ 9.9.1** The Owner may occupy or use any completed or partially completed area of the Work or a Portion at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Exhibit A to the Agreement and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Owner, subject to the Contractor's right to make a Claim as set forth in Article 15.

Init.

§ 9.9.2 In the event that the Owner desires to exercise its rights under Section 9.9.1, the Contractor shall cooperate to the extent practical in making available for the Owner's use such building services as heating, ventilating, cooling, water, lighting and equipment required to furnish such services. The Owner will promptly reimburse the Contractor for any additional costs or expenses incurred thereby.

§ 9.9.3 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.4 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not (i) constitute acceptance of Work not complying with the requirements of the Contract Documents, (ii) relieve the Contractor for responsibility for loss or damage due to or arising out of defects in, or malfunctioning of any Work, material, or equipment, or from any other unfulfilled obligations or responsibilities of the Contractor under the Contract Documents, or (iii) commence any warranty periods from the Contract Documents.

§ 9.9.5 Subject to the terms and conditions provided herein, if Contractor claims that delay or additional costs is involved because of partial occupancy by Owner, Contractor shall make such claims as provided elsewhere in the Contract Documents.

#### § 9.10 Final Completion and Final Payment

§ 9.10.1 Contractor shall achieve Final Completion of the Work within thirty (30) calendar days of the achievement of Substantial Completion of the Work. The Contractor shall inspect the Work to determine that it has achieved Final Completion, is in accordance with the Contract Documents, and that the Contract has been fully performed. Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect and Owner's representative will promptly make such inspection and, when the Architect and Owner's representative finds the Work acceptable under the Contract Documents and the Contract fully performed and the items set forth on the final iteration of the punchlist is complete (the "Final Punchlist"), and if the Owner agrees, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. All warranties, guarantees, and contract closeout documents required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Architect as part of the final Application for Payment. The final Certificate for Payment will not be issued by the Architect until all warranties, guarantees, and contract closeout documents have been received by the Owner. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Final payment and any remaining retained percentage shall become due when the requirements of Section 5.2.1 of the Agreement have been satisfied and when the Contractor submits to the Architect and Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have conditional final waivers issued or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5) other reasonable data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor, refuses to furnish a release or waiver required by the Owner, and if the Owner has paid Contractor all sums due in accordance with the terms of this Agreement, the Contractor may furnish a bond satisfactory to the Owner to indemnify against such lien; provided, however and for the purposes of clarification, nothing in this Section 9.10.2 shall be interpreted as alleviating, waiving or limiting the Contractor's obligations to indemnify the Owner as said obligations are outlined and described under the terms of Section 3.18. If the Contractor has received payment in full for the Work that is the subject of such Subcontractor's claim and such lien remains unsatisfied after said payments are made by the Owner, Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

Init.

§ 9.10.3 If, after Substantial Completion of the Work, Final Completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting Final Completion, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents;
- .4 obligations that expressly, survive the completion of the Work, such as without limitation, Contractor's insurance, defense and indemnity obligations;
- .5 continuing obligations, liabilities or responsibilities of the Contractor that would otherwise survive completion and acceptance of the Work and final payment by the Owner including the Contractor's indemnification obligations under the Contract Documents; or
- .6 matters arising after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a material supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment. Following receipt and clearing of Final Payment, the final unconditional waivers will be issued as required per state statute per Article 12 of the Agreement. In the event a final unconditional waiver is not received, the final conditional waiver shall become the binding representing final unconditional per state statute.

§ 9.11 Notwithstanding anything in the Contract Documents to the contrary, the Owner shall be entitled to retain the amounts set forth in Section 5.2.1 of the Agreement until (a) thirty (30) days after the completion of the Work, (b) all of the items specified in Subparagraph 9.10.2 have been provided to the Owner, (c) the Contractor has delivered to the Owner conditional final releases in full of mechanic's and materialmen's liens as required hereby, and (d) an affidavit of completion or similar document has been executed, notarized and filed of record with the appropriate governmental agency having jurisdiction, in form and substance, and within the time frames, satisfactory to satisfy any construction close-out provisions under state or local law that have the effect of benefitting Owner (i.e., by limiting the time frames for any future liens against the Property, etc.) if properly complied with.

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall include provisions in all subcontracts requiring the Contractor Parties to observe all appropriate safety precautions and programs and to comply with all applicable safety laws and regulations; provided, however, that nothing herein shall relieve the Contractor Parties of their day-to-day responsibility for the safety of persons and property in the performance of their contracts.

### § 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby, including Owner and its employees;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

**§ 10.2.2** The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss. The Contractor shall be responsible for any fines, penalties or charges by any regulatory body by reason of any violation of safety or health regulations by a Contractor Party. The Contractor shall also be responsible for reimbursement of any OSHA fines incurred by the Owner or Architect for Project site safety conditions created or controlled by the Contractor Parties that result in the Owner or Architect receiving a citation under the OSHA multi-employer citation provision. If the Contractor fails to pay or contest any such fines, penalties or charges, the Owner may, upon notice to the Contractor, pay them and deduct such amount from moneys due or to become due to the Contractor.

**§ 10.2.3** The Contractor shall cause its Subcontractors to erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities. The Contractor shall also be responsible, as a Cost of the Work, for all measures necessary to protect any property adjacent to the Project and improvements therein as recommended by the property insurance carrier as a job cost added to the GMP pursuant to a Change Order. Any damage to such property or improvements caused by a negligent act or omission of the Contractor or any Subcontractor of the Contractor shall be promptly repaired by the Contractor with the prior written approval of Owner.

**§ 10.2.4** When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel, and shall give the Owner and the Architect reasonable advance notice in writing. The Contractor is strictly liable and fully responsible for any and all damages, claims, and for the defense of all actions against the Owner and the Architect, and their consultants and employees resulting from the prosecution of such Work. The Contractor is strictly liable and fully responsible for any and all damages, claims, and for the defense of all actions against the Owner and the Architect, and their consultants and employees resulting from the prosecution of such Work.

**§ 10.2.5** The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents, subject to Contractor being responsible for the deductible if the damage or loss is caused by Contractor) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

**§ 10.2.6** The Contractor shall establish and administer its Safety, Loss Prevention and Security Plan, including fire prevention, in compliance with governmental authorities having jurisdiction thereof. The Contractor shall designate a safety, loss prevention and security supervisor whose duty shall be the prevention of accidents, and the coordination and enforcement of such Plan. This person shall be on the Project site and shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

**§ 10.2.7** The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition at the Project or at adjacent existing buildings or so as to endanger the safety and health of persons or property. The Contractor shall have full responsibility for preventing overstress of any structure or any part or member of the Project during construction. The Contractor shall fully check the effect of its operations in this regard, and shall provide all temporary support and connections required.

*(Paragraphs deleted)*

**§ 10.2.8** The Contractor shall promptly report to the Owner in writing any accident occurring on or off the Project site that relates to the Work and, in no event, later than twenty-four (24) hours after the Contractor's learning of such accident, and shall, in addition, immediately give notice, by telephone or messenger, of any accident resulting in death or serious personal injury or property damage. Such report shall include all known details of the circumstances, the nature and extent of any injuries or property damage, the names of all witnesses and other persons who may have knowledge of the circumstances of the accident, and such other details as the Owner or the Owner's insurer shall



require. If any claim for damage or otherwise is made as a result of any accident, the Contractor shall promptly report the facts in writing to the Owner, giving full details of the claim so that the Owner may assess responsibility, if any, protect its interest in the Project and prepare in a timely fashion relevant information for its insurance carrier. The Contractor shall be liable for all costs, whether direct or indirect, incurred by the Owner arising out of or related to accidents proximately caused by the negligent act or omission and/or willful misconduct of the Contractor or a Subcontractor.

**§ 10.2.9** Contractor shall protect adjoining private or municipal property and shall provide barricades, temporary fences, and covered walkways as necessary to protect the safety of passersby, as required by prudent construction practices, local building codes, ordinances or other laws, and the Contract Documents, as a Cost of the Work, but subject to the GMP.

**§ 10.2.10** When required by Applicable Laws or for the safety of the Work or existing structures, Contractor shall shore up, brace, underpin and protect foundations and other portion of existing structures and partially completed portions of the Work which are in any way affected by the Work. All parts of the Work shall be braced to resist wind or other loads. Contractor shall perform the Work with the explicit understanding that the design of the Project is based on all parts of the Work having been completed. Temporary items such as, but not limited to, scaffolding, staging, lifting and hoisting devices, shoring, excavation, barricades, and safety and construction procedures necessary for the completion of the Project shall be the responsibility of the Contractor and its Subcontractors and shall comply with all Applicable Laws. It shall not be the responsibility of Owner, Architect or their representatives to determine if Contractor, Subcontractors or their representatives are in compliance with Applicable Laws. In addition to its other obligations pursuant to this Article 10, the Contractor shall promptly repair any damage or disturbance to walls, utilities, sidewalks, streets, curbs and the property of third parties (including municipalities) resulting from the performance of the Work, as a Cost of the Work, but subject to the GMP.

**§ 10.2.11** Contractor shall employ such practices as are necessary to protect all completed and partially completed Work and all existing improvements located on the Project site from loss and damage, including from subsequent operations of the Contractor or later to be performed Work, theft or damage by weather and, if necessary, shall provide suitable shelter therefor. Contractor shall correct at its own expense any damage or disfigurement to work or property (whether or not located on the Project site) resulting from the fault, neglect or omission of Contractor, any Subcontractor, any Sub-subcontractor or any other person or entity for whom any of them is legally responsible.

**§ 10.2.12** Contractor shall be responsible for any of its fines, penalties or charges by any regulatory body by reason of any violation of safety or health regulations by Contractor, its Subcontractors, Sub-subcontractors or any other person or entity for whom any of them is legally responsible in the performance of the Work.

### **§ 10.3 Hazardous Materials and Substances**

**§ 10.3.1** The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing. The Owner, Contractor, and Architect shall then proceed in the same manner prescribed in Subsection 10.3.2 of the General Conditions. The Owner shall be responsible for obtaining the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been rendered harmless.

**§ 10.3.2** Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection.

Init.

When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

**§ 10.3.3** To the fullest extent permitted by law, the Owner shall defend, indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

**§ 10.3.4** The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

**§ 10.3.5** The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

**§ 10.3.6** If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all reasonable costs and expenses thereby incurred.

**§ 10.3.7** Mold Prevention. Only materials and products as specified by the Architect will be installed as part of the Work. The Contractor shall install HVAC systems in compliance with local building codes and ASHRAE requirements and shall circulate air as necessary during the performance of the Work to promote proper air control and humidity in the indoor environment, as specified by the Architect. No vinyl or plastic wall products shall be installed as part of the Work, except as specified by the Architect. If the Architect specifies material that the Contractor is aware is in violation of the above requirements, the Contractor shall notify the Owner immediately. In the Owner's sole good faith discretion, it may approve in writing the materials or products that are not in compliance with these requirements. As part of the Contract Sum, the Contractor shall use an industrial hygienist experienced in mold-related concerns in new construction, or alternatively the hygienist may be hired by the Owner, to evaluate and provide recommendations for removal of the portions of the Work that have been exposed to conditions that would promote the growth of mold. Any findings or reports, including documentation of any replacement, shall be submitted to the Owner for review and approval. If the portions of the Work to be removed are caused by the Contractor due to negligence or other failure to perform the work as required by the Contract Documents, the costs associated with such removal shall be borne by the Contractor and shall be included as a Cost of the Work, but shall not cause an increase in the GMP. If the mold to be removed is not caused by the Contractor, the costs of removal and of the industrial hygienist shall be included as a Cost of the Work, but will not be cause for an increase in the GMP.

**§ 10.3.8** The term "rendered harmless" shall be interpreted to mean the levels of hazardous materials, including but not limited to asbestos and polychlorinated biphenyls, that are less than any applicable exposure standard set forth in OSHA, EPA or any other applicable federal, state or municipal regulations. In no event however, shall the Owner have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor, any Sub-subcontractor, materialman or supplier or any person or entity for whom any of them is responsible. The Contractor agrees not to use any fill or other materials to be incorporated into the Work which are hazardous, toxic or comprised of any items that are hazardous or toxic.

**§ 10.3.9** The Contractor shall notify the Owner and Architect immediately and stop Work in the area affected if any one of the products or materials specified in the Contract Documents or proposed by the Contractor or its Subcontractors contain or are suspected to contain hazardous materials in any form, so that a qualified consultant retained by the Owner can determine whether such materials may be used in the Work or need to be removed from the

Init.

Project site or rendered harmless in a manner which will not adversely affect the health of any persons and which will comply with Applicable Laws.

§ 10.3.10 Work in the affected area shall be immediately resumed in the absence of any hazardous materials or when such hazardous materials have been rendered harmless.

#### § 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7. The Contractor shall notify the Owner and Architect of such emergency as promptly as is practicable under the circumstances. In the event that emergency repairs or emergency work is necessary to prevent or minimize further damage and the Contractor is not available, the Owner may make such repairs or do such work. The Contractor shall pay the expenses of the repairs or work when necessitated by defects in the Contractor's work or failure of the Contractor to perform its obligations under this Contract.

*(Paragraphs deleted)*

§ 10.5 If the Contractor visually observes mold or fungi contamination in the Project, or observes evidence of water infiltration into wall or partition cavities, the Contractor shall notify the Owner on same day observation is made. Contractor will take necessary steps to protect Contractors and Subcontractor's workmen from exposure to the contamination. Owner shall, pursuant to Section 10.3.7 above, be responsible to assess the extent of any suspected water damage or mold growth including the use of a boroscope to view spaces in ductwork or behind walls and a moisture meter to detect moisture in building materials. HVAC systems shall be visually checked for damp filters or damp conditions elsewhere in the system. If a visual inspection is not certain, the Owner, at Owner's option, may direct the Contractor to open up building cavities and inspect for visible mold or fungi growth. If fungi or mold is determined to be present and presence is due to the fault or negligence of Contractor or its Subcontractors, the Contractor will be responsible for the sampling and testing costs and repairing of any damage to the building.

§ 10.6 The Contractor will be responsible to stop, clean and remediate the underlying cause of moisture or water accumulation causing mold or fungal growth. Initial water infiltration shall be stopped and cleaned as soon as possible and thorough clean up, drying and/or removal of water damaged material shall be performed. If the source of water is elevated humidity, relative humidity should be reduced to levels that will inhibit mold growth. Contractor is not a mold remediation specialist and shall rely on Owner's Consultant to ensure proper safety equipment and techniques are deployed by employees or subcontractors during remediation including respirators, gloves, eye protection, dust/debris containment, proper disposal of remediate materials, HEPA vacuums, etc. depending on level of contamination.

§ 10.7 Excluding all rough carpentry and roof and floor decking, the Contractor shall provide 1) proper dry-in of Project at the end of each work day, 2) promptly repair of any water leaks whether roof, plumbing, etc., 3) promptly drying of wetted materials, 4) prompt replacement of wetted materials if drying cannot be achieved in 48 hours, 5) simplest and most expedient remediation to be used and, 6) correction of underlying cause of water accumulation. It is understood that the Architect will specify materials and products that are suited for the environment where this Project is located

*(Paragraphs deleted)*

### ARTICLE 11 INSURANCE AND BONDS

#### § 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Exhibit A to the Agreement or elsewhere in the Contract Documents..

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

#### § 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Exhibit A of the Agreement or elsewhere in the Contract Documents.

### ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

#### § 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's or Owner's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect or Owner, be uncovered for the Architect's or Owner's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect or Owner has not specifically requested to examine prior to its being covered, the Architect or Owner may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a Separate Contractor in which event the Owner shall be responsible for payment of such costs.

#### § 12.2 Correction of Work

##### § 12.2.1 Before or After Substantial Completion

§ 12.2.1.1 The Contractor shall promptly correct Work rejected by the Architect or the Owner due to such Work failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections and reasonable and necessary costs reasonably incurred by the Owner for the Architect's services and expenses made necessary thereby if the Architect is required to make a special trip to inspect the corrected Work, shall be at the Contractor's expense. If prior to the date of Substantial Completion, the Contractor, a Subcontractor or anyone for whom either is responsible uses or damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing and other building systems, machinery, equipment or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

##### § 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4. If the Contractor does not proceed with correction of such nonconforming work within a reasonable time as fixed by the written notice, the Owner may remove it and store the salvageable materials or equipment at the Contractor's expense. If the Contractor does not pay the costs of such removal and storage within ten (10) days after written notice, the Owner may, upon ten (10) additional days' notice, sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting the costs and damages that should have been borne by the Contractor, including compensation for the Architect's services and expenses made necessary thereby. If such proceeds of sale do not cover costs, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall immediately upon demand pay the difference to the Owner.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual

Init.

completion of that portion of the Work except that warranties shall be issued based on Substantial Completion of the applicable building which represents the "date placed in service".

**§ 12.2.2.3** Upon completion of any Work pursuant to Section 12.2, the one-year correction period in connection with the Work requiring correction shall be renewed and recommence not to exceed eighteen (18) months in the aggregate. The obligations under Section 12.2 shall cover any repairs and replacement to any part of the Work or other property that is damaged by the defective Work. It is understood that this warranty requirement in Section 12.2.2.3 will be stated in the Architect's Specifications.

The Contractor warrants that all manufacturers or other warranties and guarantees on all materials and equipment furnished by or to the Contractor Parties shall run directly to or be specifically assigned to the Owner or to such other entity as the Owner may direct. Promptly after the Owner so requests, the Contractor Parties shall execute such assignment documentation (in a form acceptable to the Owner) as may be necessary for the Contractor Parties to assign such warranties and guarantees. The Contractor shall not take any action that would limit or void a warranty on the Work or on any work performed by the Owner's separate contractors, if any. If a manufacturer's warranty or guaranty is ineffective because the material or equipment has been incorrectly installed, the Contractor shall be responsible to the Owner for the incorrect installation and the consequences thereof. On the Date of Substantial Completion, the Contractor shall deliver true and correct copies of all warranties and guaranties to the Owner.

**§ 12.2.2.4** As to Work that the Contractor has repeatedly corrected or on which the Contractor has performed a material correction pursuant to this Section 12.2, the one-year period for correction of Work shall re-commence to run for one year after the last such correction; provided, however, that the cumulative correction period for any given item shall not exceed eighteen (18) months except in the case of a continuing issue.

**§ 12.2.2.5** The obligation under Section 12.2.2 shall survive acceptance of the Work and termination of the Contract and final payment by the Owner.

**§ 12.2.3** The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

**§ 12.2.4** The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

**§ 12.2.5** Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

**§ 12.2.6** If during the correction period any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall undertake all required corrective work within seventy-two (72) hours after receiving the notice and work diligently until corrective work is completed. If the Contractor does not, in accordance with the terms and provisions of the Contract Documents, commence all corrective work within forty-eight (48) hours or if the Contractor commences such work but does not pursue it in an expeditious manner, the Owner may either notify the bonding company (if any) to have such work and/or obligations performed at no additional cost to the Owner or may perform such work and/or obligations and charge the costs thereof to the Contractor. Notwithstanding the foregoing, the Contractor shall provide all emergency service within twelve (12) hours or such lesser time required because of the severity of the emergency. The Contractor shall correct any defects noted by the Owner, and if it is later determined that such defects were the responsibility of others, the Owner will pay the Contractor an amount calculated in accordance with Section 7.3.7. The obligations of the Contractor under the terms and provisions of the Contract Documents shall not be limited to the payments made by the surety (if any) under the provisions of this Contract.

**§ 12.2.7** Without limiting the Contractor's obligations, the Contractor shall perform a walk-through of the Project with the Owner at a mutually-convenient time during the tenth to twelfth month following Substantial Completion of the Project to create a list of deficiencies to be corrected during the correction period.

Init.

### § 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable as agreed to by both parties or determined pursuant to dispute resolution procedures if not agreed to by the parties in writing without delay. Such adjustment shall be effected whether or not final payment has been made; if acceptance occurs after final payment, the Contractor shall pay an appropriate amount to the Owner. If the Contractor requests the Owner to accept nonconforming Work, the Contractor shall pay the Owner all costs incurred in the Owner's investigation of whether to accept such Work including fees and charges of the Architect, engineers, testing agencies, etc.

## ARTICLE 13 MISCELLANEOUS PROVISIONS

### § 13.1 Governing Law/ Counterparts/ Misc.

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. This Contract may be executed in multiple counterparts, each of which will be deemed an original agreement and all of which together will constitute one agreement. The Contract is a negotiated document, and in the event of any dispute between the parties, the Contract shall not be construed against either party by virtue of the fact that the party may have prepared it or the provision in question. The headings contained in the Contract are inserted only for convenience and reference and are not meant to define, limit or describe the scope or intent of the Contract Documents or in any way to affect the terms and provisions set forth herein. Each party hereto agrees to do all acts and things and to make, execute and deliver such written instruments as shall from time to time be reasonably required to carry out the terms and provisions of the Contract Documents.

### § 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign this Agreement in whole or in part without the written consent of the Owner, nor shall the Contractor assign any monies due or to become due to it hereunder, without the prior written consent of the Owner.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to (i) a Lender (defined below) providing financing for the Project, and its successors and assigns, as security for a loan, (ii) to an affiliate entity that acquires the Project, and/or (iii) to any future owner of the property provided as a condition precedent to such assignment pursuant to this subclause (iii) to a non-affiliated entity provided that such non-affiliated entity shall, prior to such assignment, provide proof reasonably satisfactory to Contractor that the assignee has made financial arrangements to fulfill an Owner's obligations under this Agreement. The Contractor shall execute, and shall cause its Subcontractors to execute, all consents reasonably required to facilitate such assignment and such further and additional evidence of such assignments as Owner's Lenders, investors or any lessee may require. The Contractor may not assign the Contract without the written consent of the Owner.

§ 13.2.3 Lender/ Title Company Cooperation and Compliance. "Lender" as used herein shall mean any third-party lender, grantor, funder, underwriter, or government agency providing financing for all or any part of the construction of the Project. Contractor agrees to cooperate with Owner in complying with the usual and customary payment and other procedures of Lender and provide all documents, reports, and other information reasonably requested by the Lender or any escrow or title insurer of Owner, including, without limitation, any mutually agreed upon required consent and assignment instruments from the Contractor, any subcontractor or materials provider. Contractor shall make the Project site and Work available at reasonable times for inspection by the Lender, and shall cooperate with the Lender's inspecting person. Upon request, the Contractor shall deliver to the Owner and the Lender the resume and current publicly available financial statement of the Contractor. The Contractor agrees to execute, and have executed by Subcontractors, such documents as may be reasonably required by the Lender, and to agree to such modifications to this Contract as the Lender may reasonably require. If as a result of such modifications the Contractor's costs or time of performance are increased, this Contract shall be equitably adjusted. The Contractor acknowledges that the Owner may be required to provide evidence to its Lender, partners, and/or tenants of the Project that the Project was completed in accordance with the Contract Documents and to the best of the Contractor's knowledge in compliance with all applicable environmental laws and other Legal Requirements. Upon request by the Owner, the Contractor shall provide the Owner, its Lender, partners, and/or any tenants of the Project designated by the Owner with a certification of compliance to such effect.

**§ 13.3 Written Notice**

Any notice, consent, waiver, approval, advice, notification, request, recommendation, acceptance, rejection, report, permission, authorization, direction, decision, instruction, explanation, information, order, designation, agreement, RFI, Change Order, Construction Change Directive, or other communication required or permitted to be sent pursuant to this Contract shall be deemed valid if and only if made in writing. Except as set forth below, such communications shall be transmitted either (a) by hand-delivery, (b) by registered or certified mail, return receipt requested, or (c) by reputable overnight courier, transmitted with all requisite postage prepaid, and addressed to the respective addressee at the address shown below, or to such other address as may be established pursuant to notice sent to the last address so fixed and in accordance with this Section 13.3. Such notice, if hand-delivered as above provided, shall be effective upon delivery to the addressee, and if transmitted by mail shall be effective upon receipt by the addressee. Routine communications in furtherance of the Work (such as RFIs, change proposals, and routine informative communications), however, may be transmitted by either party hereto to the other by any of the foregoing methods or by electronic mail.:

**If to Owner:**

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

Email:  
Phone:

**With a copy to:**

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

Email:  
Phone:

**If to Architect:**

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

Email:  
Phone:

**If to Contractor:**

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

Email:  
Phone:

*(Paragraphs deleted)*

**§ 13.4 Rights and Remedies**

**§ 13.4.1** Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

**§ 13.4.2** No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

*(Paragraph deleted)*

**§ 13.5 Tests and Inspections**

*(Paragraph deleted)*

Init.

/

§ 13.5.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by Applicable Laws. The Contractor shall permit the Owner and anyone designated by the Owner to enter upon the Project site, inspect the Work and all materials to be used in the construction thereof, and examine all Drawings and Specifications, Shop Drawings and other Contract Documents which are or may be kept by the Contractor Parties at the Project site. The Contractor Parties shall cooperate with the Owner in this regard. For each inspection by the Owner, the Contractor shall make available, on demand, daily log sheets covering the period from the date of the immediately preceding inspection and showing the date, weather, Contractor Parties on the job, number of workers and status of the Work. Although the Architect, the Owner and any Lender shall have no obligation to do so, they shall have the right to inspect any material or equipment at any stage of development or fabrication, whether specified or noted, including the manufacturer's plant or mill. Such inspection shall not release the Contractor from any responsibility or liability with respect to such material or equipment. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests. However, the Owner will hire and pay for the materials testing laboratory (for soils, concrete, steel, and similar structural items), inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded and (2) tests, inspections, or approvals where building codes or Applicable Laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect and the Owner of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

*(Paragraph deleted)*

§ 13.5.3 If such procedures for testing, inspection, or approval under Sections 13.5.1 and 13.5.2 reveal failure due to Contractor's or any Subcontractor's negligence or other breach of the portions of the Work to comply with requirements established by the Contract Documents, at Owner's option it will be replaced and the entire area of the affected Work involved shall be corrected, and all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense, and such costs shall not be included in computing the Contract Sum, including the cost of testing, retesting, sampling or inspecting, as well as architectural and other professional design and consulting services, needed to define non-conforming work and for verification of compliance if necessary, until the Architect certifies that the Work in question does comply with the requirement of the Contract Documents. Contractor shall employ Owner's independent testing laboratory, or a mutually satisfactory independent testing laboratory if such services are required. Work that may fail testing during the normal process such as soil densities, may fail requiring additional work as part of the normal and expected process and such procedure shall be covered within the Cost of the Work. Contractor's obligation is to ensure that the Work complies with the Contract Documents, standards established by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities using established testing, inspection and approval protocols to meet those standards.

§ 13.5.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

*(Paragraph deleted)*

§ 13.5.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

*(Paragraphs deleted)*

§ 13.5.7 All observations, tests and approvals of any methods or means of construction, materials or workmanship included in the Work required by the Specifications or by Applicable Laws shall be performed by independent



agencies acceptable to the Owner. Representatives of the testing laboratories and observers shall have access to the Work at any place performed and during normal business hours. The Contractor shall furnish samples of all materials and component parts of the Work reasonably required as test specimens in connection with the tests and observations and shall furnish labor and facilities at the Project site as reasonably necessary in connection with testing and observation services.

**§ 13.5.8** The Owner may require testing or observation, not required by the Specifications or by Applicable Laws, or by any methods or means of construction, materials or workmanship, in order to determine the acceptability thereof under the Contract Documents. Representatives of the testing laboratories and observers shall have access to the Work at all reasonable times when such testing is scheduled with Contractor. The Contractor shall furnish samples of all materials and component parts of the Work required as test specimens in connection with the testing and observation services. All observations or testing shall be done in a timely manner so as to avoid unnecessary delay in the completion of the Work by the Contractor. If such testing or observation discloses that the methods or means of construction material or workmanship are in compliance with the Contract Documents, the Owner shall bear the cost of such testing and observation and of the labor and facilities in connection with such testing and observations. If such testing or observation discloses that such methods or means of construction, material or workmanship are not in compliance with the Contract Documents, the Contractor shall bear all such related costs and the time for corrections required thereby and shall not increase the Contract Time.

**§ 13.5.9** The Contractor shall provide quality control services throughout the term of the Contract. The Owner may in its discretion provide and pay for such other tests and inspections it deems necessary or appropriate during the construction through an independent quality control agency. The Contractor shall cooperate with such tests and shall notify the testing agency at least twenty-four (24) hours prior to performing any test directed by the Owner or required by the Contract Documents. The Contractor acknowledges that the tests referred to herein may include, without limitation, concrete and reinforcement inspection and testing, waterproofing inspection, structural steel inspection, and inspections and testing in connection with mechanical, plumbing, electrical and other installations. Notwithstanding the foregoing, the Contractor will be responsible for any testing and inspection costs associated with defective or non-conforming Work caused by the Contractor and its Subcontractors.

### **§ 13.6 Interest**

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the Default Rate.

### **§ 13.7 Time Limits on Claims**

As between the Owner and Contractor, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events as provided by Applicable Laws.

### **§13.8 Nondiscrimination**

**§ 13.8.1** During the performance of this Contract, Contractor and its subcontractors shall not deny the Contract's benefits to any person on the basis of religion, color, ethnic group identification, sex, age, physical or mental disability, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, mental disability, medical condition, marital status, age (over 40) or sex, or any other protected class under applicable federal, state or local law. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.

**§ 13.8.2** Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

**§ 13.8.3** Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform Work under the agreement.

**§ 13.9 Notices Regarding Liens.** Contractor shall provide all notices required or permitted by the laws of the state in which the Project is located for protection of Owner from liens and claims of lien if permitted or required by applicable law. Contractor shall be responsible for filing in the appropriate court or other governmental office records all such notices as required or permitted by the laws of the state in which the Project is located. Contractor shall provide Owner with copies of all notices received by Contractor from subcontractors, sub-subcontractors and/or suppliers to Contractor.

**§ 13.10 Confidentiality.** The Contractor shall maintain the confidentiality of Project and Owner information, unless withholding such information would violate the law, create the risk of significant harm to the public or prevent the Contractor from establishing a claim or defense in an adjudicatory proceeding. The Contractor shall require of the Subcontractors similar agreements to maintain the confidentiality of Project and Owner information. This subparagraph is not intended to limit the use by Contractor or its Subcontractors of Project information to perform its Work under this Agreement.

**§ 13.10.1** The Contractor, at any time upon the request of the Owner, shall immediately return and surrender to the Owner all copies of any materials, records, notices, memoranda, recordings, drawings, specifications, and mock-ups and any other documents furnished by the Owner or the Architect to the Contractor. Contractor shall require the Subcontractors to agree to all of the same requirements outlined in Section 3.10.

**§ 13.10.2** The covenants contained in this Section 13.10 shall survive the complete performance of the Work or earlier termination of this Agreement.

**§ 13.11 No Waiver.** No consent or waiver, express or implied, by either party to this Agreement to or of any breach or default by the other in performance of any obligations hereunder shall be deemed or construed to be a consent to or waiver of any other breach or default by such party hereunder. Failure on the part of any party hereto to complain of any act or failure to act of the other party or to declare the other party in default hereunder, irrespective of how long such failure continues, shall not constitute a waiver of the rights of such party hereunder. Inspection or failure of the Owner to perform any inspection hereunder shall not release the Contractor of any of its obligations hereunder.

**§ 13.12 No Kickbacks.** Contractor warrants that it has not given any commissions, payments, gifts of substantial value, kickbacks, lavish or extensive entertainment, or other things of value to any employee, member of the employee's family, or agent of Owner or received any such item from any vendor, supplier, or contractor in connection with this Contract and acknowledges that the giving or receiving of any such payments, gifts, kickbacks, extensive entertainment, or other things of value is strictly in violation of Owner's policies and constitutes a material breach of this Agreement entitling Owner to terminate this and any other contracts between Owner (or any affiliate thereof) and Contractor (or any affiliate thereof). Contractor shall notify Owner of any such solicitation by any of Owner's employees, family members, or agents. Owner has the right to audit Contractor's records pertaining to compliance with this paragraph.

**§ 13.13 Contractor's Miscellaneous Obligations.** Contractor shall:

- (1) Use materials that are new, unless otherwise specified by the Contract Documents, and be:
  - (a) Corresponding in quality to related materials in the absence of a complete specification.
  - (b) Of good appearance where exposed to view.
  - (c) Plainly marked and delivered to the site in their original unopened containers when the nature of the materials is suitable for containers.
- (2) Follow supplier's instructions when they conflict with the Contract Documents and notify Architect for clarification before proceeding. Keep a copy of the manufacturer's instructions on the job and make available to Architect and Owner.
- (3) Report discovered errors or inconsistencies that are discovered before commencing Work to Architect and Owner. Errors or inconsistencies discovered after commencing Work shall be reported to Owner immediately upon discovery.

**§ 13.14 Limitation of Liability.** No general or limited partner, member, manager, affiliate, or shareholder of the Owner, any lender to the Owner or any successor Owner (except as set forth in a consent to or collateral assignment), or any party providing financing to the Owner (including its insurance carrier) (except as set forth in a consent to or collateral assignment), or other holder of any equity interest in the Project site, the Owner, or its members, nor any holder of any interest in any of the foregoing shall be personally liable for the performance of the Owner's obligations under the Contract (whether express or implied). The liability of the Owner for the Owner's obligations under the Contract shall be limited to the Owner's interest in the Project, and the Contractor shall not look to any other assets of the Owner or any of the aforesaid persons or entities seeking either to enforce the Owner's obligations under this Contract or to satisfy a judgment for the Owner's failure to perform such obligations.

**§ 13.15 Survival.** The parties' obligations with respect to the termination of the Contract, insurance, indemnification,

Init.

warranty, guaranty, bonds, records, audits and other reviews of accounting records, unresolved claims and disputes and any other obligations which by their nature, or to give force and effect to the intent of the parties herein, are intended to or should survive the termination of the Contract, shall survive the completion of the Work or the earlier termination or expiration of the Contract.

## **ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT**

### **§ 14.1 Termination by the Contractor**

**§ 14.1.1** The Contractor may terminate the Contract if the Work is stopped for a period of forty-five (45) consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents (inclusive of Contractor satisfying all requirements for payment); or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

Should Contractor elect to suspend Work due to Owner's failure to make payment when due in lieu of terminating the Contract and in accordance with Section 9.7 of the AIA A201 General Conditions, Contractor shall be entitled to a Change Order extending the Substantial Completion date by the number of days such Work was delayed due to the suspension of Work and increasing the amount of the Contract Sum by the amount of the costs resulting from such suspension, if such suspension lasts more than ten (10) days.

**§ 14.1.2** The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

**§ 14.1.3** If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven (7) days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, and direct costs incurred by reason of such termination, and damages, including, but not limited to, reasonable demobilization and cancellation damages. However, in no event shall the Owner be liable to the Contractor (i) for an amount in excess of the Guaranteed Maximum Price less amounts already paid to the Contractor, (ii) for damages other than as set forth in (a) and (b) above, or (iii) for any anticipated profits for unperformed Work. In addition, such payments to the Contractor shall be reduced by any setoffs to which the Owner is entitled under this Contract.

**§ 14.1.4** If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner, Lender and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

### **§ 14.2 Termination by the Owner for Cause**

**§ 14.2.1** Should the Contractor: (a) cease Work or fail to maintain the Project Schedule, as defined in Article 2 of the Agreement, due to the fault of the Contractor for a continuous and uncorrected period of thirty (30) days; (b) repeatedly refuse or fail to supply enough properly skilled workers or proper  
*(Paragraphs deleted)*

materials to adhere to the Contract Time and applicable Project Schedule as required to meet the performance criteria of Article 4 of the Agreement and Section 14.2.1(a), above; (c) fail to make payment to the Subcontractors or suppliers for materials or labor in accordance with its agreements with the Subcontractors or suppliers; (d) cause delay or disruption of the Project Schedule for a continuous and uncorrected period of ten (10) days; (e) be guilty of a substantial breach of the Contract Documents; (f) perform the Work in a manner that is repeatedly rejected, without the Contractor's correction, by the Owner, the Architect or governmental inspectors having jurisdiction over the Project, for a period of ten (10) days; (g) file bankruptcy, assign assets for the benefit of creditors, become insolvent, or be unable or fail to pay its obligations as they mature; (h) disregard laws, ordinances, or rules, regulations or orders of a governmental authority having jurisdiction over the Project; or (i) fail to maintain bonds or insurance as required herein, then the Owner may deem the Contractor to be in default, and, at the Owner's sole option, without limitation to any other remedies available at law or in equity, may take one or more of the following actions after giving the Contractor seven (7) days' written notice, provided that the Contractor's default remains uncured:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 undertake and obtain temporary possession of all of the Contractor's materials and equipment intended for or related to performance of the Work (whether or not located on the Project site) for a period up to 120 hours in order to assure availability thereof for the completion of the Work;
- .3 take appropriate steps to cure and remedy defaults at the Contractor's expense, and deduct the cost thereof, plus ten percent (10%) for the Owner's overhead, from the GMP or payment due Contractor.
- .4 bring an action against the Contractor for damages incurred due to the default;
- .5 accept assignment of subcontracts pursuant to Section 5.4; and
- .6 finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

**§ 14.2.2** In the event of termination of the Contract as provided, in Section 14.2.1, the Contractor shall receive no further payment until such time as the Work is completed. When any of the above reasons exist, the Owner may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven (7) days' notice, terminate employment of the Contractor and/or this Contract and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the Project site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to the terms of the Contract Documents; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor an accounting of the costs incurred by the Owner in finishing the Work.

**§ 14.2.3** Except as otherwise specified herein, if the unpaid balance of the GMP exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

*(Paragraph deleted)*

**§ 14.2.4** In addition to the remedies set forth in Section 14.2 if Contractor is a debtor in bankruptcy, or makes a general assignment for the benefit of creditors, or if a receiver is appointed for the benefit of its creditors, or if a receiver is appointed to operate or liquidate Contractor on account of its insolvency (a "Bankruptcy Event"), it is recognized that if a Bankruptcy Event occurs, such could impair or frustrate Contractor's performance of this Agreement.

Accordingly, it is agreed that upon the occurrence of a Bankruptcy Event, Owner shall be entitled to request of Contractor or its successor in interest adequate assurance of future performance in accordance with the terms and conditions hereof. Failure to comply with such request within ten (10) days of delivery of the request shall entitle Owner to terminate this Agreement and to the accompanying rights set forth above. In all events pending receipt of adequate assurance of performance and actual performance in accordance therewith, Owner shall be entitled to proceed with the Work with its own forces or with other contractors on a time and material or other appropriate basis, the cost of which will be backcharged against the Contract Sum hereof.

### § 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for a reasonable period of time as the Owner may reasonably determine; provided, however, that such period of time shall not exceed forty-five (45) days as provided in Section 14.1.1, except as otherwise approved in writing by Contractor.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption as described in Section 13.3.1. Adjustment of the Contract Sum shall include profit at the same percentage rate as used in the original Agreement. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

### § 14.4 Termination by the Owner for Convenience

§ 14.4.1 Owner shall have the right to terminate this Contract without cause at any time by giving to Contractor seventy-two (72) hours written notice thereof. Upon receipt of such notice, Contractor immediately shall terminate performance of the Work and make reasonable efforts to mitigate its losses and damages hereunder; provided, however, that in connection with such termination, Contractor shall perform such acts as may be necessary to preserve and protect that part of the Work theretofore performed hereunder. Upon such termination without cause, Contractor shall retain all sums of money theretofore paid hereunder to Contractor and provided that no liens or claims have been filed of record or otherwise delivered to Owner with respect to the Work performed hereunder by Contractor, Owner, contemporaneously with Owner's receipt of a conditional lien release from Contractor and conditional lien releases from subcontractors and suppliers covering the period up to the time of termination and being paid in connection with the termination of the Contract, shall pay to Contractor (i) all retainages, if any, theretofore retained hereunder by Owner in respect of the Work properly performed to the date of such termination, (other than the retainage relating to portions of the Work performed by Subcontractors whose subcontracts Owner assumes, which retained amounts under such subcontracts will continue to be paid at the time and in the manner specified in Article 5 of the Agreement, (ii) payment for the Work properly executed in accordance with the Contract Documents prior to the effective date of termination (the basis for such payment shall be as provided in the Contract Documents), and (iii) for the direct costs incurred by Contractor in terminating the Work, including central office overhead, demobilization charges and the cost of canceling out-of-pocket costs incurred by Contractor to third parties with respect to termination of this Contract authorized in accordance with the provisions of this Section 14.4.1, but Owner shall not otherwise be responsible for damages for lost or anticipated fees and/or profits on Work not performed on account of any termination described in this Section 14.4.1. The amounts owing by Owner to Contractor pursuant to the immediately preceding sentence shall be as specified in the Contractor's final Application for Payment approved by Owner. If Owner terminates without cause, then Owner (or a replacement contractor or another designee of Owner), shall, with respect to all subcontracts and purchase orders which Owner does not elect to terminate (or cause Contractor to terminate) assume the obligations of Contractor under such subcontracts and purchase orders covering the unperformed parts of the Work and properly entered into in accordance with the Contract and Owner (or such replacement contract or designee) shall indemnify Contractor from all liabilities.

Upon receipt of a notice of termination pursuant to this Paragraph 14.4.1, Contractor shall immediately, according to instructions from Owner:

- (1) cease operation as specified in the notice;
- (2) place no further orders and enters into no further subcontracts for materials, labor, services or facilities except as otherwise specified in writing by Owner;
- (3) terminate all subcontracts and purchase orders to the extent that Owner does not elect to assume such subcontracts and purchase orders; and
- (4) take actions that may be necessary, or that Owner may direct in writing, for the protection and preservation of the Work.

In addition to payment for the Work performed prior to the effective date of termination and for any work performed following the date of termination pursuant to Owner's written request, Contractor shall be entitled to payment for materials timely fabricated off the Project site and delivered and stored in accordance with the Owner's instructions.

§ 14.4.2 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for the following:

Init.

**AIA Document A201® – 2017.** Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. The "American Institute of Architects," "AIA," the AIA Logo, "A201," and "AIA Contract Documents" are registered trademarks and may not be used without permission. This document was produced by AIA software at 15:40:13 ET on 08/06/2021 under Order No.9817765449 which expires on 03/01/2022, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail [copyright@aia.org](mailto:copyright@aia.org).

**User Notes:**

(1196582995)

- Work properly performed in connection with the executed portion of the Work prior to the effective date of termination, including the Contractor's Fee,
- items properly fabricated off the Project site, delivered and stored in accordance with the Owner's instructions,
- non-refundable deposits that were made with the Owner's prior express written consent,
- reasonable demobilization and closeout costs, and
- unresolved claims existing and properly made as of the effective date of the termination, but only to the extent that the Contractor establishes the Owner's liability therefor.

The Contractor hereby waives and forfeits all other claims for payment and damages including, without limitation, anticipated profits accruing as a result of the termination for convenience. The Owner shall be credited for the following:

- payments previously made to the Contractor for the executed portion of the Work,
- undisputed claims that the Owner has against the Contractor under the Contract, and
- the value of the materials, supplies, equipment, or other items that are to be sold or returned to the supplier for credit by the Contractor that are part of the Contract Sum.

In no event, however, will such amounts payable to the Contractor exceed the Guaranteed Maximum Price reduced by the amount of prior payments made to the Contractor. Subcontracts, sub-subcontracts, and purchase orders shall contain appropriate provisions for termination for convenience under this Section 14.4.2. In the event that the Owner terminates the Contractor's responsibility for part of the Work, the Owner shall have the right to perform that Work itself or with separate contractors, and the Guaranteed Maximum Price shall be reduced accordingly.

*(Paragraph deleted)*

## **ARTICLE 15 CLAIMS AND DISPUTES**

### **§ 15.1 Claims**

#### **§ 15.1.1 Definition**

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

#### **§ 15.1.2 Time Limits on Claims**

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

*(Paragraphs deleted)*

**§ 15.1.2.1** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party with a copy sent to the Architect. Claims by either party under this Section 15.1.2.1 shall be initiated within twenty-one (21) days after occurrence of the event giving rise to such Claim or within twenty-one (21) days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Otherwise such specific claim(s) shall be waived.

**§ 15.1.2.2** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party.

### § 15.1.3 Continuing Contract Performance

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

The Architect will prepare Change Orders and issue Certificates for Payment as provided in the Contract Documents.

### § 15.1.4 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.4.1 If the Contractor believes additional cost is involved for reasons including but not limited to (1) a written interpretation from the Architect, (2) an order by the Owner to stop the Work where the Contractor was not at fault, (3) a written order for a minor change in the Work issued by the Architect, (4) failure of payment by the Owner, (5) termination of the Contract by the Owner, (6) Owner's suspension, or (7) other reasonable ground a Claim shall be filed in accordance with this Section 15.1.

§ 15.1.4.2 Said notice shall itemize all Claims and shall contain sufficient detail and substantial data to permit evaluation of same by Owner and Architect.

*(Paragraphs deleted)*

### § 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time as more particularly described in Section 8.3.1.1, above, could not have been reasonably anticipated and had an adverse effect on the critical path schedule of the construction.

Contractor shall be entitled to recover additional costs, including general conditions costs, but not an increase in the Contractor's Fee, for any such delays if the delays are solely the result from the acts or omissions of the Owner or the Architect or their consultants, Separate Contractors or representatives or changes in the work provided that the delays impact the critical path of the project schedule.

§ 15.1.5.3 Any commencement of Work after a delay will serve to terminate that specific delay for purpose of notice, but no other delays as to which the Contractor has not been able to resume work. Subsequent delays, whether of similar or a different nature and whether based on the same, similar or a different cause, shall require notice.

### § 15.1.6 Waiver of Claims for Consequential Damages

Except where, as a matter of law or equity, liquidated damages are not an available remedy to Owner, the Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing (but not increased financing costs), business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of consequential damages to the extent such loss is covered by applicable insurance or an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.1.7 With respect to any litigation involving a Claim, the prevailing party shall be entitled to an award of

Init.

reasonable attorney fees. For purposes of the foregoing, (i) "prevailing party" means (A) in the case of the party initiating the enforcement of rights or remedies, that it recovered substantially all of its Claims, and (B) in the case of the party defending against such enforcement, that it successfully defended substantially all of the Claims made against it, and (ii) if no party is a "prevailing party" within the meaning of the foregoing, then no party will be entitled to recover its costs and expenses (including attorney's fees and disbursements) from any other party.

## § 15.2 Intentionally Omitted.

*(Paragraphs deleted)*

### § 15.3 Mediation

§ 15.3.1 Subject Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to any further resolution. However, before initiating mediation or any action for damages or other relief on account of any breach of this Agreement, they will attempt in good faith to resolve their dispute in accordance with the procedures set forth in this Section 15.3.1. The Owner Representative and Contractor Representative will first attempt in good faith to resolve any dispute. If, in the opinion of either party, resolution by such representatives is unlikely or will result in undue delay, such party may make a written request to the other Party that the dispute be submitted to the level of Owner and Contractor management immediately above such representatives. Upon the delivery of such request, the parties agree to submit the dispute to such level of management with decision-making authority who will attempt in good faith to resolve the dispute. In the event the foregoing level of management is unable to resolve the dispute within ten (10) days of delivery of such notice, the Parties agree to submit the dispute to mediation as provided herein.

§ 15.3.2 Except for the subject Claims, the parties shall endeavor to resolve their Claims by direct negotiation and then, if unsuccessful, by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

**§ 15.3.4 WITH RESPECT TO ANY CONTROVERSY SUBJECT TO LITIGATION, OWNER AND CONTRACTOR, FOR THEMSELVES AND THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, HEREBY (A) AGREE THAT NEITHER OF THEM SHALL SEEK A JURY TRIAL IN ANY LAWSUIT, ACTION, PROCEEDING, COUNTERCLAIM OR OTHER LITIGATION PROCEDURE BASED UPON OR ARISING OUT OF OR OTHERWISE RELATING TO THIS AGREEMENT OR THE DEALINGS OR RELATIONSHIPS BETWEEN AND AMONG CONTRACTOR IN CONNECTION THEREWITH, (B) IRREVOCABLY WAIVE ANY AND ALL RIGHTS TO ANY SUCH JURY TRIAL, AND (C) AGREE THAT NEITHER OF THEM SHALL SEEK TO CONSOLIDATE ANY SUCH LAWSUIT, ACTION, PROCEEDING, COUNTERCLAIM OR OTHER LITIGATION PROCEDURE AS TO WHICH A JURY TRIAL HAS BEEN WAIVED WITH ANY OTHER LAWSUIT, ACTION, PROCEEDING, COUNTERCLAIM OR OTHER LITIGATION PROCEDURE AS TO WHICH A JURY TRIAL CANNOT OR HAS NOT BEEN WAIVED. THIS SECTION HAS BEEN FULLY DISCUSSED BY OWNER AND CONTRACTOR, EACH OF WHOM HAS BEEN REPRESENTED BY COUNSEL. THIS SECTION 15.4.10 SHALL NOT BE SUBJECT TO ANY EXCEPTIONS, AND NO SUCH PERSON HAS IN ANY WAY AGREED WITH OR REPRESENTED TO ANY OTHER PERSON THAT THIS SECTION 15.4.10 WILL NOT BE FULLY ENFORCED IN ALL INSTANCES.**

*End of A201 General Conditions*

*(Paragraphs deleted)*

Init.



**SECTION 00 73 00**  
**SUPPLEMENTARY CONDITIONS**  
**TO**  
**GENERAL CONDITIONS**

**Supplementary Conditions**

These Supplementary Conditions modify and supplement Section 00 72 00 - General Conditions, and other provisions of the Contract Documents as indicated below. All provisions of the General Conditions that are modified or supplemented remain in full force and effect as so modified or supplemented. All provisions of the General Conditions which are not so modified or supplemented remain in full force and effect.

**Defined Terms**

The terms used in these Supplementary Conditions which are defined in the General Conditions have the meaning assigned to them in the General Conditions, unless specifically noted herein.

**Modifications and Supplements**

The following are instructions that modify or supplement specific paragraphs in the General Conditions and other Contract Documents.

**SC-3.03B.2, “Resolving Discrepancies”**

Plans govern over Specifications.

**SC-4.01A**

Easement limits shown on the Drawing are approximate and were provided to establish a basis for bidding. Upon receiving the final easements descriptions, Contractor shall compare them to the lines shown on the Contract Drawings.

**SC-4.01A.1., “Availability of Lands”**

The following is a list of known outstanding right-of-way, and/or easements to be acquired, if any as of *June 14, 2021*:

**Outstanding Right-Of-Way, and/or Easements to Be Acquired**

PARCEL NUMBER	OWNER	TARGET DATE OF POSSESSION
40422666	<i>Celina Dealership Partners LP</i>	<i>09/2021</i>
04905857	<i>NTP35 LP</i>	<i>09/2021</i>

The Contractor understands and agrees that the dates listed above are estimates only, are not guaranteed, and do not bind the City.

If Contractor considers the final easements provided to differ materially from the representations on the Contract Drawings, Contractor shall within five (5) Business Days and before proceeding with the Work, notify City in writing associated with the differing easement line locations.

**SC-4.01A.2, “Availability of Lands”**

**Utilities or obstructions to be removed, adjusted, and/or relocated**

The following is list of utilities and/or obstructions that have not been removed, adjusted, and/or relocated as of *July 2, 2021*.

EXPECTED OWNER	UTILITY AND LOCATION	TARGET DATE OF ADJUSTMENT
<i>None</i>		

The Contractor understands and agrees that the dates listed above are estimates only, are not guaranteed, and do not bind the City.

**SC-4.02A., “Subsurface and Physical Conditions”**

The following are reports of explorations and tests of subsurface conditions at the site of the Work:

*A Geotechnical Investigation Report No. DE19-317, dated 12/31/2019, prepared by Criado & Associates, Inc., a consultant of the City, providing additional information on East Bailey Boswell Road Extension.*

The following are drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site of the Work:

*None*

**SC-4.06A., “Hazardous Environmental Conditions at Site”**

The following are reports and drawings of existing hazardous environmental conditions known to the City:

*None*

**SC-5.03A., “Certificates of Insurance”**

The entities listed below are "additional insureds as their interest may appear" including their respective officers, directors, agents and employees.

- (1) City
- (2) Consultant: *Halff Associates, Inc.*
- (3) Developer: *Transwestern Development Company*

**SC-5.04A., “Contractor’s Insurance”**

The limits of liability for the insurance required by Paragraph GC-5.04 shall provide the following coverages for not less than the following amounts or greater where required by laws and regulations:

**5.04A.** Workers' Compensation, under Paragraph GC-5.04A.

*Statutory limits*

*Employer's liability*

*\$100,000 each accident/occurrence*

*\$100,000 Disease - each employee*

*\$500,000 Disease - policy limit*

**SC-5.04B., “Contractor’s Insurance”**

**5.04B.** Commercial General Liability, under Paragraph GC-5.04B. Contractor's Liability Insurance under Paragraph GC-5.04B., which shall be on a per project basis covering the Contractor with minimum limits of:

*\$1,000,000 each occurrence*

*\$2,000,000 aggregate limit*

The policy must have an endorsement (Amendment – Aggregate Limits of Insurance) making the General Aggregate Limits apply separately to each job site.

The Commercial General Liability Insurance policies shall provide “X”, “C”, and “U” coverage’s. Verification of such coverage must be shown in the Remarks Article of the Certificate of Insurance.

**SC 5.04C., “Contractor’s Insurance”**

**5.04C.** Automobile Liability, under Paragraph GC-5.04C. Contractor’s Liability Insurance under Paragraph GC-5.04C., which shall be in an amount not less than the following amounts:

- (1) **Automobile Liability** - a commercial business policy shall provide coverage on "Any Auto", defined as autos owned, hired and non-owned.

*\$1,000,000* each accident on a combined single limit basis. Split limits are acceptable if limits are at least:

*\$250,000 Bodily Injury per person /*

*\$500,000 Bodily Injury per accident /*

*\$100,000 Property Damage*

**SC-5.04D., “Contractor’s Insurance”**

~~The Contractor’s construction activities will require its employees, agents, subcontractors, equipment, and material deliveries to cross railroad properties and tracks~~

~~The Contractor shall conduct its operations on railroad properties in such a manner as not to interfere with, hinder, or obstruct the railroad company in any manner whatsoever in the use or operation of its/their trains or other property. Such operations on railroad properties may require that Contractor to execute a “Right of Entry Agreement” with the particular railroad company or companies involved, and to this end the Contractor should satisfy itself as to the requirements of each railroad company and be prepared to execute the right of entry (if any) required by a railroad company. The requirements specified herein likewise relate to the Contractor’s use of private and/or construction access roads crossing said railroad company’s properties.~~

~~The Contractual Liability coverage required by Paragraph 5.04D of the General Conditions shall provide coverage for not less than the following amounts, issued by companies satisfactory to the City and to the Railroad Company for a term that continues for so long as the Contractor's operations and work cross, occupy, or touch railroad property:~~

~~(1) General Aggregate:~~

~~(2) Each Occurrence:~~

~~\_ Required for this Contract~~

X Not required for this Contract

~~With respect to the above outlined insurance requirements, the following shall govern:~~

- ~~1. Where a single railroad company is involved, the Contractor shall provide one insurance policy in the name of the railroad company. However, if more than one grade separation or at grade crossing is affected by the Project at entirely separate locations on the line or lines of the same railroad company, separate coverage may be required, each in the amount stated above.~~
- ~~2. Where more than one railroad company is operating on the same right of way or where several railroad companies are involved and operated on their own separate rights of way, the Contractor may be required to provide separate insurance policies in the name of each railroad company.~~
- ~~3. If, in addition to a grade separation or an at grade crossing, other work or activity is proposed on a railroad company's right of way at a location entirely separate from the grade separation or at grade crossing, insurance coverage for this work must be included in the policy covering the grade separation.~~
- ~~4. If no grade separation is involved but other work is proposed on a railroad company's right of way, all such other work may be covered in a single policy for that railroad, even though the work may be at two or more separate locations.~~

~~No work or activities on a railroad company's property to be performed by the Contractor shall be commenced until the Contractor has furnished the City with an original policy or policies of the insurance for each railroad company named, as required above. All such insurance must be approved by the City and each affected Railroad Company prior to the Contractor's beginning work.~~

~~The insurance specified above must be carried until all Work to be performed on the railroad right of way has been completed and the grade crossing, if any, is no longer used by the Contractor. In addition, insurance must be carried during all maintenance and/or repair work performed in the railroad right of way. Such insurance must name the railroad company as the insured, together with any tenant or lessee of the railroad company operating over tracks involved in the Project.~~

#### **SC-6.04., "Project Schedule"**

#### **SC-6.07., "Wage Rates"**

The following is the prevailing wage rate table(s) applicable to this project and is provided in the Appendixes:  
City of Fort Worth Horizontal and Vertical Wage Rate Table

A copy of the table is also available by accessing the City’s website at:  
<https://apps.fortworthtexas.gov/ProjectResources/>

You can access the file by following the directory path:  
02-Construction Documents/Specifications/Div00 – General Conditions

**SC-6.09., “Permits and Utilities”**

**SC-6.09A., “Contractor obtained permits and licenses”**

The following are known permits and/or licenses required by the Contract to be acquired by the Contractor:

1. *None*

**SC-6.09B. “City obtained permits and licenses”**

The following are known permits and/or licenses required by the Contract to be acquired by the City:

2. *None*

**SC-6.09C. “Outstanding permits and licenses”**

The following is a list of known outstanding permits and/or licenses to be acquired, if any as of *August 2, 2021*:

**Outstanding Permits and/or Licenses to Be Acquired**

OWNER	PERMIT OR LICENSE AND LOCATION	TARGET DATE OF POSSESSION
<i>TxDOT</i>	<i>Sanitary Sewer Boring Across IH35 and US287</i>	<i>8/27/2021</i>

~~**SC-6.24B., “Title VI, Civil Rights Act of 1964 as amended”**~~

~~During the performance of this Contract, the Contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:~~

- ~~1. **Compliance with Regulations:** The Contractor shall comply with the Regulation relative to nondiscrimination in Federally assisted programs of the Department of Transportation (hereinafter, “DOT”) Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.~~
- ~~2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin, in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR, section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.~~

~~3. **Solicitations for Subcontractors, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.~~

~~4. **Information and Reports:** The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by City or the Texas Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the City, or the Texas Department of Transportation, as appropriate, and shall set forth what efforts it has made to obtain the information.~~

~~5. **Sanctions for Noncompliance:** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, City shall impose such contract sanctions as it or the Texas Department of Transportation may determine to be appropriate, including, but not limited to:~~

- ~~a. withholding of payments to the Contractor under the Contract until the Contractor complies, and/or~~
- ~~b. cancellation, termination or suspension of the Contract, in whole or in part.~~

~~6. **Incorporation of Provisions:** The Contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as City or the Texas Department of Transportation may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request City to enter into such litigation to protect the interests of City, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.~~

Additional Title VI requirements can be found in the Appendix.

**SC-7.02., “Coordination”**

The individuals or entities listed below have contracts with the City for the performance of other work at the Site:

Vendor	Scope of Work	Coordination Authority
<i>None</i>		

**SC-8.01, “Communications to Contractor”**

Will be listed when information is known.

**SC-9.01., “City’s Project Manager”**

The City's Project Manager for this Contract is *Patrick Buckley*, or his/her successor pursuant to **written notification from Development Services.**

**SC-13.03C., "Tests and Inspections"**

*None*

**SC-16.01C.1, "Methods and Procedures"**

*None*

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
1/22/2016	F. Griffin	SC-9.01., "City's Project Representative" wording changed to City's Project Manager.
3/9/2020	D.V. Magaña	SC-6.07, Updated the link such that files can be accessed via the City's website.

**STANDARD CITY CONDITIONS  
OF THE CONSTRUCTION CONTRACT  
FOR DEVELOPER AWARDED PROJECTS**



# STANDARD CITY CONDITIONS OF THE CONSTRUCTION CONTRACT FOR DEVELOPER AWARDED PROJECTS

## TABLE OF CONTENTS

	<b>Page</b>
Article 1 – Definitions and Terminology .....	1
1.01 Defined Terms.....	1
1.02 Terminology.....	5
Article 2 – Preliminary Matters.....	6
2.01 Before Starting Construction .....	6
2.02 Preconstruction Conference.....	6
2.03 Public Meeting .....	6
Article 3 – Contract Documents and Amending.....	6
3.01 Reference Standards .....	6
3.02 Amending and Supplementing Contract Documents .....	6
Article 4 – Bonds and Insurance .....	7
4.01 Licensed Sureties and Insurers .....	7
4.02 Performance, Payment, and Maintenance Bonds .....	7
4.03 Certificates of Insurance .....	7
4.04 Contractor’s Insurance.....	9
4.05 Acceptance of Bonds and Insurance; Option to Replace.....	12
Article 5 – Contractor’s Responsibilities .....	12
5.01 Supervision and Superintendent.....	12
5.02 Labor; Working Hours.....	13
5.03 Services, Materials, and Equipment.....	13
5.04 Project Schedule.....	14
5.05 Substitutes and “Or-Equals” .....	14
5.06 Pre-Qualification of Bidders (Prime Contractors and Subcontractors).....	16
5.07 Concerning Subcontractors, Suppliers, and Others .....	16
5.08 Wage Rates.....	18
5.09 Patent Fees and Royalties .....	19
5.10 Laws and Regulations.....	19
5.11 Use of Site and Other Areas .....	19
5.12 Record Documents.....	20
5.13 Safety and Protection .....	21
5.14 Safety Representative .....	21
5.15 Hazard Communication Programs .....	22
5.16 Submittals.....	22
5.17 Contractor’s General Warranty and Guarantee.....	23

5.18	Indemnification .....	24
5.19	Delegation of Professional Design Services .....	24
5.20	Right to Audit: .....	25
5.21	Nondiscrimination.....	25
Article 6 – Other Work at the Site.....		26
6.01	Related Work at Site .....	26
Article 7 – City’s Responsibilities.....		26
7.01	Inspections, Tests, and Approvals .....	26
7.02	Limitations on City’s Responsibilities .....	26
7.03	Compliance with Safety Program.....	27
Article 8 – City’s Observation Status During Construction .....		27
8.01	City’s Project Representative .....	27
8.02	Authorized Variations in Work .....	27
8.03	Rejecting Defective Work .....	27
8.04	Determinations for Work Performed.....	28
Article 9 – Changes in the Work.....		28
9.01	Authorized Changes in the Work .....	28
9.02	Notification to Surety.....	28
Article 10 – Change of Contract Price; Change of Contract Time .....		28
10.01	Change of Contract Price.....	28
10.02	Change of Contract Time.....	28
10.03	Delays.....	28
Article 11 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work.....		29
11.01	Notice of Defects .....	29
11.02	Access to Work .....	29
11.03	Tests and Inspections .....	29
11.04	Uncovering Work .....	30
11.05	City May Stop the Work.....	30
11.06	Correction or Removal of Defective Work.....	30
11.07	Correction Period.....	30
11.08	City May Correct Defective Work .....	31
Article 12 – Completion .....		32
12.01	Contractor’s Warranty of Title .....	32
12.02	Partial Utilization .....	32
12.03	Final Inspection.....	32
12.04	Final Acceptance.....	33
Article 13 – Suspension of Work .....		33
13.01	City May Suspend Work .....	33
Article 14 – Miscellaneous .....		34
14.01	Giving Notice .....	34

14.02 Computation of Times .....	34
14.03 Cumulative Remedies .....	34
14.04 Survival of Obligations .....	35
14.05 Headings .....	35

## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in these General Conditions or in other Contract Documents, the terms listed below have the meanings indicated which are applicable to both the singular and plural thereof, and words denoting gender shall include the masculine, feminine and neuter. Said terms are generally capitalized or written in italics, but not always. When used in a context consistent with the definition of a listed-defined term, the term shall have a meaning as defined below whether capitalized or italicized or otherwise. 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. *Agreement* - The written instrument which is evidence of the agreement between Developer and Contractor covering the Work
  2. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
  3. *Business Day* – A business day is defined as a day that the City conducts normal business, generally Monday through Friday, except for federal or state holidays observed by the City.
  4. *Buzzsaw* – City’s on-line, electronic document management and collaboration system.
  5. *Calendar Day* – A day consisting of 24 hours measured from midnight to the next midnight.
  6. *City*— *The City of Fort Worth, Texas, a Texas home-rule municipal corporation, acting by, its governing body through its City Manager, his designee, or agents authorized pursuant to its duly authorized charter on his behalf.*
  7. *Community Facilities Agreement (CFA)* —*A Contract between the Developer and the City for the Construction of one or more following public facilities within the City public right-of-way or easement: Water, Sanitary Sewer, Street, Storm Drain, Street Light, and Street Signs. A CFA may include private facilities within the right-of-way dedicated as private right-of-way or easement on a recorded plat.*
  8. *Contract*—*The entire and integrated written document incorporating the Contract Documents between the Developer, Contractor, and/or City concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.*
  9. *Contract Documents*—*Those items that make up the contract and which must include the Agreement, and it’s attachments such as standard construction specifications, standard City Conditions, other general conditions of the Developer, including:*
    - a. An Agreement

- b. Attachments to the Agreement
    - i. Bid Form
    - ii. Vendor Compliance with State Law Non-Resident Bidder
    - iii. Prequalification Statement
  - c. Current Prevailing Wage Rates Table (if required by City)
  - d. Insurance Accord Form
  - e. Payment Bond
  - f. Performance Bond
  - g. Maintenance Bond
  - h. Power of Attorney for Bonds
  - i. Workers Compensation Affidavit
  - j. MWBE Commitment Form( If required by City)
  - k. General Conditions
  - l. Supplementary Conditions
  - m. The Standard City Conditions
  - n. Specifications specifically made part of the Contract Documents by attachment, if not attached, as incorporated by reference and described in the Table of Contents of the Project's Contract Documents
  - o. Drawings
  - p. Documentation submitted by contractor prior to Notice of Award.
  - q. The following which may be delivered or issued after the effective date if the Agreement and, if issued become an incorporated part of the Contract Documents
    - i. Notice to Proceed
    - ii. Field Orders
    - iii. Change Orders
    - iv. Letters of Final Acceptance
  - r. Approved Submittals, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
10. *Contractor*—*The individual or entity with whom Developer has entered into the Agreement.*
11. *Day or day* – *A day, unless otherwise defined, shall mean a Calendar Day.*
12. *Developer* – *An individual or entity that desires to make certain improvements within the City of Fort Worth*
13. *Drawings*—*That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Submittals are not Drawings as so defined.*
14. *Engineer*—*The licensed professional engineer or engineering firm registered in the State of Texas performing professional services for the Developer.*
15. *Final Acceptance* – *The written notice given by the City to the Developer and/or Contractor that the Work specified in the Contract Documents has been completed to the satisfaction of the City.*

16. *Final Inspection* – *Inspection carried out by the City to verify that the Contractor has completed the Work, and each and every part or appurtenance thereof, fully, entirely, and in conformance with the Contract Documents.*
17. *General Requirements*—*A part of the Contract Documents between the Developer and a Contractor.*
18. *Laws and Regulations*—*Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.*
19. *Liens*—*Charges, security interests, or encumbrances upon Project funds, real property, or personal property.*
20. *Milestone*—*A principal event specified in the Contract Documents relating to an intermediate Contract Time prior to Final Acceptance of the Work.*
21. *Non-Participating Change Order*—*A document, which is prepared for and reviewed by the City, which is signed by Contractor, and Developer, and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.*
22. *Participating Change Order*—*A document, which is prepared for and approved by the City, which is signed by Contractor, Developer, and City and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.*
23. *Plans* – *See definition of Drawings.*
24. *Project Schedule*—*A schedule, prepared and maintained by Contractor, in accordance with the General Requirements, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Time.*
25. *Project*—*The Work to be performed under the Contract Documents.*
26. *Project Representative*—*The authorized representative of the City who will be assigned to the Site.*
27. *Public Meeting* – *An announced meeting conducted by the Developer to facilitate public participation and to assist the public in gaining an informed view of the Project.*
28. *Regular Working Hours* – *Hours beginning at 7:00 a.m. and ending at 6:00 p.m., Monday thru Friday (excluding legal holidays).*
29. *Samples*—*Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.*

30. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
31. *Site*—Lands or areas indicated in the Contract Documents as being furnished by City or Developer upon which the Work is to be performed, including rights-of-way, permits, and easements for access thereto, and such other lands furnished by City or Developer which are designated for the use of Contractor.
32. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto. Specifications may be specifically made a part of the Contract Documents by attachment or, if not attached, may be incorporated by reference as indicated in the Table of Contents (Division 00 00 00) of each Project.
33. *Standard City Conditions* – That part of the Contract Documents setting forth requirements of the City.
34. *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 at the Site.
35. *Submittals*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
36. *Superintendent* – The representative of the Contractor who is available at all times and able to receive instructions from the City and/or Developer and to act for the Contractor.
37. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements the General Conditions.
38. *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 Subcontractor.
39. *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, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
40. *Weekend Working Hours* – Hours beginning at 9:00 a.m. and ending at 5:00 p.m., Saturday, Sunday or legal holiday, as approved in advance by the City.

41. *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 including any Participating Change Order, Non-Participating Change Order, or Field Order, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
42. *Working Day* – A working day is defined as a day, not including Saturdays, Sundays, or legal holidays authorized by the City for contract purposes, in which weather or other conditions not under the control of the Contractor will permit the performance of the principal unit of work underway for a continuous period of not less than 7 hours between 7 a.m. and 6 p.m.

## 1.02 Terminology

- A. The words and terms discussed in Paragraph 1.02.B through D are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *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 City’s written acceptance.
- C. *Furnish, Install, Perform, Provide*:
1. The word “Furnish” or the word “Install” or the word “Perform” or the word “Provide” or the word “Supply,” or any combination or similar directive or usage thereof, shall mean furnishing and incorporating in the Work including all necessary labor, materials, equipment, and everything necessary to perform the Work indicated, unless specifically limited in the context used.
- D. 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 Before Starting Construction*

*Baseline Schedules:* Submit to City in accordance with the Contract Documents, and prior to starting the Work. New schedules will be submitted to City when Participating Change Orders or Non-Participating Change Orders occur.

### *2.02 Preconstruction Conference*

Before any Work at the Site is started, the Contractor shall attend a Preconstruction Conference as specified in the Contract Documents.

### *2.03 Public Meeting*

Contractor may not mobilize any equipment, materials or resources to the Site prior to Contractor attending the Public Meeting as scheduled by the City.

## **ARTICLE 3 – CONTRACT DOCUMENTS AND AMENDING**

### *3.01 Reference Standards*

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

1. Reference to standards, specifications, manuals, 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, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
2. No provision or instruction shall be effective to assign to City, or any of its 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 Contract Documents.

### *3.02 Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by a Participating Change Order or a Non-Participating Change Order.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work not involving a change in Contract Price or Contract Time, may be authorized, by one or more of the following ways:
  1. A Field Order;

1. City's or Engineer's review of a Submittal (subject to the provisions of Paragraph 5.16.C); or
2. City's written interpretation or clarification.

## **ARTICLE 4 – BONDS AND INSURANCE**

### *4.01 Licensed Sureties and Insurers*

All bonds and insurance required by the Contract Documents to be purchased and maintained by Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the State of Texas to issue bonds or insurance policies for the limits and coverage so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided Section 4.04.

### *4.02 Performance, Payment, and Maintenance Bonds*

- A. Contractor shall furnish performance and payment bonds in the name of Developer and City, in accordance with Texas Government Code Chapter 2253 or successor statute, each in an amount equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents.
- B. Contractor shall furnish maintenance bonds in the name of Developer and City in an amount equal to the Contract Price as security to protect the City against any defects in any portion of the Work described in the Contract Documents. Maintenance bonds shall remain in effect for two (2) years after the date of Final Acceptance by the City.
- C. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a sealed and dated power of attorney which shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- D. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Texas or it ceases to meet the requirements of Paragraph 4.02.C, Contractor shall promptly notify City and shall, within 30 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 4.01 and 4.02.C.

### *4.03 Certificates of Insurance*

Contractor shall deliver to Developer and City, with copies to each additional insured and loss payee identified in these Standard City Conditions certificates of insurance (and other evidence of insurance requested by City or any other additional insured) which Contractor is required to purchase and maintain.

1. The certificate of insurance shall document the City, as an “Additional Insured” on all liability policies.
2. The Contractor’s general liability insurance shall include a, “per project” or “per location”, endorsement, which shall be identified in the certificate of insurance provided to the City.
3. The certificate shall be signed by an agent authorized to bind coverage on behalf of the insured, be complete in its entirety, and show complete insurance carrier names as listed in the current A.M. Best Property & Casualty Guide
4. The insurers for all policies must be licensed and/or approved to do business in the State of Texas. Except for workers’ compensation, all insurers must have a minimum rating of A-: VII in the current A. M. Best Key Rating Guide or have reasonably equivalent financial strength and solvency to the satisfaction of Risk Management. If the rating is below that required, written approval of City is required.
5. All applicable policies shall include a Waiver of Subrogation (Rights of Recovery) in favor of the City. In addition, the Contractor agrees to waive all rights of subrogation against the Engineer (if applicable), and each additional insured identified in these Standard City Conditions. Failure of the City to demand such certificates or other evidence of full compliance with the insurance requirements or failure of the City to identify a deficiency from evidence that is provided shall not be construed as a waiver of Contractor’s obligation to maintain such lines of insurance coverage.
6. If insurance policies are not written for specified coverage limits, an Umbrella or Excess Liability insurance for any differences is required. Excess Liability shall follow form of the primary coverage.
7. Unless otherwise stated, all required insurance shall be written on the “occurrence basis”. If coverage is underwritten on a claims-made basis, the retroactive date shall be coincident with or prior to the date of the effective date of the agreement and the certificate of insurance shall state that the coverage is claims-made and the retroactive date. The insurance coverage shall be maintained for the duration of the Contract and for three (3) years following Final Acceptance provided under the Contract Documents or for the warranty period, whichever is longer. An annual certificate of insurance submitted to the City shall evidence such insurance coverage.
8. Policies shall have no exclusions by endorsements, which, neither nullify or amend, the required lines of coverage, nor decrease the limits of said coverage unless such endorsements are approved in writing by the City. In the event a Contract has been bid or executed and the exclusions are determined to be unacceptable or the City desires additional insurance coverage, and the City desires the contractor/engineer to obtain such coverage, the contract price shall be adjusted by the cost of the premium for such additional coverage plus 10%.
9. Any self-insured retention (SIR), in excess of \$25,000.00, affecting required insurance coverage shall be approved by the City in regards to asset value and stockholders' equity. In

lieu of traditional insurance, alternative coverage maintained through insurance pools or risk retention groups, must also be approved by City.

10. Any deductible in excess of \$5,000.00, for any policy that does not provide coverage on a first-dollar basis, must be acceptable to and approved by the City.
11. City, at its sole discretion, reserves the right to review the insurance requirements and to make reasonable adjustments to insurance coverage's and their limits when deemed necessary and prudent by the City based upon changes in statutory law, court decision or the claims history of the industry as well as of the contracting party to the City. The City shall be required to provide prior notice of 90 days, and the insurance adjustments shall be incorporated into the Work by Change Order.
12. City shall be entitled, upon written request and without expense, to receive copies of policies and endorsements thereto and may make any reasonable requests for deletion or revision or modifications of particular policy terms, conditions, limitations, or exclusions necessary to conform the policy and endorsements to the requirements of the Contract. Deletions, revisions, or modifications shall not be required where policy provisions are established by law or regulations binding upon either party or the underwriter on any such policies.
13. City shall not be responsible for the direct payment of insurance premium costs for Contractor's insurance.

#### 4.04 *Contractor's Insurance*

- A. *Workers Compensation and Employers' Liability.* Contractor shall purchase and maintain such insurance coverage with limits consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Texas Labor Code, Ch. 406, as amended), and minimum limits for Employers' Liability as is appropriate for the Work being performed and as will provide protection from claims set forth below which 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:
  1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
  2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees.
  3. The limits of liability for the insurance shall provide the following coverages for not less than the following amounts or greater where required by Laws and Regulations
    - a. Statutory limits
    - b. Employer's liability

- 1) \$100,000 each accident/occurrence
- 2) \$100,000 Disease - each employee
- 3) \$500,000 Disease - policy limit

B. **Commercial General Liability.** Coverage shall include but not be limited to covering liability (bodily injury or property damage) arising from: premises/operations, independent contractors, products/completed operations, personal injury, and liability under an insured contract. Insurance shall be provided on an occurrence basis, and as comprehensive as the current Insurance Services Office (ISO) policy. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to the City. The Commercial General Liability policy, shall have no exclusions by endorsements that would alter or nullify premises/operations, products/completed operations, contractual, personal injury, or advertising injury, which are normally contained with the policy, unless the City approves such exclusions in writing.

1. For construction projects that present a substantial completed operation exposure, the City may require the contractor to maintain completed operations coverage for a minimum of no less than three (3) years following the completion of the project
2. Contractor's Liability Insurance under this Section which shall be on a per project basis covering the Contractor with minimum limits of:
  - a. \$1,000,000 each occurrence
  - b. \$2,000,000 aggregate limit
3. The policy must have an endorsement (Amendment – Aggregate Limits of Insurance) making the General Aggregate Limits apply separately to each job site.
4. The Commercial General Liability Insurance policies shall provide “X”, “C”, and “U” coverage’s. Verification of such coverage must be shown in the Remarks Article of the Certificate of Insurance.

C. **Automobile Liability.** A commercial business auto policy shall provide coverage on “any auto”, defined as autos owned, hired and non-owned and provide indemnity for claims for damages because bodily injury or death of any person and or property damage arising out of the work, maintenance or use of any motor vehicle by the 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.

1. Automobile Liability, Contractor’s Liability Insurance under this Section, which shall be in an amount not less than the following amounts:
  - a. **Automobile Liability** - a commercial business policy shall provide coverage on "Any Auto", defined as autos owned, hired and non-owned.

- 1) \$1,000,000 each accident on a combined single limit basis. Split limits are acceptable if limits are at least:
- 2) \$250,000 Bodily Injury per person
- 3) \$500,000 Bodily Injury per accident /
- 4) \$100,000 Property Damage

D. *Railroad Protective Liability*. If any of the work or any warranty work is within the limits of railroad right-of-way, the Contractor shall comply with the following requirements:

1. The Contractor's construction activities will require its employees, agents, subcontractors, equipment, and material deliveries to cross railroad properties and tracks owned and operated by: None
2. The Contractor shall conduct its operations on railroad properties in such a manner as not to interfere with, hinder, or obstruct the railroad company in any manner whatsoever in the use or operation of its/their trains or other property. Such operations on railroad properties may require that Contractor to execute a "Right of Entry Agreement" with the particular railroad company or companies involved, and to this end the Contractor should satisfy itself as to the requirements of each railroad company and be prepared to execute the right-of-entry (if any) required by a railroad company. The requirements specified herein likewise relate to the Contractor's use of private and/or construction access roads crossing said railroad company's properties.
3. The Contractual Liability coverage required by Paragraph 5.04D of the General Conditions shall provide coverage for not less than the following amounts, issued by companies satisfactory to the City and to the Railroad Company for a term that continues for so long as the Contractor's operations and work cross, occupy, or touch railroad property:
  - a. General Aggregate: None
  - b. Each Occurrence: : None
4. With respect to the above outlined insurance requirements, the following shall govern:
  - a. Where a single railroad company is involved, the Contractor shall provide one insurance policy in the name of the railroad company. However, if more than one grade separation or at-grade crossing is affected by the Project at entirely separate locations on the line or lines of the same railroad company, separate coverage may be required, each in the amount stated above.
  - b. Where more than one railroad company is operating on the same right-of-way or where several railroad companies are involved and operated on their own separate rights-of-

way, the Contractor may be required to provide separate insurance policies in the name of each railroad company.

- c. If, in addition to a grade separation or an at-grade crossing, other work or activity is proposed on a railroad company's right-of-way at a location entirely separate from the grade separation or at-grade crossing, insurance coverage for this work must be included in the policy covering the grade separation.
  - d. If no grade separation is involved but other work is proposed on a railroad company's right-of-way, all such other work may be covered in a single policy for that railroad, even though the work may be at two or more separate locations.
5. No work or activities on a railroad company's property to be performed by the Contractor shall be commenced until the Contractor has furnished the City with an original policy or policies of the insurance for each railroad company named, as required above. All such insurance must be approved by the City and each affected Railroad Company prior to the Contractor's beginning work.
  6. The insurance specified above must be carried until all Work to be performed on the railroad right-of-way has been completed and the grade crossing, if any, is no longer used by the Contractor. In addition, insurance must be carried during all maintenance and/or repair work performed in the railroad right-of-way. Such insurance must name the railroad company as the insured, together with any tenant or lessee of the railroad company operating over tracks involved in the Project.
- E. *Notification of Policy Cancellation:* Contractor shall immediately notify City upon cancellation or other loss of insurance coverage. Contractor shall stop work until replacement insurance has been procured. There shall be no time credit for days not worked pursuant to this section.

#### 4.05 *Acceptance of Bonds and Insurance; Option to Replace*

If City has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the Contractor in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the Developer and City shall so notify the Contractor in writing within 10 Business Days after receipt of the certificates (or other evidence requested). Contractor shall provide to the City such additional information in respect of insurance provided as the Developer or City may reasonably request. If Contractor does not purchase or maintain all of the bonds and insurance required by the Contract Documents, the Developer or City shall notify the Contractor in writing of such failure prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

## **ARTICLE 5 – CONTRACTOR'S RESPONSIBILITIES**

### 5.01 *Supervision and Superintendent*

- 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, English-speaking, Superintendent who shall not be replaced without written notice to City. The Superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communication given to or received from the Superintendent shall be binding on Contractor.
- C. Contractor shall notify the City 24 hours prior to moving areas during the sequence of construction.

#### 5.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to 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. Contractor will not permit the performance of Work beyond Regular Working Hours or for Weekend Working Hours without City's written consent (which will not be unreasonably withheld). Written request (by letter or electronic communication) to perform Work:
  - 1. for beyond Regular Working Hours request must be made by noon at least two (2) Business Days prior
  - 2. for Weekend Working Hours request must be made by noon of the preceding Thursday
  - 3. for legal holidays request must be made by noon two Business Days prior to the legal holiday.

#### 5.03 *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, Contractor required testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, 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 City. If required by City, 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 to be incorporated into the Work 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.

5.04 *Project Schedule*

- A. Contractor shall adhere to the Project Schedule established in accordance with Paragraph 2.01 and the General Requirements as it may be adjusted from time to time as provided below.
1. Contractor shall submit to City for acceptance (to the extent indicated in Paragraph 2.01 and the General Requirements) proposed adjustments in the Project Schedule.
  2. Proposed adjustments in the Project Schedule that will change the Contract Time shall be submitted in accordance with the requirements of Article 9. Adjustments in Contract Time for projects with City participation shall be made by participating change orders.

5.05 *Substitutes and “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 specification or description 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 or no substitution is permitted, other items of material or equipment of other Suppliers may be submitted to City for review under the circumstances described below.
1. *“Or-Equal” Items:* If in City’s sole discretion 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, it may be considered by City as an “or-equal” item, in which case review and approval of the proposed item may, in City’s sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 5.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
    - a. City 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; and
      - 3) it has a proven record of performance and availability of responsive service; and
    - b. Contractor certifies that, if approved and incorporated into the Work:
      - 1) there will be no increase in cost to the City or increase in Contract Time; and

- 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in City's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 5.05.A.1, it may be submitted as a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow City to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by City from anyone other than Contractor.
- c. Contractor shall make written application to City for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application shall comply with Section 01 25 00 and:
  - 1) shall certify that the proposed substitute item will:
    - i. perform adequately the functions and achieve the results called for by the general design;
    - ii. be similar in substance to that specified;
    - iii. be suited to the same use as that specified; and
  - 2) will state:
    - i. the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of final completion on time;
    - ii. 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 City for other work on the Project) to adapt the design to the proposed substitute item;
    - iii. whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty; and
  - 3) will identify:
    - i. all variations of the proposed substitute item from that specified;
    - ii. available engineering, sales, maintenance, repair, and replacement services; and

- 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and Damage Claims of other contractors affected by any resulting change.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by City. Contractor shall submit sufficient information to allow City, in City's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. Contractor shall make written application to City for review in the same manner as those provided in Paragraph 5.05.A.2.
- C. *City's Evaluation:* City will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 5.05.A and 5.05.B. City may require Contractor to furnish additional data about the proposed substitute. City will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until City's review is complete, which will be evidenced by a Change Order in the case of a substitute and an accepted Submittal for an "or-equal." City will advise Contractor in writing of its determination.
- D. *Special Guarantee:* City may require Contractor to furnish at Contractor's expense a special performance guarantee, warranty, or other surety with respect to any substitute. *Contractor shall indemnify and hold harmless City and anyone directly or indirectly employed by them from and against any and all claims, damages, losses and expenses (including attorneys fees) arising out of the use of substituted materials or equipment.*
- E. *City's Cost Reimbursement:* City will record City's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 5.05.A.2 and 5.05.B. Whether or not City approves a substitute so proposed or submitted by Contractor, Contractor may be required to reimburse City for evaluating each such proposed substitute. Contractor may also be required to reimburse City for the charges for making changes in the Contract Documents.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.
- G. *Substitute Reimbursement:* Costs (savings or charges) attributable to acceptance of a substitute shall be incorporated to the Contract by Participating Change Order.

#### 5.06 *Pre-Qualification of Bidders (Prime Contractors and Subcontractors)*

- A. The Contractor and any subcontractors are required to be prequalified for the work types requiring pre-qualification

#### 5.07 *Concerning Subcontractors, Suppliers, and Others*

- A. *Minority and Women Owned Business Enterprise Compliance:*

Required for this Contract.

Not Required for this Contract.

It is City policy to ensure the full and equitable participation by Minority and Women Business Enterprises (MWBE) in the procurement of goods and services on a contractual basis. If the Contract Documents provide for a MWBE goal, Contractor is required to comply with the intent of the City's MWBE Ordinance (as amended) by the following:

1. Contractor shall, upon request by City, provide complete and accurate information regarding actual work performed by a MWBE on the Contract and payment therefor.
  2. Contractor will not make additions, deletions, or substitutions of accepted MWBE without written consent of the City. Any unjustified change or deletion shall be a material breach of Contract and may result in debarment in accordance with the procedures outlined in the Ordinance.
  3. Contractor shall, upon request by City, allow an audit and/or examination of any books, records, or files in the possession of the Contractor that will substantiate the actual work performed by an MWBE. Material misrepresentation of any nature will be grounds for termination of the Contract. Any such misrepresentation may be grounds for disqualification of Contractor to bid on future contracts with the City for a period of not less than three years.
- B. Contractor shall be fully responsible to City 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. 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 City and any such Subcontractor, Supplier or other individual or entity; nor
  2. shall create any obligation on the part of City to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- C. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- D. All Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work shall communicate with City through Contractor.
- E. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of these Contract

Documents, Contractor shall provide City contract numbers and reference numbers to the Subcontractors and/or Suppliers.

5.08 *Wage Rates*

- Required for this Contract.
- Not Required for this Contract.

- A. *Duty to pay Prevailing Wage Rates.* The Contractor shall comply with all requirements of Chapter 2258, Texas Government Code (as amended), including the payment of not less than the rates determined by the City Council of the City of Fort Worth to be the prevailing wage rates in accordance with Chapter 2258. Such prevailing wage rates are included in these Contract Documents.
- B. *Penalty for Violation.* A Contractor or any Subcontractor who does not pay the prevailing wage shall, upon demand made by the City, pay to the City \$60 for each worker employed for each calendar day or part of the day that the worker is paid less than the prevailing wage rates stipulated in these contract documents. This penalty shall be retained by the City to offset its administrative costs, pursuant to Texas Government Code 2258.023.
- C. *Complaints of Violations and City Determination of Good Cause.* On receipt of information, including a complaint by a worker, concerning an alleged violation of 2258.023, Texas Government Code, by a Contractor or Subcontractor, the City shall make an initial determination, before the 31st day after the date the City receives the information, as to whether good cause exists to believe that the violation occurred. The City shall notify in writing the Contractor or Subcontractor and any affected worker of its initial determination. Upon the City's determination that there is good cause to believe the Contractor or Subcontractor has violated Chapter 2258, the City shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the prevailing wage rates, such amounts being subtracted from successive progress payments pending a final determination of the violation.
- D. *Arbitration Required if Violation Not Resolved.* An issue relating to an alleged violation of Section 2258.023, Texas Government Code, including a penalty owed to the City or an affected worker, shall be submitted to binding arbitration in accordance with the Texas General Arbitration Act (Article 224 et seq., Revised Statutes) if the Contractor or Subcontractor and any affected worker does not resolve the issue by agreement before the 15th day after the date the City makes its initial determination pursuant to Paragraph C above. If the persons required to arbitrate under this section do not agree on an arbitrator before the 11th day after the date that arbitration is required, a district court shall appoint an arbitrator on the petition of any of the persons. The City is not a party in the arbitration. The decision and award of the arbitrator is final and binding on all parties and may be enforced in any court of competent jurisdiction.
- E. *Records to be Maintained.* The Contractor and each Subcontractor shall, for a period of three (3) years following the date of acceptance of the work, maintain records that show (i) the name and

occupation of each worker employed by the Contractor in the construction of the Work provided for in this Contract; and (ii) the actual per diem wages paid to each worker. The records shall be open at all reasonable hours for inspection by the City. The provisions of Paragraph 6.23, Right to Audit, shall pertain to this inspection.

- F. *Progress Payments.* With each progress payment or payroll period, whichever is less, the Contractor shall submit an affidavit stating that the Contractor has complied with the requirements of Chapter 2258, Texas Government Code.
- G. *Posting of Wage Rates.* The Contractor shall post prevailing wage rates in a conspicuous place at all times.
- H. *Subcontractor Compliance.* The Contractor shall include in its subcontracts and/or shall otherwise require all of its Subcontractors to comply with Paragraphs A through G above.

#### 5.09 *Patent Fees and Royalties*

- A. *To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless City, 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.*

#### 5.10 *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, the City shall not be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear 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. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.01.

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

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

- 1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or

other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. At any time when, in the judgment of the City, the Contractor has obstructed or closed or is carrying on operations in a portion of a street, right-of-way, or easement greater than is necessary for proper execution of the Work, the City may require the Contractor to finish the section on which operations are in progress before work is commenced on any additional area of the Site.
  3. Should any Damage Claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly attempt to resolve the Damage Claim.
  4. *Pursuant to Paragraph 5.18, Contractor shall indemnify and hold harmless City, from and against all claims, costs, losses, and damages arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against City.*
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other 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. *Site Maintenance Cleaning:* 24 hours after written notice is given to the Contractor that the clean-up on the job site is proceeding in a manner unsatisfactory to the City or Developer, if the Contractor fails to correct the unsatisfactory procedure, the City may take such direct action as the City deems appropriate to correct the clean-up deficiencies cited to the Contractor in the written notice (by letter or electronic communication), and shall be entitled to recover its cost in doing so. The City may withhold Final Acceptance until clean-up is complete and cost are recovered.
- D. *Final Site Cleaning:* Prior to Final Acceptance of the Work Contractor shall clean the Site and the Work and make it ready for utilization by City or adjacent property owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition or better all property disturbed by the Work.
- E. *Loading 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 property to stresses or pressures that will endanger it.

#### 5.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site or in a place designated by the Contractor and approved by the City, one (1) record copy of all Drawings, Specifications, Addenda, Change Orders, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved

Samples and a counterpart of all accepted Submittals will be available to City for reference. Upon completion of the Work, these record documents, any operation and maintenance manuals, and Submittals will be delivered to City prior to Final Inspection. Contractor shall include accurate locations for buried and imbedded items.

### 5.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. 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, 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 owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of City's safety programs, if any.
- D. Contractor shall inform City of the specific requirements of Contractor's safety program, if any, with which City's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 5.13.A.2 or 5.13.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.
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and City has accepted the Work.

### 5.14 *Safety Representative*

Contractor shall inform City in writing of Contractor's designated safety representative at the Site.



### 5.15 *Hazard Communication Programs*

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 in accordance with Laws or Regulations.

### 5.16 *Submittals*

- A. Contractor shall submit required Submittals to City for review and acceptance. Each submittal will be identified as required by City.
1. Submit number of copies specified in the General Requirements.
  2. Data shown on the Submittals will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show City the services, materials, and equipment Contractor proposes to provide and to enable City to review the information for the limited purposes required by Paragraph 5.16.C.
  3. Submittals submitted as herein provided by Contractor and reviewed by City for conformance with the design concept shall be executed in conformity with the Contract Documents unless otherwise required by City.
  4. When Submittals are submitted for the purpose of showing the installation in greater detail, their review shall not excuse Contractor from requirements shown on the Drawings and Specifications.
  5. For-Information-Only submittals upon which the City is not expected to conduct review or take responsive action may be so identified in the Contract Documents.
  6. Submit required number of Samples specified in the Specifications.
  7. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as City may require to enable City to review the submittal for the limited purposes required by Paragraph 5.16.C.
- B. Where a Submittal is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to City's review and acceptance of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *City's Review:*
1. City will provide timely review of required Submittals in accordance with the Schedule of Submittals acceptable to City. City's review and acceptance 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. City's review and acceptance will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and acceptance of a separate item as such will not indicate approval of the assembly in which the item functions.
3. City's review and acceptance shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Section 01 33 00 and City has given written acceptance of each such variation by specific written notation thereof incorporated in or accompanying the Submittal. City's review and acceptance shall not relieve Contractor from responsibility for complying with the requirements of the Contract Documents.

5.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to City that all Work will be in accordance with the Contract Documents and will not be defective. City and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of 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 City;
  2. recommendation or payment by City or Developer of any progress or final payment;
  3. the issuance of a certificate of Final Acceptance by City or any payment related thereto by City;
  4. use or occupancy of the Work or any part thereof by City;
  5. any review and acceptance of a Submittal by City;
  6. any inspection, test, or approval by others; or

7. any correction of defective Work by City.

- D. The Contractor shall remedy any defects or damages in the Work and pay for any damage to other work or property resulting therefrom which shall appear within a period of two (2) years from the date of Final Acceptance of the Work unless a longer period is specified and shall furnish a good and sufficient maintenance bond, complying with the requirements of Article 4.02.B. The City will give notice of observed defects with reasonable promptness.

#### 5.18 Indemnification

- A. Contractor covenants and agrees to indemnify, hold harmless and defend, at its own expense, the City, its officers, servants and employees, from and against any and all claims arising out of, or alleged to arise out of, the work and services to be performed by the Contractor, its officers, agents, employees, subcontractors, licenses or invitees under this Contract. **THIS INDEMNIFICATION PROVISION IS SPECIFICALLY INTENDED TO OPERATE AND BE EFFECTIVE EVEN IF IT IS ALLEGED OR PROVEN THAT ALL OR SOME OF THE DAMAGES BEING SOUGHT WERE CAUSED, IN WHOLE OR IN PART, BY ANY ACT, OMISSION OR NEGLIGENCE OF THE CITY.** This indemnity provision is intended to include, without limitation, indemnity for costs, expenses and legal fees incurred by the City in defending against such claims and causes of actions.
- B. Contractor covenants and agrees to indemnify and hold harmless, at its own expense, the City, its officers, servants and employees, from and against any and all loss, damage or destruction of property of the City, arising out of, or alleged to arise out of, the work and services to be performed by the Contractor, its officers, agents, employees, subcontractors, licensees or invitees under this Contract. **THIS INDEMNIFICATION PROVISION IS SPECIFICALLY INTENDED TO OPERATE AND BE EFFECTIVE EVEN IF IT IS ALLEGED OR PROVEN THAT ALL OR SOME OF THE DAMAGES BEING SOUGHT WERE CAUSED, IN WHOLE OR IN PART, BY ANY ACT, OMISSION OR NEGLIGENCE OF THE CITY.**

#### 5.19 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.
- 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, City 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 Submittals prepared by such professional. 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 City.

- C. City shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided City has specified to Contractor performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 5.19, City's review and acceptance 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. City's review and acceptance of Submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 5.16.C.

5.20 *Right to Audit:*

- A. The City reserves the right to audit all projects utilizing City funds
- B. The Contractor agrees that the City shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any directly pertinent books, documents, papers, and records of the Contractor involving transactions relating to this Contract. Contractor agrees that the City shall have access during Regular Working Hours to all necessary Contractor facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this Paragraph. The City shall give Contractor reasonable advance notice of intended audits.
- C. Contractor further agrees to include in all its subcontracts hereunder a provision to the effect that the subcontractor agrees that the City shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any directly pertinent books, documents, papers, and records of such Subcontractor, involving transactions to the subcontract, and further, that City shall have access during Regular Working Hours to all Subcontractor facilities, and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this Paragraph. The City shall give Subcontractor reasonable advance notice of intended audits.
- D. Contractor and Subcontractor agree to photocopy such documents as may be requested by the City. The City agrees to reimburse Contractor for the cost of the copies as follows at the rate published in the Texas Administrative Code in effect as of the time copying is performed.

5.21 *Nondiscrimination*

- A. The City is responsible for operating Public Transportation Programs and implementing transit-related projects, which are funded in part with Federal financial assistance awarded by the U.S. Department of Transportation and the Federal Transit Administration (FTA), without discriminating against any person in the United States on the basis of race, color, or national origin.
- B. *Title VI, Civil Rights Act of 1964 as amended:* Contractor shall comply with the requirements of the Act and the Regulations as further defined in the Supplementary Conditions for any project receiving Federal assistance.

## **ARTICLE 6 – OTHER WORK AT THE SITE**

### *6.01 Related Work at Site*

- A. City may perform other work related to the Project at the Site with City's employees, or other City contractors, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then written notice thereof will be given to Contractor prior to starting any such other work; and
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and City, if City is performing other work with City's employees or other City contractors, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. 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 City and the others whose work will be affected.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to City 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 in the work provided by others.

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

### *7.01 Inspections, Tests, and Approvals*

City's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 11.03.

### *7.02 Limitations on City's Responsibilities*

- A. The City 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. City will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- B. City will notify the Contractor of applicable safety plans pursuant to Paragraph 5.13.

### 7.03 *Compliance with Safety Program*

While at the Site, City's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which City has been informed pursuant to Paragraph 5.13.

## **ARTICLE 8 – CITY'S OBSERVATION STATUS DURING CONSTRUCTION**

### 8.01 *City's Project Representative*

City will provide one or more Project Representative(s) during the construction period. The duties and responsibilities and the limitations of authority of City's representative during construction are set forth in the Contract Documents.

- A. City's Project Representative will make visits to the Site at intervals appropriate to the various stages of construction as City deems necessary in order to observe 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, City's Project Representative will determine, in general, if the Work is proceeding in accordance with the Contract Documents. City's Project Representative will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. City's Project Representative's efforts will be directed toward providing City a greater degree of confidence that the completed Work will conform generally to the Contract Documents.
- B. City's Project Representative's visits and observations are subject to all the limitations on authority and responsibility in the Contract Documents.

### 8.02 *Authorized Variations in Work*

City's Project Representative may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on City Developer, and also on Contractor, who shall perform the Work involved promptly.

### 8.03 *Rejecting Defective Work*

City will have authority to reject Work which City's Project Representative believes to be defective, or will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. City will have authority to conduct special inspection or testing of the Work as provided in Article 11, whether or not the Work is fabricated, installed, or completed.

#### 8.04 *Determinations for Work Performed*

Contractor will determine the actual quantities and classifications of Work performed. City's Project Representative will review with Contractor the preliminary determinations on such matters before rendering a written recommendation. City's written decision will be final (except as modified to reflect changed factual conditions or more accurate data).

### **ARTICLE 9 – CHANGES IN THE WORK**

#### 9.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, City may, at any time or from time to time, order Extra Work. Upon notice of such Extra Work, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided). Extra Work shall be memorialized by a Participating Change Order which may or may not precede an order of Extra work.
- B. For minor changes of Work not requiring changes to Contract Time or Contract Price on a project with City participation, a Field Order may be issued by the City.

#### 9.02 *Notification to Surety*

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 Time), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted by the Contractor to reflect the effect of any such change.

### **ARTICLE 10 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIME**

#### 10.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Participating Change Order for projects with City participation.

#### 10.02 *Change of Contract Time*

- A. The Contract Time may only be changed by a Participating Change Order for projects with City participation.

#### 10.03 *Delays*

- A. If Contractor is delayed, City shall not be liable to Contractor for any claims, costs, losses, or 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) sustained by Contractor on or in connection with any other project or anticipated project.

## **ARTICLE 11 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

### *11.01 Notice of Defects*

Notice of all defective Work of which City has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

### *11.02 Access to Work*

City, independent testing laboratories, and governmental agencies with jurisdictional interests 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.

### *11.03 Tests and Inspections*

- A. Contractor shall give City timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. If Contract Documents, Laws or Regulations of any public body having jurisdiction require any of the Work (or part thereof) to be inspected, tested, or approved, Contractor shall assume full responsibility for arranging and obtaining such independent inspections, tests, retests or approvals, pay all costs in connection therewith, and furnish City the required certificates of inspection or approval; excepting, however, those fees specifically identified in the Supplementary Conditions or any Texas Department of Licensure and Regulation (TDLR) inspections, which shall be paid as described in the Supplementary Conditions.
- C. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, re-tests, or approvals required for City's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, re-tests, or approvals shall be performed by organizations approved by City.
- D. City may arrange for the services of an independent testing laboratory ("Testing Lab") to perform any inspections or tests ("Testing") for any part of the Work, as determined solely by City.
  - 1. City will coordinate such Testing to the extent possible, with Contractor;
  - 2. Should any Testing under this Section 11.03 D result in a "fail", "did not pass" or other similar negative result, the Contractor shall be responsible for paying for any and all retests. Contractor's cancellation without cause of City initiated Testing shall be deemed a negative result and require a retest.



3. Any amounts owed for any retest under this Section 11.03 D shall be paid directly to the Testing Lab by Contractor. City will forward all invoices for retests to Developer/Contractor.
  4. If Contractor fails to pay the Testing Lab, City will not issue a letter of Final Acceptance until the Testing Lab is Paid
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of City, Contractor shall, if requested by City, uncover such Work for observation.

#### 11.04 *Uncovering Work*

- A. If any Work is covered contrary to the Contract Documents or specific instructions by the City, it must, if requested by City, be uncovered for City's observation and replaced at Contractor's expense.

#### 11.05 *City May Stop the Work*

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, City may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of City to stop the Work shall not give rise to any duty on the part of City 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.

#### 11.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work pursuant to an acceptable schedule, whether or not fabricated, installed, or completed, or, if the Work has been rejected by City, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, additional testing, 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 removal (including but not limited to all costs of repair or replacement of work of others). Failure to require the removal of any defective Work shall not constitute acceptance of such Work.
- B. When correcting defective Work under the terms of this Paragraph 11.06 or Paragraph 11.07, Contractor shall take no action that would void or otherwise impair City's special warranty and guarantee, if any, on said Work.

#### 11.07 *Correction Period*

- A. If within two (2) years after the date of Final Acceptance (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract

Documents), any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by City or permitted by Laws and Regulations as contemplated in Paragraph 5.10.A is found to be defective, Contractor shall promptly, without cost to City and in accordance with City's written instructions:

1. repair such defective land or areas; or
  2. correct such defective Work; or
  3. if the defective Work has been rejected by City, 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 other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of City's written instructions, or in an emergency where delay would cause serious risk of loss or damage, City may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. 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 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) will be paid by Contractor.
- C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 11.07, the correction period hereunder with respect to such Work may be required to be extended for an additional period of one year after the end of the initial correction period. City shall provide 30 days written notice to Contractor and Developer should such additional warranty coverage be required. Contractor's obligations under this Paragraph 11.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 11.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

#### 11.08 *City May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from City to correct defective Work, or to remove and replace rejected Work as required by City in accordance with Paragraph 11.06.A, 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, City may, after seven (7) days written notice to Contractor and the Developer, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 11.09, City shall proceed expeditiously. In connection with such corrective or remedial action, City 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 incorporated in the Work, stored at the Site or for which City has paid Contractor but which are

stored elsewhere. Contractor shall allow City, City's representatives, agents, consultants, employees, and City's other contractors, access to the Site to enable City to exercise the rights and remedies under this Paragraph.

- C. 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 other dispute resolution costs) incurred or sustained by City in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and City shall be entitled to an appropriate decrease in the Contract Price.
- D. Contractor shall not be allowed an extension of the Contract Time because of any delay in the performance of the Work attributable to the exercise of City's rights and remedies under this Paragraph 11.09.

## **ARTICLE 12 – COMPLETION**

### *12.01 Contractor's Warranty of Title*

Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment will pass to City no later than the time of Final Acceptance and shall be free and clear of all Liens.

### *12.02 Partial Utilization*

- A. Prior to Final Acceptance of all the Work, City may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which City, determines constitutes a separately functioning and usable part of the Work that can be used by City for its intended purpose without significant interference with Contractor's performance of the remainder of the Work. City at any time may notify Contractor in writing to permit City to use or occupy any such part of the Work which City determines to be ready for its intended use, subject to the following conditions:
  - 1. Contractor at any time may notify City in writing that Contractor considers any such part of the Work ready for its intended use.
  - 2. Within a reasonable time after notification as enumerated in Paragraph 14.05.A.1, City and Contractor shall make an inspection of that part of the Work to determine its status of completion. If City does not consider that part of the Work to be substantially complete, City will notify Contractor in writing giving the reasons therefor.
  - 3. Partial Utilization will not constitute Final Acceptance by City.

### *12.03 Final Inspection*

- A. Upon written notice from Contractor that the entire Work is complete in accordance with the Contract Documents:

1. within 10 days, City will schedule a Final Inspection with Contractor.
2. City will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 12.04 *Final Acceptance*

- A. Upon completion by Contractor to City's satisfaction, of any additional Work identified in the Final Inspection, City will issue to Contractor a letter of Final Acceptance upon the satisfaction of the following:
1. All documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.03;
  2. consent of the surety, if any, to Final Acceptance;
  3. a list of all pending or released Damage Claims against City that Contractor believes are unsettled; and
  4. affidavits of payments and complete and legally effective releases or waivers (satisfactory to City) of all Lien rights arising out of or Liens filed in connection with the Work.
  5. after all Damage Claims have been resolved:
    - a. directly by the Contractor or;
    - b. Contractor provides evidence that the Damage Claim has been reported to Contractor's insurance provider for resolution.
  6. Issuing Final Acceptance by the City shall not relieve the Contractor of any guarantees or other requirements of the Contract Documents which specifically continue thereafter.

### **ARTICLE 13 – SUSPENSION OF WORK**

#### 13.01 *City May Suspend Work*

- A. At any time and without cause, City may suspend the Work or any portion thereof by written notice to Contractor and which may fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. During temporary suspension of the Work covered by these Contract Documents, for any reason, the City will stop contract time on City participation projects.
- B. Should the Contractor not be able to complete a portion of the Project due to causes beyond the control of and without the fault or negligence of the Contractor, and should it be determined by mutual consent of the Contractor and City that a solution to allow construction to proceed is not

available within a reasonable period of time, Contractor may request an extension in Contract Time, directly attributable to any such suspension.

- C. If it should become necessary to suspend the Work for an indefinite period, the Contractor shall store all materials in such a manner that they will not obstruct or impede the public unnecessarily nor become damaged in any way, and he shall take every precaution to prevent damage or deterioration of the work performed; he shall provide suitable drainage about the work, and erect temporary structures where necessary.

## **ARTICLE 14 – MISCELLANEOUS**

### *14.01 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 to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
  - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.
- B. Business address changes must be promptly made in writing to the other party.
- C. Whenever the Contract Documents specifies giving notice by electronic means such electronic notice shall be deemed sufficient upon confirmation of receipt by the receiving party.

### *14.02 Computation of Times*

When any period of time is referred to in the Contract Documents 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 the next Working Day shall become the last day of the period.

### *14.03 Cumulative Remedies*

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 Documents. 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.

#### 14.04 *Survival of Obligations*

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

#### 14.05 *Headings*

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



- b. Excavated and waste materials shall be stored in such a way as not to interfere with the use of spaces that may be designated to be left free and unobstructed and so as not to inconvenience occupants of adjacent property.
- c. If the street is occupied by railroad tracks, the Work shall be carried on in such manner as not to interfere with the operation of the railroad.
  - 1) All Work shall be in accordance with railroad requirements set forth in Division 0 as well as the railroad permit.

D. Work within Easements

- 1. Do not enter upon private property for any purpose without having previously obtained permission from the owner of such property.
- 2. Do not store equipment or material on private property unless and until the specified approval of the property owner has been secured in writing by the Contractor and a copy furnished to the City.
- 3. Unless specifically provided otherwise, clear all rights-of-way or easements of obstructions which must be removed to make possible proper prosecution of the Work as a part of the project construction operations.
- 4. Preserve and use every precaution to prevent damage to, all trees, shrubbery, plants, lawns, fences, culverts, curbing, and all other types of structures or improvements, to all water, sewer, and gas lines, to all conduits, overhead pole lines, or appurtenances thereof, including the construction of temporary fences and to all other public or private property adjacent to the Work.
- 5. Notify the proper representatives of the owners or occupants of the public or private lands of interest in lands which might be affected by the Work.
  - a. Such notice shall be made at least 48 hours in advance of the beginning of the Work.
  - b. Notices shall be applicable to both public and private utility companies and any corporation, company, individual, or other, either as owners or occupants, whose land or interest in land might be affected by the Work.
  - c. Be responsible for all damage or injury to property of any character resulting from any act, omission, neglect, or misconduct in the manner or method or execution of the Work, or at any time due to defective work, material, or equipment.
- 6. Fence
  - a. Restore all fences encountered and removed during construction of the Project to the original or a better than original condition.
  - b. Erect temporary fencing in place of the fencing removed whenever the Work is not in progress and when the site is vacated overnight, and/or at all times to provide site security.
  - c. The cost for all fence work within easements, including removal, temporary closures and replacement, shall be subsidiary to the various items bid in the project proposal, unless a bid item is specifically provided in the proposal.



- 1 **1.5**
- 2 **SUBMITTALS [NOT USED]**
- 3 **1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**
- 4 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**
- 5 **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**
- 6 **1.9 QUALITY ASSURANCE [NOT USED]**
- 7 **1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**
- 8 **1.11 FIELD [SITE] CONDITIONS [NOT USED]**
- 9 **1.12 WARRANTY [NOT USED]**
- 10 **1.13 PROJECT MILESTONES**

11 A. Summary

- 12 1. This project will run concurrently with an adjacent private industrial development that  
13 will utilize the improvements once they are complete in place. The milestones set in  
14 place below are necessary to avoid project delays and financial loss to the Developer.  
15 The construction start for many of the milestones below will require earthwork by a  
16 private developer under a separate contract. The milestone dates listed below are subject  
17 to this earthwork being complete in place at the beginning of construction. If this  
18 condition is not met and the private earthwork is delayed, the milestone dates shall be  
19 extended by the duration of the delay. Exhibit ‘A’ has been provided on page 7 to show  
20 the location of each required milestone.
- 21 2. Milestone Acceptance
  - 22 a. Contractor shall submit a formal letter to the Developer when each of the milestones  
23 have been completed. Each letter shall reference the milestone number and section  
24 below containing the completed milestone.
  - 25 b. The construction work for each milestone shall be reviewed by the Engineer, Private  
26 Contractor, Developer, and the City of Fort Worth prior to acceptance.
  - 27 c. Developer shall have 10 working days to review and inspect the milestone  
28 construction. Once a milestone has been accepted, the Developer shall issue a formal  
29 letter to the contractor.
- 30 3. Milestones
  - 31 a. Water Distribution Lines
    - 32 1) **Milestone 8 - Proposed 12” Waterline ‘A’**
      - 33 a) Description of Work
        - 34 (1) Station 01+00.00 to Station 29+48.70 of Waterline ‘A’, as defined on  
35 sheets 7-11 of the approved civil construction plans.
        - 36 (2) All Work shall be complete in place, including any appurtenances and  
37 backfill required. Waterline is required to be installed, tested and the  
38 Fire Hydrants shall be active for this milestone to be accepted.
      - 39 b) Milestone Date
        - 40 (1) This milestone shall be complete and accepted by the Developer no later  
41 than **May 01, 2022**.
        - 42

1                   2) **Milestone 1 - Proposed 12" Waterline 'B'**

- 2                   a) Description of Work  
3                   (1) Station 01+50.00 to Station 10+73.09 of waterline 'B', as defined on  
4                   sheets 12 and 13 of the approved civil construction plans.  
5                   (2) All Work shall be complete in place, including any appurtenances and  
6                   backfill required. Waterline is not required to be in service for this  
7                   milestone to be accepted.  
8                   b) Milestone Date  
9                   (1) This milestone shall be complete and accepted by the Developer no  
10                  later than **December 31, 2021**.

11                  b. Sewer Distribution Lines

12                  1) **Milestone 2 - Proposed 8" Sanitary Sewer Line 'A'**

- 13                  a) Description of Work  
14                  (1) Station 50+00 to Station 59+33.32 of Sanitary Sewer Line 'A', as  
15                  defined on sheets 22 and 23 of the approved civil construction plans.  
16                  (2) All Work shall be complete in place, including any appurtenances and  
17                  backfill required. Sewer Line is not required to be in service for this  
18                  milestone to be accepted.  
19                  b) Milestone Date  
20                  (1) This milestone shall be completed and accepted by the Developer no  
21                  later than **December 31, 2021**.

22                  2) **Milestone 3 - Proposed 8" Sanitary Sewer Line 'B'**

- 23                  a) Description of Work  
24                  (1) Station 01+00.00 to Station 13+98.27 of Sanitary Sewer Line 'B', as  
25                  defined on sheets 22, 24 and 25 of the approved civil construction plans.  
26                  (2) All Work shall be complete in place, including any appurtenances and  
27                  backfill required. Sewer Line is not required to be in service for this  
28                  milestone to be accepted.  
29                  b) Milestone Date  
30                  (1) This milestone shall be complete and accepted by the Developer no later  
31                  than **December 31, 2021**.

32                  3) **Milestone 4 - Proposed Sanitary Sewer Line 'C'**

- 33                  a) Description of Work  
34                  (1) Station 01+00.00 to Station 09+50.00 of Sanitary Sewer Line 'C', as  
35                  defined on sheets 26 and 27 of the approved civil construction plans.  
36                  (2) All Work shall be complete in place, including any appurtenances and  
37                  backfill required. Sewer Line is not required to be in service for this  
38                  milestone to be accepted  
39                  b) Milestone Date  
40                  (1) This milestone shall be complete and accepted by the Developer no later  
41                  than **December 31, 2021**.

42                  c. Storm Sewer Lines

43                  1) **Milestone 5 - Proposed Storm Drainage Line 'C-1'**

- 44                  a) Description of Work  
45                  (1) Station 04+25.00 to Station 16+50 of Storm Line 'C-1' as defined on  
46                  sheets 102 and 103 of the approved civil construction plans.  
47                  (2) All Work shall be complete in place, including any appurtenances and  
48                  backfill required.  
49                  b) Milestone Date

(1) This milestone shall be complete and accepted by the Developer no later than **February 28, 2022.**

**2) Milestone 6 - Proposed Storm Drainage Line 'B-2'**

a) Description of Work

(1) Station 02+00.00 to Station 09+50.00 of Storm Line 'B-2' as defined on sheet 101 of the approved civil construction plans.

(2) All Work shall be complete in place, including any appurtenances and backfill required.

b) Milestone Date

(1) This milestone shall be complete and accepted by the Developer no later than **March 31, 2022.**

**3) Milestone 7 - Proposed Storm Drainage Line 'B-1'**

a) Description of Work

(1) Station 05+75.00 to Station 17+00.00 of Storm Line 'B-1', as defined on sheets 99 and 100 of the approved civil construction plans.

(2) All Work shall be complete in place, including any appurtenances and backfill required.

b) Milestone Date

(1) This milestone shall be complete and accepted by the Developer no later than **May 1, 2022.**

d. Earthwork

**1) Milestone 9 – Roadway Earthwork**

a) Description of Work

(1) Final grading inside the public right-of-way shall be complete.

(2) All export material shall be removed from the public right-of-way and stockpiled on the adjacent site per section 31 24 00 1.10.B.

(3) This does not include spoils from utilities to be installed later in the project.

b) Milestone Date

(1) This milestone shall be complete and accepted by the Developer no later than **December 15, 2021.**

4. Liquidated Damages

a. Contractor recognizes that time is of the essence to this contract and that the Developer will suffer financial loss if the milestones are not completed within the times specified in section 1.13.A.3 above, plus any extension thereof allowed in accordance with Article 10 of the Standard City Conditions of the Construction Contract for Developer Awarded Projects. The Contractor also recognized the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by the Developer if the Work is not completed on time. Accordingly, instead of requiring any such proof, Contractor agrees that as liquidated damages for delay (but not as a penalty), Contractor shall pay Developer *fifteen hundred* Dollars (\$1,500.00) for each day that expires after the time specified in Section 1.13.A.3 for complete in place work for EACH milestone.

1 **1.14 ACCESS TO PRIVATE SITE**

2 A. Summary

3 1. The construction of this project will run concurrently with the construction of an  
4 adjacent private industrial development. Contractor shall maintain access to the site at all  
5 times.

6 B. Locations and Specifications

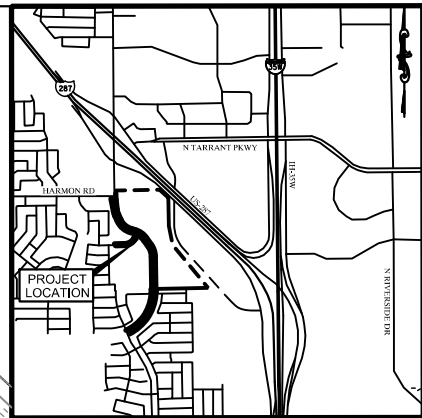
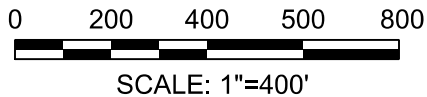
7 1. Exhibit 'B' has been provided on page 8 to show the location of each access point.  
8 Access points shall consist of a standard 24' wide construction entrance.

9 C. Exceptions

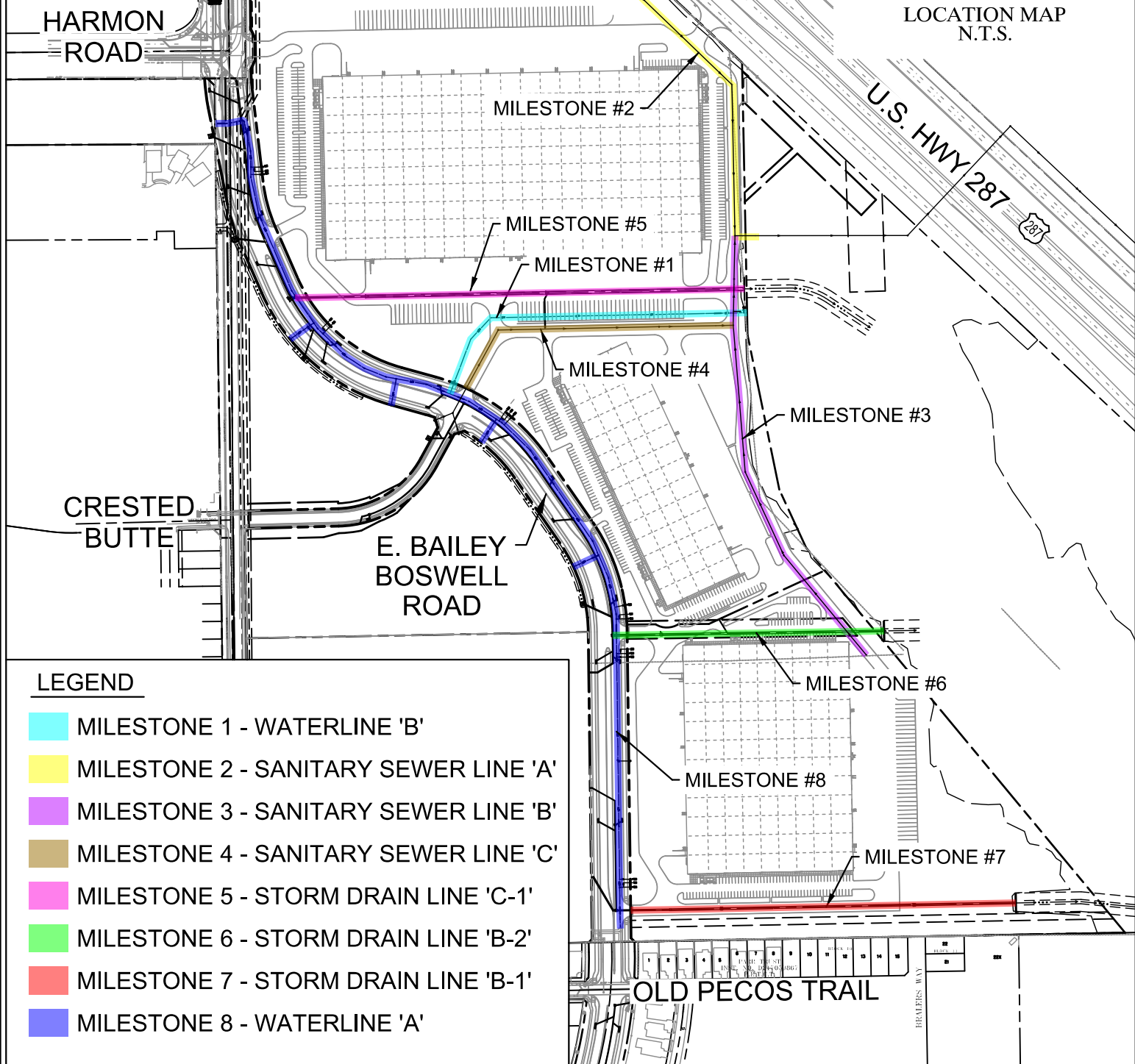
10 1. If any of the above defined access points are to be closed for any amount of time the  
11 contractor shall contact the private contractor for adjacent development at least 24 hours  
12 prior.

13 2. Private Contractor Contact will be provided at the time the contract is awarded.

14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36



LOCATION MAP  
N.T.S.



**LEGEND**

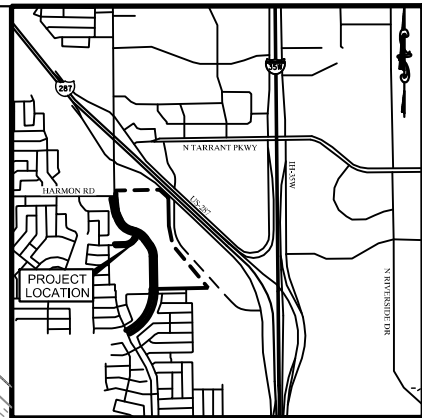
- MILESTONE 1 - WATERLINE 'B'
- MILESTONE 2 - SANITARY SEWER LINE 'A'
- MILESTONE 3 - SANITARY SEWER LINE 'B'
- MILESTONE 4 - SANITARY SEWER LINE 'C'
- MILESTONE 5 - STORM DRAIN LINE 'C-1'
- MILESTONE 6 - STORM DRAIN LINE 'B-2'
- MILESTONE 7 - STORM DRAIN LINE 'B-1'
- MILESTONE 8 - WATERLINE 'A'

**HALFF**  
 3803 PARKWOOD BLVD, SUITE 800  
 FRISCO, TEXAS 75034-8640  
 TEL: (214) 618-4570  
 FAX: (214) 618-4574  
 TBPE FIRM #F-312

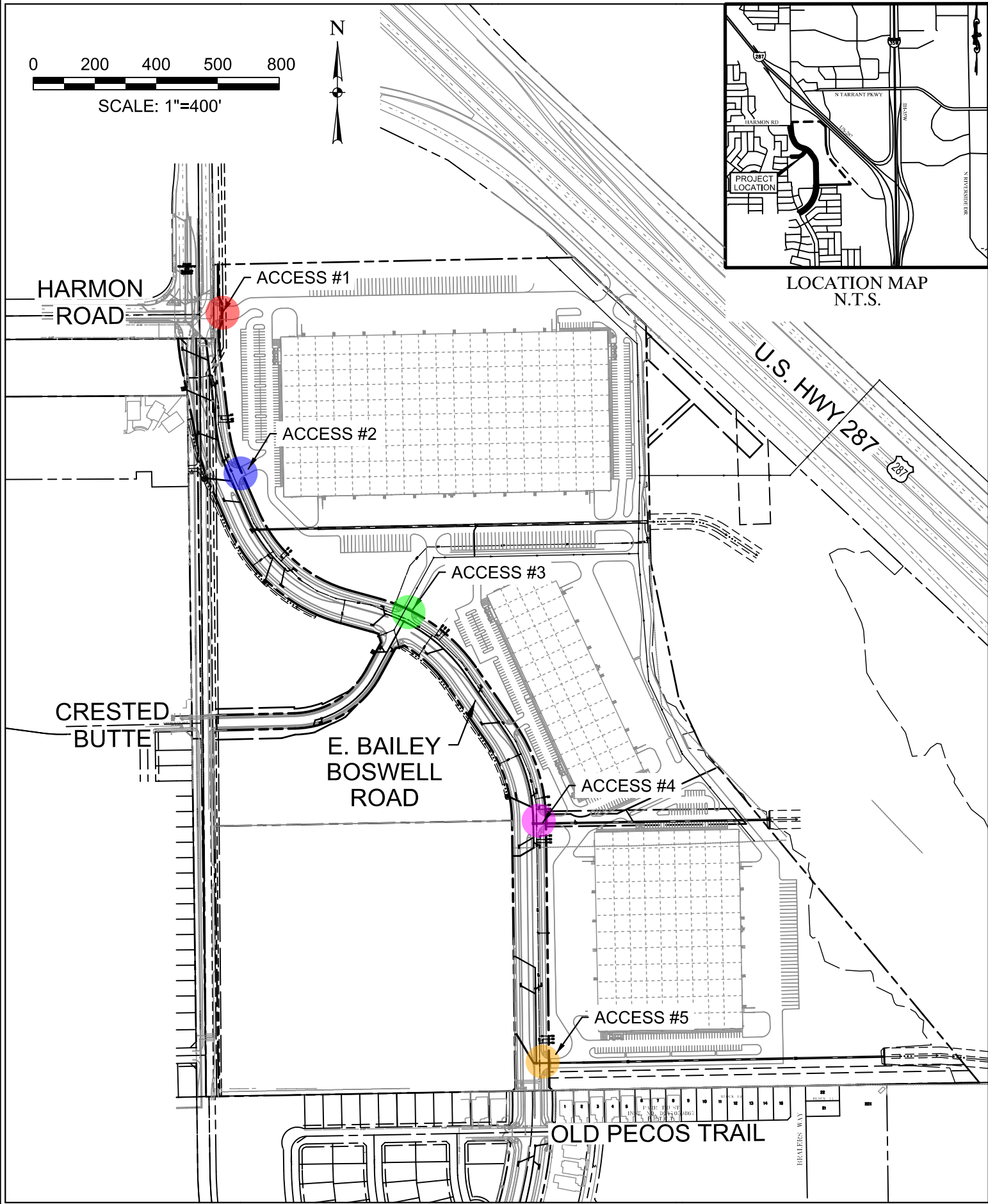
EXHIBIT 'A' - MILESTONES

EAST BAILEY BOSWELL ROAD  
IPRC21-0050

Design: L:\4200\042487\001\CADD\Sheets\FRC\FAM\Milestone.dgn  
 HALFF  
 8/5/2021 6:09:48 PM



LOCATION MAP  
N.T.S.



Design: I:\4200\042487\001\ICADD\Sheets\FRC\FAAACCESS.dwg  
 HALFF  
 8/1/2021 12:32:29 PM



3803 PARKWOOD BLVD, SUITE 800  
 FRISCO, TEXAS 75034-8640  
 TEL (214) 618-4570  
 FAX (214) 618-4574  
 TBPE FIRM #F-312

EXHIBIT 'B' - ACCESS

EAST BAILEY BOSWELL ROAD  
IPRC21-0050

1 **PART 2 - PRODUCTS [NOT USED]**

2 **PART 3 - EXECUTION [NOT USED]**

3 **END OF SECTION**

4

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
08/04/21	Joseph Buchanan	Added Section 1.13 Project Milestones and 1.14 Access to Private Site

5

**SECTION 01 25 00**  
**SUBSTITUTION PROCEDURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
1. The procedure for requesting the approval of substitution of a product that is not equivalent to a product which is specified by descriptive or performance criteria or defined by reference to 1 or more of the following:
    - a. Name of manufacturer
    - b. Name of vendor
    - c. Trade name
    - d. Catalog number
  2. Substitutions are not "or-equals".
- B. Deviations from this City of Fort Worth Standard Specification
1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  2. Division 1 – General Requirements

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
1. Work associated with this Item is considered subsidiary to the various items bid. No separate payment will be allowed for this Item.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Request for Substitution - General
1. Within 30 days after award of Contract (unless noted otherwise), the City will consider formal requests from Contractor for substitution of products in place of those specified.
  2. Certain types of equipment and kinds of material are described in Specifications by means of references to names of manufacturers and vendors, trade names, or catalog numbers.
    - a. When this method of specifying is used, it is not intended to exclude from consideration other products bearing other manufacturer's or vendor's names, trade names, or catalog numbers, provided said products are "or-equals," as determined by City.
  3. Other types of equipment and kinds of material may be acceptable substitutions under the following conditions:
    - a. Or-equals are unavailable due to strike, discontinued production of products meeting specified requirements, or other factors beyond control of Contractor;or,



- b. Contractor proposes a cost and/or time reduction incentive to the City.

## 1.5 SUBMITTALS

- A. See Request for Substitution Form (attached)
- B. Procedure for Requesting Substitution
  1. Substitution shall be considered only:
    - a. After award of Contract
    - b. Under the conditions stated herein
  2. Submit **3** copies of each written request for substitution, including:
    - a. Documentation
      - 1) Complete data substantiating compliance of proposed substitution with Contract Documents
      - 2) Data relating to changes in construction schedule, when a reduction is proposed
      - 3) Data relating to changes in cost
    - b. For products
      - 1) Product identification
        - a) Manufacturer's name
        - b) Telephone number and representative contact name
        - c) Specification Section or Drawing reference of originally specified product, including discrete name or tag number assigned to original product in the Contract Documents
      - 2) Manufacturer's literature clearly marked to show compliance of proposed product with Contract Documents
      - 3) Itemized comparison of original and proposed product addressing product characteristics including, but not necessarily limited to:
        - a) Size
        - b) Composition or materials of construction
        - c) Weight
        - d) Electrical or mechanical requirements
      - 4) Product experience
        - a) Location of past projects utilizing product
        - b) Name and telephone number of persons associated with referenced projects knowledgeable concerning proposed product
        - c) Available field data and reports associated with proposed product
      - 5) Samples
        - a) Provide at request of City.
        - b) Samples become the property of the City.
    - c. For construction methods:
      - 1) Detailed description of proposed method
      - 2) Illustration drawings
  - C. Approval or Rejection
    1. Written approval or rejection of substitution given by the City
    2. City reserves the right to require proposed product to comply with color and pattern of specified product if necessary to secure design intent.
    3. In the event the substitution is approved, the resulting cost and/or time reduction will be documented by Change Order in accordance with the General Conditions.

4. No additional contract time will be given for substitution.
5. Substitution will be rejected if:
  - a. Submittal is not through the Contractor with his stamp of approval
  - b. Request is not made in accordance with this Specification Section
  - c. In the City’s opinion, acceptance will require substantial revision of the original design
  - d. In the City’s opinion, substitution will not perform adequately the function consistent with the design intent

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE**

- A. In making request for substitution or in using an approved product, the Contractor represents that the Contractor:
1. Has investigated proposed product, and has determined that it is adequate or superior in all respects to that specified, and that it will perform function for which it is intended
  2. Will provide same guarantee for substitute item as for product specified
  3. Will coordinate installation of accepted substitution into Work, to include building modifications if necessary, making such changes as may be required for Work to be complete in all respects
  4. Waives all claims for additional costs related to substitution which subsequently arise

**1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

**EXHIBIT A**  
**REQUEST FOR SUBSTITUTION FORM:**

TO: \_\_\_\_\_  
PROJECT: \_\_\_\_\_ DATE: \_\_\_\_\_

We hereby submit for your consideration the following product instead of the specified item for the above project:

SECTION	PARAGRAPH	SPECIFIED ITEM
---------	-----------	----------------

Proposed Substitution: \_\_\_\_\_

Reason for Substitution: \_\_\_\_\_

Include complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Fill in Blanks Below:

A. Will the undersigned contractor pay for changes to the building design, including engineering and detailing costs caused by the requested substitution?

B. \_\_\_\_\_  
What effect does substitution have on other trades?

C. \_\_\_\_\_  
Differences between proposed substitution and specified item?

D. \_\_\_\_\_  
Differences in product cost or product delivery time?

E. \_\_\_\_\_  
Manufacturer's guarantees of the proposed and specified items are:

\_\_\_\_\_ Equal \_\_\_\_\_ Better (explain on attachment)

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

Submitted By: \_\_\_\_\_ For Use by City

Signature \_\_\_\_\_  
as noted \_\_\_\_\_ Recommended \_\_\_\_\_ Recommended

Firm \_\_\_\_\_  
Address \_\_\_\_\_ \_\_\_\_\_ Not recommended \_\_\_\_\_ Received late

Date \_\_\_\_\_  
By \_\_\_\_\_

Date \_\_\_\_\_  
Remarks \_\_\_\_\_

Telephone \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_

For Use by City:

\_\_\_\_\_ Approved \_\_\_\_\_ Rejected

City \_\_\_\_\_ Date \_\_\_\_\_

**SECTION 01 31 19**  
**PRECONSTRUCTION MEETING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Provisions for the preconstruction meeting to be held prior to the start of Work to clarify construction contract administration procedures
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. Work associated with this Item is considered subsidiary to the various items bid. No separate payment will be allowed for this Item.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination
  - 1. Attend preconstruction meeting.
  - 2. Representatives of Contractor, subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
  - 3. Meeting administered by City may be tape recorded.
    - a. If recorded, tapes will be used to prepare minutes and retained by City for future reference.
- B. Preconstruction Meeting
  - 1. A preconstruction meeting will be held within 14 days after the execution of the Agreement and before Work is started.
    - a. The meeting will be scheduled and administered by the City.
  - 2. The Project Representative will preside at the meeting, prepare the notes of the meeting and distribute copies of same to all participants who so request by fully completing the attendance form to be circulated at the beginning of the meeting.
  - 3. Attendance shall include:
    - a. Project Representative
    - b. Contractor's project manager
    - c. Contractor's superintendent
    - d. Any subcontractor or supplier representatives whom the Contractor may desire to invite or the City may request

- e. Other City representatives
  - f. Others as appropriate
4. Construction Schedule
- a. Prepare baseline construction schedule in accordance with Section 01 32 16 and provide at Preconstruction Meeting.
  - b. City will notify Contractor of any schedule changes upon Notice of Preconstruction Meeting.
5. Preliminary Agenda may include:
- a. Introduction of Project Personnel
  - b. General Description of Project
  - c. Status of right-of-way, utility clearances, easements or other pertinent permits
  - d. Contractor's work plan and schedule
  - e. Contract Time
  - f. Notice to Proceed
  - g. Construction Staking
  - h. Progress Payments
  - i. Extra Work and Change Order Procedures
  - j. Field Orders
  - k. Disposal Site Letter for Waste Material
  - l. Insurance Renewals
  - m. Payroll Certification
  - n. Material Certifications and Quality Control Testing
  - o. Public Safety and Convenience
  - p. Documentation of Pre-Construction Conditions
  - q. Weekend Work Notification
  - r. Legal Holidays
  - s. Trench Safety Plans
  - t. Confined Space Entry Standards
  - u. Coordination with the City's representative for operations of existing water systems
  - v. Storm Water Pollution Prevention Plan
  - w. Coordination with other Contractors
  - x. Early Warning System
  - y. Contractor Evaluation
  - z. Special Conditions applicable to the project
  - aa. Damages Claims
  - bb. Submittal Procedures
  - cc. Substitution Procedures
  - dd. Correspondence Routing
  - ee. Record Drawings
  - ff. Temporary construction facilities
  - gg. M/WBE or MBE/SBE procedures
  - hh. Final Acceptance
  - ii. Final Payment
  - jj. Questions or Comments

- 1.5 SUBMITTALS [NOT USED]
- 1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]
- 1.7 CLOSEOUT SUBMITTALS [NOT USED]
- 1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]
- 1.9 QUALITY ASSURANCE [NOT USED]
- 1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]
- 1.11 FIELD [SITE] CONDITIONS [NOT USED]
- 1.12 WARRANTY [NOT USED]

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

**SECTION 01 32 33**  
**PRECONSTRUCTION VIDEO**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Administrative and procedural requirements for:
    - a. Preconstruction Videos
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. Work associated with this Item is considered subsidiary to the various items bid.  
No separate payment will be allowed for this Item.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Preconstruction Video
  - 1. Produce a preconstruction video of the site/alignment, including all areas in the vicinity of and to be affected by construction.
    - a. Provide digital copy of video upon request by the City.
  - 2. Retain a copy of the preconstruction video until the end of the maintenance surety period.

**1.5 SUBMITTALS [NOT USED]**

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE [NOT USED]**

**1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE



## SECTION 01 33 00 SUBMITTALS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. General methods and requirements of submissions applicable to the following Work-related submittals:
    - a. Shop Drawings
    - b. Product Data (including Standard Product List submittals)
    - c. Samples
    - d. Mock Ups
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements

#### 1.2 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
  - 1. Work associated with this Item is considered subsidiary to the various items bid. No separate payment will be allowed for this Item.

#### 1.3 REFERENCES [NOT USED]

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination
  - 1. Notify the City in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.
  - 2. Coordination of Submittal Times
    - a. Prepare, prioritize and transmit each submittal sufficiently in advance of performing the related Work or other applicable activities, or within the time specified in the individual Work Sections, of the Specifications.
    - b. Contractor is responsible such that the installation will not be delayed by processing times including, but not limited to:
      - a) Disapproval and resubmittal (if required)
      - b) Coordination with other submittals
      - c) Testing
      - d) Purchasing
      - e) Fabrication
      - f) Delivery
      - g) Similar sequenced activities
    - c. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the Work.

- d. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the Work or in the work of any other contractor.

#### B. Submittal Numbering

1. When submitting shop drawings or samples, utilize a 9-character submittal cross-reference identification numbering system in the following manner:
  - a. Use the first 6 digits of the applicable Specification Section Number.
  - b. For the next 2 digits number use numbers 01-99 to sequentially number each initial separate item or drawing submitted under each specific Section number.
  - c. Last use a letter, A-Z, indicating the resubmission of the same drawing (i.e. A=2nd submission, B=3rd submission, C=4th submission, etc.). A typical submittal number would be as follows:

03 30 00-08-B

- 1) 03 30 00 is the Specification Section for Concrete
- 2) 08 is the eighth initial submittal under this Specification Section
- 3) B is the third submission (second resubmission) of that particular shop drawing

#### C. Contractor Certification

1. Review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:
  - a. Field measurements
  - b. Field construction criteria
  - c. Catalog numbers and similar data
  - d. Conformance with the Contract Documents
2. Provide each shop drawing, sample and product data submitted by the Contractor with a Certification Statement affixed including:
  - a. The Contractor's Company name
  - b. Signature of submittal reviewer
  - c. Certification Statement
    - 1) "By this submittal, I hereby represent that I have determined and verified field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings."

#### D. Submittal Format

1. Fold shop drawings larger than 8 ½ inches x 11 inches to 8 ½ inches x 11 inches.
2. Bind shop drawings and product data sheets together.
3. Order
  - a. Cover Sheet
    - 1) Description of Packet
    - 2) Contractor Certification
  - b. List of items / Table of Contents
  - c. Product Data /Shop Drawings/Samples /Calculations

#### E. Submittal Content

1. The date of submission and the dates of any previous submissions

2. The Project title and number
  3. Contractor identification
  4. The names of:
    - a. Contractor
    - b. Supplier
    - c. Manufacturer
  5. Identification of the product, with the Specification Section number, page and paragraph(s)
  6. Field dimensions, clearly identified as such
  7. Relation to adjacent or critical features of the Work or materials
  8. Applicable standards, such as ASTM or Federal Specification numbers
  9. Identification by highlighting of deviations from Contract Documents
  10. Identification by highlighting of revisions on resubmittals
  11. An 8-inch x 3-inch blank space for Contractor and City stamps
- F. Shop Drawings
1. As specified in individual Work Sections includes, but is not necessarily limited to:
    - a. Custom-prepared data such as fabrication and erection/installation (working) drawings
    - b. Scheduled information
    - c. Setting diagrams
    - d. Actual shopwork manufacturing instructions
    - e. Custom templates
    - f. Special wiring diagrams
    - g. Coordination drawings
    - h. Individual system or equipment inspection and test reports including:
      - 1) Performance curves and certifications
    - i. As applicable to the Work
  2. Details
    - a. Relation of the various parts to the main members and lines of the structure
    - b. Where correct fabrication of the Work depends upon field measurements
      - 1) Provide such measurements and note on the drawings prior to submitting for approval.
- G. Product Data
1. For submittals of product data for products included on the City's Standard Product List, clearly identify each item selected for use on the Project.
  2. For submittals of product data for products not included on the City's Standard Product List, submittal data may include, but is not necessarily limited to:
    - a. Standard prepared data for manufactured products (sometimes referred to as catalog data)
      - 1) Such as the manufacturer's product specification and installation instructions
      - 2) Availability of colors and patterns
      - 3) Manufacturer's printed statements of compliances and applicability
      - 4) Roughing-in diagrams and templates
      - 5) Catalog cuts
      - 6) Product photographs

- 7) Standard wiring diagrams
- 8) Printed performance curves and operational-range diagrams
- 9) Production or quality control inspection and test reports and certifications
- 10) Mill reports
- 11) Product operating and maintenance instructions and recommended spare-parts listing and printed product warranties
- 12) As applicable to the Work

#### H. Samples

1. As specified in individual Sections, include, but are not necessarily limited to:
  - a. Physical examples of the Work such as:
    - 1) Sections of manufactured or fabricated Work
    - 2) Small cuts or containers of materials
    - 3) Complete units of repetitively used products color/texture/pattern swatches and range sets
    - 4) Specimens for coordination of visual effect
    - 5) Graphic symbols and units of Work to be used by the City for independent inspection and testing, as applicable to the Work
- I. Do not start Work requiring a shop drawing, sample or product data nor any material to be fabricated or installed prior to the approval or qualified approval of such item.
  1. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data is at the Contractor's risk.
  2. The City will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
  3. Complete project Work, materials, fabrication, and installations in conformance with approved shop drawings, applicable samples, and product data.

#### J. Submittal Distribution

1. Electronic Distribution
  - a. Confirm development of Project directory for electronic submittals to be uploaded to City's Buzzsaw site, or another external FTP site approved by the City.
  - b. Shop Drawings
    - 1) Upload submittal to designated project directory and notify appropriate City representatives via email of submittal posting.
    - 2) Hard Copies
      - a) 3 copies for all submittals
      - b) If Contractor requires more than 1 hard copy of Shop Drawings returned, Contractor shall submit more than the number of copies listed above.
  - c. Product Data
    - 1) Upload submittal to designated project directory and notify appropriate City representatives via email of submittal posting.
    - 2) Hard Copies
      - a) 3 copies for all submittals
  - d. Samples
    - 1) Distributed to the Project Representative
2. Hard Copy Distribution (if required in lieu of electronic distribution)

- a. Shop Drawings
    - 1) Distributed to the City
    - 2) Copies
      - a) 8 copies for mechanical submittals
      - b) 7 copies for all other submittals
      - c) If Contractor requires more than 3 copies of Shop Drawings returned, Contractor shall submit more than the number of copies listed above.
  - b. Product Data
    - 1) Distributed to the City
    - 2) Copies
      - a) 4 copies
  - c. Samples
    - 1) Distributed to the Project Representative
    - 2) Copies
      - a) Submit the number stated in the respective Specification Sections.
3. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the City.
- a. Provide number of copies as directed by the City but not exceeding the number previously specified.

#### K. Submittal Review

1. The review of shop drawings, data and samples will be for general conformance with the design concept and Contract Documents. This is not to be construed as:
  - a. Permitting any departure from the Contract requirements
  - b. Relieving the Contractor of responsibility for any errors, including details, dimensions, and materials
  - c. Approving departures from details furnished by the City, except as otherwise provided herein
2. The review and approval of shop drawings, samples or product data by the City does not relieve the Contractor from his/her responsibility with regard to the fulfillment of the terms of the Contract.
  - a. All risks of error and omission are assumed by the Contractor, and the City will have no responsibility therefore.
3. The Contractor remains responsible for details and accuracy, for coordinating the Work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly and for performing Work in a safe manner.
4. If the shop drawings, data or samples as submitted describe variations and show a departure from the Contract requirements which City finds to be in the interest of the City and to be so minor as not to involve a change in Contract Price or time for performance, the City may return the reviewed drawings without noting an exception.
5. Submittals will be returned to the Contractor under 1 of the following codes:
  - a. Code 1
    - 1) "NO EXCEPTIONS TAKEN" is assigned when there are no notations or comments on the submittal.
      - a) When returned under this code the Contractor may release the equipment and/or material for manufacture.
  - b. Code 2

- 1) "EXCEPTIONS NOTED". This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor.
    - a) The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.
  - c. Code 3
    - 1) "EXCEPTIONS NOTED/RESUBMIT". This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package.
      - a) The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.
      - b) This resubmittal is to address all comments, omissions and non-conforming items that were noted.
      - c) Resubmittal is to be received by the City within 15 Calendar Days of the date of the City's transmittal requiring the resubmittal.
  - d. Code 4
    - 1) "NOT APPROVED" is assigned when the submittal does not meet the intent of the Contract Documents.
      - a) The Contractor must resubmit the entire package revised to bring the submittal into conformance.
      - b) It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.
6. Resubmittals
- a. Handled in the same manner as first submittals
    - 1) Corrections other than requested by the City
    - 2) Marked with revision triangle or other similar method
      - a) At Contractor's risk if not marked
  - b. Submittals for each item will be reviewed no more than twice at the City's expense.
    - 1) All subsequent reviews will be performed at times convenient to the City and at the Contractor's expense, based on the City's or City Representative's then prevailing rates.
    - 2) Provide Contractor reimbursement to the City within 30 Calendar Days for all such fees invoiced by the City.
  - c. The need for more than 1 resubmission or any other delay in obtaining City's review of submittals, will not entitle the Contractor to an extension of Contract Time.
7. Partial Submittals
- a. City reserves the right to not review submittals deemed partial, at the City's discretion.
  - b. Submittals deemed by the City to be not complete will be returned to the Contractor, and will be considered "Not Approved" until resubmitted.
  - c. The City may at its option provide a list or mark the submittal directing the Contractor to the areas that are incomplete.
8. If the Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, then written notice must be provided thereof to the City at least 7 Calendar Days prior to release for manufacture.

9. When the shop drawings have been completed to the satisfaction of the City, the Contractor may carry out the construction in accordance therewith and no further changes therein except upon written instructions from the City.
10. Each submittal, appropriately coded, will be returned within 30 Calendar Days following receipt of submittal by the City.

L. Mock ups

1. Mock Up units as specified in individual Sections, include, but are not necessarily limited to, complete units of the standard of acceptance for that type of Work to be used on the Project. Remove at the completion of the Work or when directed.

M. Qualifications

1. If specifically required in other Sections of these Specifications, submit a P.E. Certification for each item required.

N. Request for Information (RFI)

1. Contractor Request for additional information
  - a. Clarification or interpretation of the contract documents
  - b. When the Contractor believes there is a conflict between Contract Documents
  - c. When the Contractor believes there is a conflict between the Drawings and Specifications
    - 1) Identify the conflict and request clarification
2. Use the Request for Information (RFI) form provided by the City.
3. Numbering of RFI
  - a. Prefix with "RFI" followed by series number, "-xxx", beginning with "01" and increasing sequentially with each additional transmittal.
4. Sufficient information shall be attached to permit a written response without further information.
5. The City will log each request and will review the request.
  - a. If review of the project information request indicates that a change to the Contract Documents is required, the City will issue a Field Order or Change Order, as appropriate.

**1.5 SUBMITTALS [NOT USED]**

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE [NOT USED]**

**1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
12/20/2012	D. Johnson	1.4.K.8. Working Days modified to Calendar Days





1                   6) ~~Other requirements associated with general coordination with Railroad,~~  
2                    ~~including additional employees required to protect the right-of-way and~~  
3                    ~~property of the Railroad from damage arising out of and/or from the~~  
4                    ~~construction of the Project.~~

5                   2. ~~Railroad Flagmen~~

6                   a. ~~Measurement~~

7                    1) ~~Measurement for this Item will be per working day.~~

8                   b. ~~Payment~~

9                    1) ~~The work performed and materials furnished in accordance with this Item~~  
10                  ~~will be paid for each working day that Railroad Flagmen are present at the~~  
11                  ~~Site.~~

12                  e. ~~The price bid shall include:~~

13                    1) ~~Coordination for scheduling flagmen~~

14                    2) ~~Flagmen~~

15                    3) ~~Other requirements associated with Railroad~~

16                  3. All other items

17                    a. Work associated with these Items is considered subsidiary to the various Items  
18                    bid. No separate payment will be allowed for this Item.

19                  **1.3 REFERENCES**

20                  A. Reference Standards

- 21                    1. Reference standards cited in this Specification refer to the current reference  
22                    standard published at the time of the latest revision date logged at the end of this  
23                    Specification, unless a date is specifically cited.
- 24                    2. Health and Safety Code, Title 9. Safety, Subtitle A. Public Safety, Chapter 752.  
25                    High Voltage Overhead Lines.
- 26                    3. North Central Texas Council of Governments (NCTCOG) – Clean Construction  
27                    Specification

28                  **1.4 ADMINISTRATIVE REQUIREMENTS**

29                  A. Coordination with the Texas Department of Transportation

- 30                    1. When work in the right-of-way which is under the jurisdiction of the Texas  
31                    Department of Transportation (TxDOT):
- 32                    a. Notify the Texas Department of Transportation prior to commencing any work  
33                    therein in accordance with the provisions of the permit
- 34                    b. All work performed in the TxDOT right-of-way shall be performed in  
35                    compliance with and subject to approval from the Texas Department of  
36                    Transportation

37                  B. Work near High Voltage Lines

38                    1. Regulatory Requirements

39                    a. All Work near High Voltage Lines (more than 600 volts measured between  
40                    conductors or between a conductor and the ground) shall be in accordance with  
41                    Health and Safety Code, Title 9, Subtitle A, Chapter 752.

42                    2. Warning sign

43                    a. Provide sign of sufficient size meeting all OSHA requirements.

44                    3. Equipment operating within 10 feet of high voltage lines will require the following  
45                    safety features

- 1 a. Insulating cage-type of guard about the boom or arm
- 2 b. Insulator links on the lift hook connections for back hoes or dippers
- 3 c. Equipment must meet the safety requirements as set forth by OSHA and the
- 4 safety requirements of the owner of the high voltage lines
- 5 4. Work within 6 feet of high voltage electric lines
- 6 a. Notification shall be given to:
- 7 1) The power company (example: ONCOR)
- 8 a) Maintain an accurate log of all such calls to power company and record
- 9 action taken in each case.
- 10 b. Coordination with power company
- 11 1) After notification coordinate with the power company to:
- 12 a) Erect temporary mechanical barriers, de-energize the lines, or raise or
- 13 lower the lines
- 14 c. No personnel may work within 6 feet of a high voltage line before the above
- 15 requirements have been met.
- 16 C. Confined Space Entry Program
- 17 1. Provide and follow approved Confined Space Entry Program in accordance with
- 18 OSHA requirements.
- 19 2. Confined Spaces include:
- 20 a. Manholes
- 21 b. All other confined spaces in accordance with OSHA's Permit Required for
- 22 Confined Spaces
- 23 D. Air Pollution Watch Days
- 24 1. General
- 25 a. Observe the following guidelines relating to working on City construction sites
- 26 on days designated as "AIR POLLUTION WATCH DAYS".
- 27 b. Typical Ozone Season
- 28 1) May 1 through October 31.
- 29 c. Critical Emission Time
- 30 1) 6:00 a.m. to 10:00 a.m.
- 31 2. Watch Days
- 32 a. The Texas Commission on Environmental Quality (TCEQ), in coordination
- 33 with the National Weather Service, will issue the Air Pollution Watch by 3:00
- 34 p.m. on the afternoon prior to the WATCH day.
- 35 b. Requirements
- 36 1) Begin work after 10:00 a.m. whenever construction phasing requires the
- 37 use of motorized equipment for periods in excess of 1 hour.
- 38 2) However, the Contractor may begin work prior to 10:00 a.m. if:
- 39 a) Use of motorized equipment is less than 1 hour, or
- 40 b) If equipment is new and certified by EPA as "Low Emitting", or
- 41 equipment burns Ultra Low Sulfur Diesel (ULSD), diesel emulsions, or
- 42 alternative fuels such as CNG.
- 43 E. TCEQ Air Permit
- 44 1. Obtain TCEQ Air Permit for construction activities per requirements of TCEQ.
- 45 F. Use of Explosives, Drop Weight, Etc.
- 46 1. When Contract Documents permit on the project the following will apply:

1 a. Public Notification

- 2 1) Submit notice to City and proof of adequate insurance coverage, 24 hours  
3 prior to commencing.  
4 2) Minimum 24 hour public notification in accordance with Section 01 31 13

5 G. Water Department Coordination

- 6 1. During the construction of this project, it will be necessary to deactivate, for a  
7 period of time, existing lines. The Contractor shall be required to coordinate with  
8 the Water Department to determine the best times for deactivating and activating  
9 those lines.
- 10 2. Coordinate any event that will require connecting to or the operation of an existing  
11 City water line system with the City's representative.
- 12 a. Coordination shall be in accordance with Section 33 12 25.
- 13 b. If needed, obtain a hydrant water meter from the Water Department for use  
14 during the life of named project.
- 15 c. In the event that a water valve on an existing live system be turned off and on  
16 to accommodate the construction of the project is required, coordinate this  
17 activity through the appropriate City representative.
- 18 1) Do not operate water line valves of existing water system.
- 19 a) Failure to comply will render the Contractor in violation of Texas Penal  
20 Code Title 7, Chapter 28.03 (Criminal Mischief) and the Contractor  
21 will be prosecuted to the full extent of the law.
- 22 b) In addition, the Contractor will assume all liabilities and  
23 responsibilities as a result of these actions.

24 H. Public Notification Prior to Beginning Construction

- 25 1. Prior to beginning construction on any block in the project, on a block by block  
26 basis, prepare and deliver a notice or flyer of the pending construction to the front  
27 door of each residence or business that will be impacted by construction. The notice  
28 shall be prepared as follows:
- 29 a. Post notice or flyer 7 days prior to beginning any construction activity on each  
30 block in the project area.
- 31 1) Prepare flyer on the Contractor's letterhead and include the following  
32 information:
- 33 a) Name of Project
- 34 b) City Project No (CPN)
- 35 c) Scope of Project (i.e. type of construction activity)
- 36 d) Actual construction duration within the block
- 37 e) Name of the contractor's foreman and phone number
- 38 f) Name of the City's inspector and phone number
- 39 g) City's after-hours phone number
- 40 2) A sample of the 'pre-construction notification' flyer is attached as Exhibit  
41 A.
- 42 3) Submit schedule showing the construction start and finish time for each  
43 block of the project to the inspector.
- 44 4) Deliver flyer to the City Inspector for review prior to distribution.
- 45 b. No construction will be allowed to begin on any block until the flyer is  
46 delivered to all residents of the block.

47 I. Public Notification of Temporary Water Service Interruption during Construction

- 1 1. In the event it becomes necessary to temporarily shut down water service to
- 2 residents or businesses during construction, prepare and deliver a notice or flyer of
- 3 the pending interruption to the front door of each affected resident.
- 4 2. Prepared notice as follows:
- 5 a. The notification or flyer shall be posted 24 hours prior to the temporary
- 6 interruption.
- 7 b. Prepare flyer on the contractor's letterhead and include the following
- 8 information:
- 9 1) Name of the project
- 10 2) City Project Number
- 11 3) Date of the interruption of service
- 12 4) Period the interruption will take place
- 13 5) Name of the contractor's foreman and phone number
- 14 6) Name of the City's inspector and phone number
- 15 c. A sample of the temporary water service interruption notification is attached as
- 16 Exhibit B.
- 17 d. Deliver a copy of the temporary interruption notification to the City inspector
- 18 for review prior to being distributed.
- 19 e. No interruption of water service can occur until the flyer has been delivered to
- 20 all affected residents and businesses.
- 21 f. Electronic versions of the sample flyers can be obtained from the Project
- 22 Construction Inspector.

23 J. Coordination with United States Army Corps of Engineers (USACE)

- 24 1. At locations in the Project where construction activities occur in areas where
- 25 USACE permits are required, meet all requirements set forth in each designated
- 26 permit.

27 ~~K. Coordination within Railroad Permit Areas~~

- 28 ~~1. At locations in the project where construction activities occur in areas where~~
- 29 ~~railroad permits are required, meet all requirements set forth in each designated~~
- 30 ~~railroad permit. This includes, but is not limited to, provisions for:~~
- 31 ~~a. Flagmen~~
- 32 ~~b. Inspectors~~
- 33 ~~c. Safety training~~
- 34 ~~d. Additional insurance~~
- 35 ~~e. Insurance certificates~~
- 36 ~~f. Other employees required to protect the right of way and property of the~~
- 37 ~~Railroad Company from damage arising out of and/or from the construction of~~
- 38 ~~the project. Proper utility clearance procedures shall be used in accordance~~
- 39 ~~with the permit guidelines.~~
- 40 ~~2. Obtain any supplemental information needed to comply with the railroad's~~
- 41 ~~requirements.~~
- 42 ~~3. Railroad Flagmen~~
- 43 ~~a. Submit receipts to City for verification of working days that railroad flagmen~~
- 44 ~~were present on Site.~~

45 L. Dust Control

- 46 1. Use acceptable measures to control dust at the Site.
- 47 a. If water is used to control dust, capture and properly dispose of waste water.



**EXHIBIT A**

(To be printed on Contractor's Letterhead)

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

CPN No.: \_\_\_\_\_

Project Name:

Mapsco Location:

Limits of Construction:

# NOTICE OF CONSTRUCTION

**THIS IS TO INFORM YOU THAT UNDER A CONTRACT WITH THE CITY OF FORT WORTH, OUR COMPANY WILL WORK ON UTILITY LINES ON OR AROUND YOUR PROPERTY.**

**CONSTRUCTION WILL BEGIN APPROXIMATELY SEVEN DAYS FROM THE DATE OF THIS NOTICE.**

**IF YOU HAVE QUESTIONS ABOUT ACCESS, SECURITY, SAFETY OR ANY OTHER ISSUE, PLEASE CALL:**

**Mr. <CONTRACTOR'S SUPERINTENDENT> AT <TELEPHONE NO.>**

**OR**

**Mr. <CITY INSPECTOR> AT < TELEPHONE NO.>**

**AFTER 4:30 PM OR ON WEEKENDS, PLEASE CALL (817) 392 8306**

**PLEASE KEEP THIS FLYER HANDY WHEN YOU CALL**

1  
2

**EXHIBIT B**



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

**DOE NO. XXXX**  
**Project Name:**

**NOTICE OF TEMPORARY WATER SERVICE  
INTERRUPTION**

DUE TO UTILITY IMPROVEMENTS IN YOUR NEIGHBORHOOD, YOUR  
WATER SERVICE WILL BE INTERRUPTED ON \_\_\_\_\_  
BETWEEN THE HOURS OF \_\_\_\_\_ AND \_\_\_\_\_.

IF YOU HAVE QUESTIONS ABOUT THIS SHUT-OUT, PLEASE CALL:

MR. \_\_\_\_\_ AT \_\_\_\_\_  
(CONTRACTORS SUPERINTENDENT) (TELEPHONE NUMBER)

OR

MR. \_\_\_\_\_ AT \_\_\_\_\_  
(CITY INSPECTOR) (TELEPHONE NUMBER)

THIS INCONVENIENCE WILL BE AS SHORT AS POSSIBLE.

THANK YOU,

\_\_\_\_\_, CONTRACTOR

3  
4



**SECTION 01 45 23**  
**TESTING AND INSPECTION SERVICES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Testing and inspection services procedures and coordination
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.
    - a. Contractor is responsible for performing, coordinating, and payment of all Quality Control testing.
    - b. City is responsible for performing and payment for first set of Quality Assurance testing.
      - 1) If the first Quality Assurance test performed by the City fails, the Contractor is responsible for payment of subsequent Quality Assurance testing until a passing test occurs.
        - a) Final acceptance will not be issued by City until all required payments for testing by Contractor have been paid in full.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Testing
  - 1. Complete testing in accordance with the Contract Documents.
  - 2. Coordination
    - a. When testing is required to be performed by the City, notify City, sufficiently in advance, when testing is needed.
    - b. When testing is required to be completed by the Contractor, notify City, sufficiently in advance, that testing will be performed.
  - 3. Distribution of Testing Reports
    - a. Electronic Distribution
      - 1) Confirm development of Project directory for electronic submittals to be uploaded to the City's document management system, or another external FTP site approved by the City.

- 2) Upload test reports to designated project directory and notify appropriate City representatives via email of submittal posting.
- 3) Hard Copies
  - a) 1 copy for all submittals submitted to the Project Representative
- b. Hard Copy Distribution (if required in lieu of electronic distribution)
  - 1) Tests performed by City
    - a) Distribute 1 hard copy to the Contractor
  - 2) Tests performed by the Contractor
    - a) Distribute 3 hard copies to City’s Project Representative
- 4. Provide City’s Project Representative with trip tickets for each delivered load of Concrete or Lime material including the following information:
  - a. Name of pit
  - b. Date of delivery
  - c. Material delivered

**B. Inspection**

- 1. Inspection or lack of inspection does not relieve the Contractor from obligation to perform work in accordance with the Contract Documents.

**1.5 SUBMITTALS [NOT USED]**

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE [NOT USED]**

**1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
3/9/2020	D.V. Magaña	Removed reference to Buzzsaw and noted that electronic submittals be uploaded through the City’s document management system.

**SECTION 01 50 00**  
**TEMPORARY FACILITIES AND CONTROLS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

A. Section Includes:

1. Provide temporary facilities and controls needed for the Work including, but not necessarily limited to:
  - a. Temporary utilities
  - b. Sanitary facilities
  - c. Storage Sheds and Buildings
  - d. Dust control
  - e. Temporary fencing of the construction site

B. Deviations from this City of Fort Worth Standard Specification

1. None.

C. Related Specification Sections include, but are not necessarily limited to:

1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
2. Division 1 – General Requirements

**1.2 PRICE AND PAYMENT PROCEDURES**

A. Measurement and Payment

1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS**

A. Temporary Utilities

1. Obtaining Temporary Service
  - a. Make arrangements with utility service companies for temporary services.
  - b. Abide by rules and regulations of utility service companies or authorities having jurisdiction.
  - c. Be responsible for utility service costs until Work is approved for Final Acceptance.
    - 1) Included are fuel, power, light, heat and other utility services necessary for execution, completion, testing and initial operation of Work.
2. Water
  - a. Contractor to provide water required for and in connection with Work to be performed and for specified tests of piping, equipment, devices or other use as required for the completion of the Work.
  - b. Provide and maintain adequate supply of potable water for domestic consumption by Contractor personnel and City's Project Representatives.
  - c. Coordination
    - 1) Contact City 1 week before water for construction is desired

- d. Contractor Payment for Construction Water
  - 1) Obtain construction water meter from City for payment as billed by City's established rates.
3. Electricity and Lighting
  - a. Provide and pay for electric powered service as required for Work, including testing of Work.
    - 1) Provide power for lighting, operation of equipment, or other use.
  - b. Electric power service includes temporary power service or generator to maintain operations during scheduled shutdown.
4. Telephone
  - a. Provide emergency telephone service at Site for use by Contractor personnel and others performing work or furnishing services at Site.
5. Temporary Heat and Ventilation
  - a. Provide temporary heat as necessary for protection or completion of Work.
  - b. Provide temporary heat and ventilation to assure safe working conditions.
- B. Sanitary Facilities
  1. Provide and maintain sanitary facilities for persons on Site.
    - a. Comply with regulations of State and local departments of health.
  2. Enforce use of sanitary facilities by construction personnel at job site.
    - a. Enclose and anchor sanitary facilities.
    - b. No discharge will be allowed from these facilities.
    - c. Collect and store sewage and waste so as not to cause nuisance or health problem.
    - d. Haul sewage and waste off-site at no less than weekly intervals and properly dispose in accordance with applicable regulation.
  3. Locate facilities near Work Site and keep clean and maintained throughout Project.
  4. Remove facilities at completion of Project
- C. Storage Sheds and Buildings
  1. Provide adequately ventilated, watertight, weatherproof storage facilities with floor above ground level for materials and equipment susceptible to weather damage.
  2. Storage of materials not susceptible to weather damage may be on blocks off ground.
  3. Store materials in a neat and orderly manner.
    - a. Place materials and equipment to permit easy access for identification, inspection and inventory.
  4. Equip building with lockable doors and lighting, and provide electrical service for equipment space heaters and heating or ventilation as necessary to provide storage environments acceptable to specified manufacturers.
  5. Fill and grade site for temporary structures to provide drainage away from temporary and existing buildings.
  6. Remove building from site prior to Final Acceptance.
- D. Temporary Fencing
  1. Provide and maintain for the duration or construction when required in contract documents
- E. Dust Control

1. Contractor is responsible for maintaining dust control through the duration of the project.
  - a. Contractor remains on-call at all times
  - b. Must respond in a timely manner
- F. Temporary Protection of Construction
  1. Contractor or subcontractors are responsible for protecting Work from damage due to weather.

**1.5 SUBMITTALS [NOT USED]**

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE [NOT USED]**

**1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION [NOT USED]**

**3.1 INSTALLERS [NOT USED]**

**3.2 EXAMINATION [NOT USED]**

**3.3 PREPARATION [NOT USED]**

**3.4 INSTALLATION**

A. Temporary Facilities

1. Maintain all temporary facilities for duration of construction activities as needed.

**3.5 [REPAIR] / [RESTORATION]**

**3.6 RE-INSTALLATION**

**3.7 FIELD [or] SITE QUALITY CONTROL [NOT USED]**

**3.8 SYSTEM STARTUP [NOT USED]**

**3.9 ADJUSTING [NOT USED]**

**3.10 CLEANING [NOT USED]**

**3.11 CLOSEOUT ACTIVITIES**

A. Temporary Facilities

1. Remove all temporary facilities and restore area after completion of the Work, to a condition equal to or better than prior to start of Work.

**3.12 PROTECTION [NOT USED]**

**3.13 MAINTENANCE [NOT USED]**

**3.14 ATTACHMENTS [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE



1                   2) A traffic control “Typical” published by City of Fort Worth, the Texas  
2                   Manual Unified Traffic Control Devices (TMUTCD) or Texas Department  
3                   of Transportation (TxDOT) can be used as an alternative to preparing  
4                   project/site specific traffic control plan if the typical is applicable to the  
5                   specific project/site.

6           B. Street Use Permit

- 7           1. Prior to installation of Traffic Control, a City Street Use Permit is required.  
8           a. To obtain Street Use Permit, submit Traffic Control Plans to City  
9           Transportation and Public Works Department.  
10           1) Allow a minimum of 5 working days for permit review.  
11           2) It is the Contractor’s responsibility to coordinate review of Traffic Control  
12           plans for Street Use Permit, such that construction is not delayed.

13           C. Modification to Approved Traffic Control

- 14           1. Prior to installation traffic control:  
15           a. Submit revised traffic control plans to City Department Transportation and  
16           Public Works Department.  
17           1) Revise Traffic Control plans in accordance with Section 34 71 13.  
18           2) Allow minimum 5 working days for review of revised Traffic Control.  
19           3) It is the Contractor’s responsibility to coordinate review of Traffic Control  
20           plans for Street Use Permit, such that construction is not delayed.

21           D. Removal of Street Sign

- 22           1. If it is determined that a street sign must be removed for construction, then contact  
23           City Transportation and Public Works Department, Signs and Markings Division to  
24           remove the sign.

25           E. Temporary Signage

- 26           1. In the case of regulatory signs, replace permanent sign with temporary sign meeting  
27           requirements of the latest edition of the Texas Manual on Uniform Traffic Control  
28           Devices (MUTCD).  
29           2. Install temporary sign before the removal of permanent sign.  
30           3. When construction is complete, to the extent that the permanent sign can be  
31           reinstalled, contact the City Transportation and Public Works Department, Signs  
32           and Markings Division, to reinstall the permanent sign.

33           F. Traffic Control Standards

- 34           1. Traffic Control Standards can be found on the City’s website.

35   **1.5 SUBMITTALS [NOT USED]**

- 36           A. Submit all required documentation to City’s Project Representative.



1 **1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

2 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**

3 **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

4 **1.9 QUALITY ASSURANCE [NOT USED]**

5 **1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

6 **1.11 FIELD [SITE] CONDITIONS [NOT USED]**

7 **1.12 WARRANTY [NOT USED]**

8 **PART 2 - PRODUCTS [NOT USED]**

9 **PART 3 - EXECUTION [NOT USED]**

**END OF SECTION**

10

11

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
3/22/2021	M Owen	1.4 A. Added language to emphasize minimizing of lane closures and impact to traffic. 1.4 A. 1. c. Added language to allow for use of published traffic control "Typicals" if applicable to specific project/site. 1.4 F. 1) Removed reference to Buzzsaw 1.5 Added language re: submittal of permit

12

**SECTION 01 57 13**  
**STORM WATER POLLUTION PREVENTION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Procedures for Storm Water Pollution Prevention Plans
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements
  - 3. Section 31 25 00 – Erosion and Sediment Control

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. Construction Activities resulting in less than 1 acre of disturbance
    - a. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.
  - 2. Construction Activities resulting in greater than 1 acre of disturbance
    - a. Measurement and Payment shall be in accordance with Section 31 25 00.

**1.3 REFERENCES**

- A. Abbreviations and Acronyms
  - 1. Notice of Intent: NOI
  - 2. Notice of Termination: NOT
  - 3. Storm Water Pollution Prevention Plan: SWPPP
  - 4. Texas Commission on Environmental Quality: TCEQ
  - 5. Notice of Change: NOC
- A. Reference Standards
  - 1. Reference standards cited in this Specification refer to the current reference standard published at the time of the latest revision date logged at the end of this Specification, unless a date is specifically cited.
  - 2. Integrated Storm Management (iSWM) Technical Manual for Construction Controls

**1.4 ADMINISTRATIVE REQUIREMENTS**

- A. General
  - 1. Contractor is responsible for resolution and payment of any fines issued associated with compliance to Stormwater Pollution Prevention Plan.

- B. Construction Activities resulting in:
1. Less than 1 acre of disturbance
    - a. Provide erosion and sediment control in accordance with Section 31 25 00 and Drawings.
  2. 1 to less than 5 acres of disturbance
    - a. Texas Pollutant Discharge Elimination System (TPDES) General Construction Permit is required
    - b. Complete SWPPP in accordance with TCEQ requirements
      - 1) TCEQ Small Construction Site Notice Required under general permit TXR150000
        - a) Sign and post at job site
        - b) Prior to Preconstruction Meeting, send 1 copy to City Department of Transportation and Public Works, Environmental Division, (817) 392-6088.
      - 2) Provide erosion and sediment control in accordance with:
        - a) Section 31 25 00
        - b) The Drawings
        - c) TXR150000 General Permit
        - d) SWPPP
        - e) TCEQ requirements
  3. 5 acres or more of Disturbance
    - a. Texas Pollutant Discharge Elimination System (TPDES) General Construction Permit is required
    - b. Complete SWPPP in accordance with TCEQ requirements
      - 1) Prepare a TCEQ NOI form and submit to TCEQ along with required fee
        - a) Sign and post at job site
        - b) Send copy to City Department of Transportation and Public Works, Environmental Division, (817) 392-6088.
      - 2) TCEQ Notice of Change required if making changes or updates to NOI
      - 3) Provide erosion and sediment control in accordance with:
        - a) Section 31 25 00
        - b) The Drawings
        - c) TXR150000 General Permit
        - d) SWPPP
        - e) TCEQ requirements
      - 4) Once the project has been completed and all the closeout requirements of TCEQ have been met a TCEQ Notice of Termination can be submitted.
        - a) Send copy to City Department of Transportation and Public Works, Environmental Division, (817) 392-6088.

## 1.5 SUBMITTALS

### A. SWPPP

1. Submit in accordance with Section 01 33 00, except as stated herein.
  - a. Prior to the Preconstruction Meeting, submit a draft copy of SWPPP to the City as follows:
    - 1) 1 copy to the City Project Manager
      - a) City Project Manager will forward to the City Department of Transportation and Public Works, Environmental Division for review

**B. Modified SWPPP**

- 1. If the SWPPP is revised during construction, resubmit modified SWPPP to the City in accordance with Section 01 33 00.

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE [NOT USED]**

**1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE

**SECTION 01 60 00**  
**PRODUCT REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. References for Product Requirements and City Standard Products List
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements

**1.2 PRICE AND PAYMENT PROCEDURES [NOT USED]**

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS**

- A. A list of City approved products for use is available through the City's website at: <https://apps.fortworthtexas.gov/ProjectResources/> and following the directory path; 02 - Construction Documents/Standard Products List
- B. Only products specifically included on City's Standard Product List in these Contract Documents shall be allowed for use on the Project.
  - 1. Any subsequently approved products will only be allowed for use upon specific approval by the City.
- C. Any specific product requirements in the Contract Documents supersede similar products included on the City's Standard Product List.
  - 1. The City reserves the right to not allow products to be used for certain projects even though the product is listed on the City's Standard Product List.
- D. Although a specific product is included on City's Standard Product List, not all products from that manufacturer are approved for use, including but not limited to, that manufacturer's standard product.
- E. See Section 01 33 00 for submittal requirements of Product Data included on City's Standard Product List.

**1.5 SUBMITTALS [NOT USED]**

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE [NOT USED]**

**1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
10/12/12	D. Johnson	Modified Location of City's Standard Product List
3/9/2020	D.V. Magaña	Removed reference to Buzzsaw and noted that the City approved products list is accessible through the City's website.

**SECTION 01 66 00**  
**PRODUCT STORAGE AND HANDLING REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Scheduling of product delivery
  - 2. Packaging of products for delivery
  - 3. Protection of products against damage from:
    - a. Handling
    - b. Exposure to elements or harsh environments
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. Work associated with this Item is considered subsidiary to the various Items bid.  
No separate payment will be allowed for this Item.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS [NOT USED]**

**1.5 SUBMITTALS [NOT USED]**

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE [NOT USED]**

**1.10 DELIVERY AND HANDLING**

- A. Delivery Requirements
  - 1. Schedule delivery of products or equipment as required to allow timely installation and to avoid prolonged storage.
  - 2. Provide appropriate personnel and equipment to receive deliveries.
  - 3. Delivery trucks will not be permitted to wait extended periods of time on the Site for personnel or equipment to receive the delivery.

4. Deliver products or equipment in manufacturer's original unbroken cartons or other containers designed and constructed to protect the contents from physical or environmental damage.
5. Clearly and fully mark and identify as to manufacturer, item and installation location.
6. Provide manufacturer's instructions for storage and handling.

**B. Handling Requirements**

1. Handle products or equipment in accordance with these Contract Documents and manufacturer's recommendations and instructions.

**C. Storage Requirements**

1. Store materials in accordance with manufacturer's recommendations and requirements of these Specifications.
2. Make necessary provisions for safe storage of materials and equipment.
  - a. Place loose soil materials and materials to be incorporated into Work to prevent damage to any part of Work or existing facilities and to maintain free access at all times to all parts of Work and to utility service company installations in vicinity of Work.
3. Keep materials and equipment neatly and compactly stored in locations that will cause minimum inconvenience to other contractors, public travel, adjoining owners, tenants and occupants.
  - a. Arrange storage to provide easy access for inspection.
4. Restrict storage to areas available on construction site for storage of material and equipment as shown on Drawings, or approved by City's Project Representative.
5. Provide off-site storage and protection when on-site storage is not adequate.
  - a. Provide addresses of and access to off-site storage locations for inspection by City's Project Representative.
6. Do not use lawns, grass plots or other private property for storage purposes without written permission of owner or other person in possession or control of premises.
7. Store in manufacturers' unopened containers.
8. Neatly, safely and compactly stack materials delivered and stored along line of Work to avoid inconvenience and damage to property owners and general public and maintain at least 3 feet from fire hydrant.
9. Keep public and private driveways and street crossings open.
10. Repair or replace damaged lawns, sidewalks, streets or other improvements to satisfaction of City's Project Representative.
  - a. Total length which materials may be distributed along route of construction at one time is 1,000 linear feet, unless otherwise approved in writing by City's Project Representative.



**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION**

**3.1 INSTALLERS [NOT USED]**

**3.2 EXAMINATION [NOT USED]**

**3.3 PREPARATION [NOT USED]**

**3.4 ERECTION [NOT USED]**

**3.5 REPAIR / RESTORATION [NOT USED]**

**3.6 RE-INSTALLATION [NOT USED]**

**3.7 FIELD [or] SITE QUALITY CONTROL**

A. Tests and Inspections

1. Inspect all products or equipment delivered to the site prior to unloading.

B. Non-Conforming Work

1. Reject all products or equipment that are damaged, used or in any other way unsatisfactory for use on the project.

**3.8 SYSTEM STARTUP [NOT USED]**

**3.9 ADJUSTING [NOT USED]**

**3.10 CLEANING [NOT USED]**

**3.11 CLOSEOUT ACTIVITIES [NOT USED]**

**3.12 PROTECTION**

- A. Protect all products or equipment in accordance with manufacturer's written directions.
- B. Store products or equipment in location to avoid physical damage to items while in storage.
- C. Protect equipment from exposure to elements and keep thoroughly dry if required by the manufacturer.

**3.13 MAINTENANCE [NOT USED]**

**3.14 ATTACHMENTS [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE



- 1 3. Mobilizations and Demobilization for Miscellaneous Projects
- 2 a. Mobilization and Demobilization
- 3 1) Mobilization shall consist of the activities and cost on a Work Order basis
- 4 necessary for:
- 5 a) Transportation of Contractor's personnel, equipment, and operating
- 6 supplies to the Site for the issued Work Order.
- 7 b) Establishment of necessary general facilities for the Contractor's
- 8 operation at the Site for the issued Work Order
- 9 2) Demobilization shall consist of the activities and cost necessary for:
- 10 a) Transportation of Contractor's personnel, equipment, and operating
- 11 supplies from the Site including disassembly for each issued Work
- 12 Order
- 13 b) Site Clean-up for each issued Work Order
- 14 c) Removal of all buildings or other facilities assembled at the Site for
- 15 each Work Order
- 16 b. Mobilization and Demobilization do not include activities for specific items of
- 17 work for which payment is provided elsewhere in the contract.
- 18 4. Emergency Mobilizations and Demobilization for Miscellaneous Projects
- 19 a. A Mobilization for Miscellaneous Projects when directed by the City and the
- 20 mobilization occurs within 24 hours of the issuance of the Work Order.
- 21 B. Deviations from this City of Fort Worth Standard Specification
- 22 1. None.
- 23 C. Related Specification Sections include, but are not necessarily limited to:
- 24 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the
- 25 Contract
- 26 2. Division 1 – General Requirements

## 27 1.2 PRICE AND PAYMENT PROCEDURES

- 28 A. Measurement and Payment
- 29 1. Mobilization and Demobilization
- 30 a. Measure
- 31 1) This Item is considered subsidiary to the various Items bid.
- 32 b. Payment
- 33 1) The work performed and materials furnished in accordance with this Item
- 34 are subsidiary to the various Items bid and no other compensation will be
- 35 allowed.
- 36 2) The work performed and materials furnished for demobilization in
- 37 accordance with this Item are subsidiary to the various Items bid and no other
- 38 compensation will be allowed.
- 39 2. Remobilization for suspension of Work as specifically required in the Contract
- 40 Documents
- 41 a. Measurement
- 42 1) Measurement for this Item shall be per each remobilization performed
- 43 b. Payment

- 1) The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price per each “Specified Remobilization” in accordance with Contract Documents.
  - c. The price shall include:
    - 1) Demobilization as described in Section 1.1.A.2.a.1)
    - 2) Remobilization as described in Section 1.1.A.2.a.2)
  - d. No payments will be made for standby, idle time, or lost profits associated this Item.
3. Remobilization for suspension of Work as required by City
- a. Measurement and Payment
    - 1) This shall be submitted as a Contract Claim in accordance with Article 10 of Section 00 72 00.
    - 2) No payments will be made for standby, idle time, or lost profits associated with this Item.
  4. Mobilizations and Demobilizations for Miscellaneous Projects
    - a. Measurement
      - 1) Measurement for this Item shall be for each Mobilization and Demobilization required by the Contract Documents
    - b. Payment
      - 1) The Work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price per each “Work Order Mobilization” in accordance with Contract Documents. Demobilization shall be considered subsidiary to mobilization and shall not be paid for separately.
    - c. The price shall include:
      - 1) Mobilization as described in Section 1.1.A.3.a.1)
      - 2) Demobilization as described in Section 1.1.A.3.a.2)
    - d. No payments will be made for standby, idle time, or lost profits associated this Item.
  5. Emergency Mobilizations and Demobilizations for Miscellaneous Projects
    - a. Measurement
      - 1) Measurement for this Item shall be for each Mobilization and Demobilization required by the Contract Documents
    - b. Payment
      - 1) The Work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price per each “Work Order Emergency Mobilization” in accordance with Contract Documents. Demobilization shall be considered subsidiary to mobilization and shall not be paid for separately.
    - c. The price shall include
      - 1) Mobilization as described in Section 1.1.A.4.a)
      - 2) Demobilization as described in Section 1.1.A.3.a.2)
    - d. No payments will be made for standby, idle time, or lost profits associated this Item.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS [NOT USED]**

- 1 **1.5 SUBMITTALS [NOT USED]**
- 2 **1.6 INFORMATIONAL SUBMITTALS [NOT USED]**
- 3 **1.7 CLOSEOUT SUBMITTALS [NOT USED]**
- 4 **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**
- 5 **1.9 QUALITY ASSURANCE [NOT USED]**
- 6 **1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**
- 7 **1.11 FIELD [SITE] CONDITIONS [NOT USED]**
- 8 **1.12 WARRANTY [NOT USED]**

9 **PART 2 - PRODUCTS [NOT USED]**

10 **PART 3 - EXECUTION [NOT USED]**

11 **END OF SECTION**

12

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
11/22/16	Michael Owen	1.2 Price and Payment Procedures - Revised specification, including blue text, to make specification flexible for either subsidiary or paid bid item for Mobilization.

13

**SECTION 01 74 23**  
**CLEANING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Intermediate and final cleaning for Work not including special cleaning of closed systems specified elsewhere
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements
  - 3. Section 32 92 13 – Hydro-Mulching, Seeding and Sodding

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Scheduling
  - 1. Schedule cleaning operations so that dust and other contaminants disturbed by cleaning process will not fall on newly painted surfaces.
  - 2. Schedule final cleaning upon completion of Work and immediately prior to final inspection.

**1.5 SUBMITTALS [NOT USED]**

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE [NOT USED]**

**1.10 STORAGE, AND HANDLING**

- A. Storage and Handling Requirements
  - 1. Store cleaning products and cleaning wastes in containers specifically designed for those materials.

**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS**

**2.1 OWNER-FURNISHED [or] OWNER-SUPPLIED PRODUCTS [NOT USED]**

**2.2 MATERIALS**

A. Cleaning Agents

1. Compatible with surface being cleaned
2. New and uncontaminated
3. For manufactured surfaces
  - a. Material recommended by manufacturer

**2.3 ACCESSORIES [NOT USED]**

**2.4 SOURCE QUALITY CONTROL [NOT USED]**

**PART 3 - EXECUTION**

**3.1 INSTALLERS [NOT USED]**

**3.2 EXAMINATION [NOT USED]**

**3.3 PREPARATION [NOT USED]**

**3.4 APPLICATION [NOT USED]**

**3.5 REPAIR / RESTORATION [NOT USED]**

**3.6 RE-INSTALLATION [NOT USED]**

**3.7 FIELD [or] SITE QUALITY CONTROL [NOT USED]**

**3.8 SYSTEM STARTUP [NOT USED]**

**3.9 ADJUSTING [NOT USED]**

**3.10 CLEANING**

A. General

1. Prevent accumulation of wastes that create hazardous conditions.
2. Conduct cleaning and disposal operations to comply with laws and safety orders of governing authorities.
3. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains or sewers.
4. Dispose of degradable debris at an approved solid waste disposal site.
5. Dispose of nondegradable debris at an approved solid waste disposal site or in an alternate manner approved by City and regulatory agencies.



6. Handle materials in a controlled manner with as few handlings as possible.
7. Thoroughly clean, sweep, wash and polish all Work and equipment associated with this project.
8. Remove all signs of temporary construction and activities incidental to construction of required permanent Work.
9. If project is not cleaned to the satisfaction of the City, the City reserves the right to have the cleaning completed at the expense of the Contractor.
10. Do not burn on-site.

B. Intermediate Cleaning during Construction

1. Keep Work areas clean so as not to hinder health, safety or convenience of personnel in existing facility operations.
2. At maximum weekly intervals, dispose of waste materials, debris and rubbish.
3. Confine construction debris daily in strategically located container(s):
  - a. Cover to prevent blowing by wind
  - b. Store debris away from construction or operational activities
  - c. Haul from site at a minimum of once per week
4. Vacuum clean interior areas when ready to receive finish painting.
  - a. Continue vacuum cleaning on an as-needed basis, until Final Acceptance.
5. Prior to storm events, thoroughly clean site of all loose or unsecured items, which may become airborne or transported by flowing water during the storm.

C. Interior Final Cleaning

1. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels and other foreign materials from sight-exposed surfaces.
2. Wipe all lighting fixture reflectors, lenses, lamps and trims clean.
3. Wash and shine glazing and mirrors.
4. Polish glossy surfaces to a clear shine.
5. Ventilating systems
  - a. Clean permanent filters and replace disposable filters if units were operated during construction.
  - b. Clean ducts, blowers and coils if units were operated without filters during construction.
6. Replace all burned out lamps.
7. Broom clean process area floors.
8. Mop office and control room floors.

D. Exterior (Site or Right of Way) Final Cleaning

1. Remove trash and debris containers from site.
  - a. Re-seed areas disturbed by location of trash and debris containers in accordance with Section 32 92 13.
2. Sweep roadway to remove all rocks, pieces of asphalt, concrete or any other object that may hinder or disrupt the flow of traffic along the roadway.
3. Clean any interior areas including, but not limited to, vaults, manholes, structures, junction boxes and inlets.

4. If no longer required for maintenance of erosion facilities, and upon approval by City, remove erosion control from site.
5. Clean signs, lights, signals, etc.

**3.11 CLOSEOUT ACTIVITIES [NOT USED]**

**3.12 PROTECTION [NOT USED]**

**3.13 MAINTENANCE [NOT USED]**

**3.14 ATTACHMENTS [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE



1 **PART 3 - EXECUTION**

2 **3.1 INSTALLERS [NOT USED]**

3 **3.2 EXAMINATION [NOT USED]**

4 **3.3 PREPARATION [NOT USED]**

5 **3.4 CLOSEOUT PROCEDURE**

6 A. Prior to requesting Final Inspection, submit:

- 7 1. Project Record Documents in accordance with Section 01 78 39  
8 2. Operation and Maintenance Data, if required, in accordance with Section 01 78 23

9 B. Prior to requesting Final Inspection, perform final cleaning in accordance with Section  
10 01 74 23.

11 C. Final Inspection

- 12 1. After final cleaning, provide notice to the City Project Representative that the Work  
13 is completed.  
14 a. The City will make an initial Final Inspection with the Contractor present.  
15 b. Upon completion of this inspection, the City will notify the Contractor, in  
16 writing within 10 business days, of any particulars in which this inspection  
17 reveals that the Work is defective or incomplete.
- 18 2. Upon receiving written notice from the City, immediately undertake the Work  
19 required to remedy deficiencies and complete the Work to the satisfaction of the  
20 City.
- 21 3. The Right-of-way shall be cleared of all construction materials, barricades, and  
22 temporary signage.
- 23 4. Upon completion of Work associated with the items listed in the City's written  
24 notice, inform the City that the required Work has been completed. Upon receipt of  
25 this notice, the City, in the presence of the Contractor, will make a subsequent Final  
26 Inspection of the project.
- 27 5. Provide all special accessories required to place each item of equipment in full  
28 operation. These special accessory items include, but are not limited to:  
29 a. Specified spare parts  
30 b. Adequate oil and grease as required for the first lubrication of the equipment  
31 c. Initial fill up of all chemical tanks and fuel tanks  
32 d. Light bulbs  
33 e. Fuses  
34 f. Vault keys  
35 g. Handwheels  
36 h. Other expendable items as required for initial start-up and operation of all  
37 equipment

38 D. Notice of Project Completion

- 39 1. Once the City Project Representative finds the Work subsequent to Final Inspection  
40 to be satisfactory, the City will issue a Notice of Project Completion (Green Sheet).

41 E. Supporting Documentation

- 1           1. Coordinate with the City Project Representative to complete the following
- 2           additional forms:
- 3           a. Final Payment Request
- 4           b. Statement of Contract Time
- 5           c. Affidavit of Payment and Release of Liens
- 6           d. Consent of Surety to Final Payment
- 7           e. Pipe Report (if required)
- 8           f. Contractor’s Evaluation of City
- 9           g. Performance Evaluation of Contractor
  
- 10          F. Letter of Final Acceptance
- 11           1. Upon review and acceptance of Notice of Project Completion and Supporting
- 12           Documentation, in accordance with General Conditions, City will issue Letter of
- 13           Final Acceptance and release the Final Payment Request for payment.

- 14   **3.5 REPAIR / RESTORATION [NOT USED]**
- 15   **3.6 RE-INSTALLATION [NOT USED]**
- 16   **3.7 FIELD [OR] SITE QUALITY CONTROL [NOT USED]**
- 17   **3.8 SYSTEM STARTUP [NOT USED]**
- 18   **3.9 ADJUSTING [NOT USED]**
- 19   **3.10 CLEANING [NOT USED]**
- 20   **3.11 CLOSEOUT ACTIVITIES [NOT USED]**
- 21   **3.12 PROTECTION [NOT USED]**
- 22   **3.13 MAINTENANCE [NOT USED]**
- 23   **3.14 ATTACHMENTS [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
3/22/2021	M Owen	3.4 C. Added language to clarify and emphasize requirement to “Clearing ROW”

26

**SECTION 01 78 23**  
**OPERATION AND MAINTENANCE DATA**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Product data and related information appropriate for City's maintenance and operation of products furnished under Contract
  - 2. Such products may include, but are not limited to:
    - a. Traffic Controllers
    - b. Irrigation Controllers (to be operated by the City)
    - c. Butterfly Valves
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Schedule
  - 1. Submit manuals in final form to the City within 30 calendar days of product shipment to the project site.

**1.5 SUBMITTALS**

- A. Submittals shall be in accordance with Section 01 33 00 . All submittals shall be approved by the City prior to delivery.

**1.6 INFORMATIONAL SUBMITTALS**

- A. Submittal Form
  - 1. Prepare data in form of an instructional manual for use by City personnel.
  - 2. Format
    - a. Size: 8 ½ inches x 11 inches
    - b. Paper
      - 1) 40 pound minimum, white, for typed pages
      - 2) Holes reinforced with plastic, cloth or metal
    - c. Text: Manufacturer's printed data, or neatly typewritten

- d. Drawings
    - 1) Provide reinforced punched binder tab, bind in with text
    - 2) Reduce larger drawings and fold to size of text pages.
  - e. Provide fly-leaf for each separate product, or each piece of operating equipment.
    - 1) Provide typed description of product, and major component parts of equipment.
    - 2) Provide indexed tabs.
  - f. Cover
    - 1) Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS".
    - 2) List:
      - a) Title of Project
      - b) Identity of separate structure as applicable
      - c) Identity of general subject matter covered in the manual
3. Binders
- a. Commercial quality 3-ring binders with durable and cleanable plastic covers
  - b. When multiple binders are used, correlate the data into related consistent groupings.
4. If available, provide an electronic form of the O&M Manual.
- B. Manual Content
- 1. Neatly typewritten table of contents for each volume, arranged in systematic order
    - a. Contractor, name of responsible principal, address and telephone number
    - b. A list of each product required to be included, indexed to content of the volume
    - c. List, with each product:
      - 1) The name, address and telephone number of the subcontractor or installer
      - 2) A list of each product required to be included, indexed to content of the volume
      - 3) Identify area of responsibility of each
      - 4) Local source of supply for parts and replacement
    - d. Identify each product by product name and other identifying symbols as set forth in Contract Documents.
  - 2. Product Data
    - a. Include only those sheets which are pertinent to the specific product.
    - b. Annotate each sheet to:
      - 1) Clearly identify specific product or part installed
      - 2) Clearly identify data applicable to installation
      - 3) Delete references to inapplicable information
  - 3. Drawings
    - a. Supplement product data with drawings as necessary to clearly illustrate:
      - 1) Relations of component parts of equipment and systems
      - 2) Control and flow diagrams
    - b. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
    - c. Do not use Project Record Drawings as maintenance drawings.
  - 4. Written text, as required to supplement product data for the particular installation:
    - a. Organize in consistent format under separate headings for different procedures.
    - b. Provide logical sequence of instructions of each procedure.

5. Copy of each warranty, bond and service contract issued
  - a. Provide information sheet for City personnel giving:
    - 1) Proper procedures in event of failure
    - 2) Instances which might affect validity of warranties or bonds
- C. Manual for Materials and Finishes
  1. Submit 5 copies of complete manual in final form.
  2. Content, for architectural products, applied materials and finishes:
    - a. Manufacturer's data, giving full information on products
      - 1) Catalog number, size, composition
      - 2) Color and texture designations
      - 3) Information required for reordering special manufactured products
    - b. Instructions for care and maintenance
      - 1) Manufacturer's recommendation for types of cleaning agents and methods
      - 2) Cautions against cleaning agents and methods which are detrimental to product
      - 3) Recommended schedule for cleaning and maintenance
  3. Content, for moisture protection and weather exposure products:
    - a. Manufacturer's data, giving full information on products
      - 1) Applicable standards
      - 2) Chemical composition
      - 3) Details of installation
    - b. Instructions for inspection, maintenance and repair
- D. Manual for Equipment and Systems
  1. Submit 5 copies of complete manual in final form.
  2. Content, for each unit of equipment and system, as appropriate:
    - a. Description of unit and component parts
      - 1) Function, normal operating characteristics and limiting conditions
      - 2) Performance curves, engineering data and tests
      - 3) Complete nomenclature and commercial number of replaceable parts
    - b. Operating procedures
      - 1) Start-up, break-in, routine and normal operating instructions
      - 2) Regulation, control, stopping, shut-down and emergency instructions
      - 3) Summer and winter operating instructions
      - 4) Special operating instructions
    - c. Maintenance procedures
      - 1) Routine operations
      - 2) Guide to "trouble shooting"
      - 3) Disassembly, repair and reassembly
      - 4) Alignment, adjusting and checking
    - d. Servicing and lubrication schedule
      - 1) List of lubricants required
    - e. Manufacturer's printed operating and maintenance instructions
    - f. Description of sequence of operation by control manufacturer
      - 1) Predicted life of parts subject to wear
      - 2) Items recommended to be stocked as spare parts
    - g. As installed control diagrams by controls manufacturer
    - h. Each contractor's coordination drawings
      - 1) As installed color coded piping diagrams



- i. Charts of valve tag numbers, with location and function of each valve
  - j. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage
  - k. Other data as required under pertinent Sections of Specifications
3. Content, for each electric and electronic system, as appropriate:
- a. Description of system and component parts
    - 1) Function, normal operating characteristics, and limiting conditions
    - 2) Performance curves, engineering data and tests
    - 3) Complete nomenclature and commercial number of replaceable parts
  - b. Circuit directories of panelboards
    - 1) Electrical service
    - 2) Controls
    - 3) Communications
  - c. As installed color coded wiring diagrams
  - d. Operating procedures
    - 1) Routine and normal operating instructions
    - 2) Sequences required
    - 3) Special operating instructions
  - e. Maintenance procedures
    - 1) Routine operations
    - 2) Guide to "trouble shooting"
    - 3) Disassembly, repair and reassembly
    - 4) Adjustment and checking
  - f. Manufacturer's printed operating and maintenance instructions
  - g. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage
  - h. Other data as required under pertinent Sections of Specifications
4. Prepare and include additional data when the need for such data becomes apparent during instruction of City's personnel.

#### **1.7 CLOSEOUT SUBMITTALS [NOT USED]**

#### **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

#### **1.9 QUALITY ASSURANCE**

- A. Provide operation and maintenance data by personnel with the following criteria:
1. Trained and experienced in maintenance and operation of described products
  2. Skilled as technical writer to the extent required to communicate essential data
  3. Skilled as draftsman competent to prepare required drawings

**1.10 DELIVERY, STORAGE, AND HANDLING [NOT USED]**

**1.11 FIELD [SITE] CONDITIONS [NOT USED]**

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS [NOT USED]**

**PART 3 - EXECUTION [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
8/31/2012	D. Johnson	1.5.A.1 – title of section removed

**SECTION 01 78 39**  
**PROJECT RECORD DOCUMENTS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Work associated with the documenting the project and recording changes to project documents, including:
    - a. Record Drawings
    - b. Water Meter Service Reports
    - c. Sanitary Sewer Service Reports
    - d. Large Water Meter Reports
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. None.
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 – Bidding Requirements, Contract Forms and Conditions of the Contract
  - 2. Division 1 – General Requirements

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. Work associated with this Item is considered subsidiary to the various Items bid. No separate payment will be allowed for this Item.

**1.3 REFERENCES [NOT USED]**

**1.4 ADMINISTRATIVE REQUIREMENTS [NOT USED]**

**1.5 SUBMITTALS**

- A. Prior to submitting a request for Final Inspection, deliver Project Record Documents to City's Project Representative.

**1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

**1.7 CLOSEOUT SUBMITTALS [NOT USED]**

**1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

**1.9 QUALITY ASSURANCE**

- A. Accuracy of Records
  - 1. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show the change properly.
  - 2. Accuracy of records shall be such that future search for items shown in the Contract Documents may rely reasonably on information obtained from the approved Project Record Documents.

3. To facilitate accuracy of records, make entries within 24 hours after receipt of information that the change has occurred.
4. Provide factual information regarding all aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation and examination.

#### **1.10 STORAGE AND HANDLING**

##### **A. Storage and Handling Requirements**

1. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the Work and transfer of all recorded data to the final Project Record Documents.
2. In the event of loss of recorded data, use means necessary to again secure the data to the City's approval.
  - a. In such case, provide replacements to the standards originally required by the Contract Documents.

#### **1.11 FIELD [SITE] CONDITIONS [NOT USED]**

#### **1.12 WARRANTY [NOT USED]**

### **PART 2 - PRODUCTS**

#### **2.1 OWNER-FURNISHED [OR] OWNER-SUPPLIED PRODUCTS [NOT USED]**

#### **2.2 RECORD DOCUMENTS**

##### **A. Job set**

1. Promptly following receipt of the Notice to Proceed, secure from the City, at no charge to the Contractor, 1 complete set of all Documents comprising the Contract.

##### **B. Final Record Documents**

1. At a time nearing the completion of the Work and prior to Final Inspection, provide the City 1 complete set of all Final Record Drawings in the Contract.

#### **2.3 ACCESSORIES [NOT USED]**

#### **2.4 SOURCE QUALITY CONTROL [NOT USED]**

### **PART 3 - EXECUTION**

#### **3.1 INSTALLERS [NOT USED]**

#### **3.2 EXAMINATION [NOT USED]**

#### **3.3 PREPARATION [NOT USED]**

#### **3.4 MAINTENANCE DOCUMENTS**

##### **A. Maintenance of Job Set**

1. Immediately upon receipt of the job set, identify each of the Documents with the title, "RECORD DOCUMENTS - JOB SET".

2. Preservation
    - a. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set.
    - b. Do not use the job set for any purpose except entry of new data and for review by the City, until start of transfer of data to final Project Record Documents.
    - c. Maintain the job set at the site of work.
  3. Coordination with Construction Survey
    - a. At a minimum, in accordance with the intervals set forth in Section 01 71 23, clearly mark any deviations from Contract Documents associated with installation of the infrastructure.
  4. Making entries on Drawings
    - a. Record any deviations from Contract Documents.
    - b. Use an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.
    - c. Date all entries.
    - d. Call attention to the entry by a "cloud" drawn around the area or areas affected.
    - e. In the event of overlapping changes, use different colors for the overlapping changes.
  5. Conversion of schematic layouts
    - a. In some cases on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items, are shown schematically and are not intended to portray precise physical layout.
      - 1) Final physical arrangement is determined by the Contractor, subject to the City's approval.
      - 2) However, design of future modifications of the facility may require accurate information as to the final physical layout of items which are shown only schematically on the Drawings.
    - b. Show on the job set of Record Drawings, by dimension accurate to within 1 inch, the centerline of each run of items.
      - 1) Final physical arrangement is determined by the Contractor, subject to the City's approval.
      - 2) Show, by symbol or note, the vertical location of the Item ("under slab", "in ceiling plenum", "exposed", and the like).
      - 3) Make all identification sufficiently descriptive that it may be related reliably to the Specifications.
    - c. The City may waive the requirements for conversion of schematic layouts where, in the City's judgment, conversion serves no useful purpose. However, do not rely upon waivers being issued except as specifically issued in writing by the City.
- B. Final Project Record Documents
1. Transfer of data to Drawings
    - a. Carefully transfer change data shown on the job set of Record Drawings to the corresponding final documents, coordinating the changes as required.
    - b. Clearly indicate at each affected detail and other Drawing a full description of changes made during construction, and the actual location of items.

- c. Call attention to each entry by drawing a "cloud" around the area or areas affected.
  - d. Make changes neatly, consistently and with the proper media to assure longevity and clear reproduction.
2. Transfer of data to other Documents
- a. If the Documents, other than Drawings, have been kept clean during progress of the Work, and if entries thereon have been orderly to the approval of the City, the job set of those Documents, other than Drawings, will be accepted as final Record Documents.
  - b. If any such Document is not so approved by the City, secure a new copy of that Document from the City at the City's usual charge for reproduction and handling, and carefully transfer the change data to the new copy to the approval of the City.

- 3.5 REPAIR / RESTORATION [NOT USED]**
- 3.6 RE-INSTALLATION [NOT USED]**
- 3.7 FIELD [OR] SITE QUALITY CONTROL [NOT USED]**
- 3.8 SYSTEM STARTUP [NOT USED]**
- 3.9 ADJUSTING [NOT USED]**
- 3.10 CLEANING [NOT USED]**
- 3.11 CLOSEOUT ACTIVITIES [NOT USED]**
- 3.12 PROTECTION [NOT USED]**
- 3.13 MAINTENANCE [NOT USED]**
- 3.14 ATTACHMENTS [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE



- 1                   5) Reworking or replacing the over excavated material in rock cuts
- 2                   6) Hauling
- 3                   7) Disposal of excess material not used elsewhere onsite
- 4                   8) Scarification
- 5                   9) Clean-up

6   **1.3 REFERENCES [NOT USED]**

7       A. Definitions

- 8           1. Unclassified Excavation – Without regard to materials, all excavations shall be
- 9           considered unclassified and shall include all materials excavated. Any reference to
- 10          Rock or other materials on the Drawings or in the specifications is solely for the
- 11          City and the Contractor’s information and is not to be taken as a classification of
- 12          the excavation.

13   **1.4 ADMINSTRATIVE REQUIREMENTS**

- 14       A. The Contractor will provide the City with a Disposal Letter in accordance to Division
- 15       01.

16   **1.5 SUBMITTALS [NOT USED]**

17   **1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS [NOT USED]**

18   **1.7 CLOSEOUT SUBMITTALS [NOT USED]**

19   **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

20   **1.9 QUALITY ASSURANCE**

21       A. Excavation Safety

- 22           1. The Contractor shall be solely responsible for making all excavations in a safe
- 23           manner.
- 24           2. All excavation and related sheeting and bracing shall comply with the requirements
- 25           of OSHA excavation safety standards 29 CFR part 1926 and state requirements.

26   **1.10 DELIVERY, STORAGE, AND HANDLING**

27       A. Storage

- 28           1. Within Existing Rights-of-Way (ROW)
- 29           a. Soil may be stored within existing ROW, easements or temporary construction
- 30           easements, unless specifically disallowed in the Contract Documents.
- 31           b. Do not block drainage ways, inlets or driveways.
- 32           c. Provide erosion control in accordance with Section 31 25 00.
- 33           d. When the Work is performed in active traffic areas, store materials only in
- 34           areas barricaded as provided in the traffic control plans.
- 35           e. In non-paved areas, do not store material on the root zone of any trees or in
- 36           landscaped areas.
- 37           2. Designated Storage Areas
- 38           a. If the Contract Documents do not allow the storage of spoils within the ROW,
- 39           easement or temporary construction easement, then secure and maintain an
- 40           adequate storage location.



- 1                   b. Provide an affidavit that rights have been secured to store the materials on
- 2                   private property.
- 3                   c. Provide erosion control in accordance with Section 31 25 00.
- 4                   d. Do not block drainage ways.

5           B. Delivery

- 6                   1. Excess soil not used in the construction of the improvements shall be placed on the
- 7                   adjacent site in a location specified in attached Exhibit 'A'. Contractor shall
- 8                   coordinate with the private contractor working on the site when the soil is to be
- 9                   placed. Contact information will be provided once the contract is awarded.

10   **1.11 FIELD CONDITIONS**

11           A. Existing Conditions

- 12                   1. Any data which has been or may be provided on subsurface conditions is not
- 13                   intended as a representation or warranty of accuracy or continuity between soils. It
- 14                   is expressly understood that neither the City nor the Engineer will be responsible
- 15                   for interpretations or conclusions drawn there from by the Contractor.
- 16                   2. Data is made available for the convenience of the Contractor.

17   **1.12 WARRANTY [NOT USED]**

18   **PART 2 - PRODUCTS [NOT USED]**

19   **2.1 OWNER-FURNISHED [NOT USED]**

20   **2.2 PRODUCT TYPES AND MATERIALS**

21           A. Materials

- 22                   1. Unacceptable Fill Material
- 23                   a. In-situ soils classified as ML, MH, PT, OL or OH in accordance with ASTM
- 24                   D2487

25   **PART 3 - EXECUTION**

26   **3.1 INSTALLERS [NOT USED]**

27   **3.2 EXAMINATION [NOT USED]**

28   **3.3 PREPARATION [NOT USED]**

29   **3.4 CONSTRUCTION**

- 30           A. Accept ownership of unsuitable or excess material and dispose of material off-site
- 31           accordance with local, state, and federal regulations at locations.
- 32           B. Excavations shall be performed in the dry, and kept free from water, snow and ice
- 33           during construction with the exception of water that is applied for dust control.
- 34           C. Separate Unacceptable Fill Material from other materials, remove from the Site and
- 35           properly dispose according to disposal plan.

- 1 D. Maintain drainage in the excavated area to avoid damage to the roadway sections and  
2 proposed or existing structures.
- 3 E. Correct any damage to the subgrade caused by weather, at no additional cost to the  
4 City.
- 5 F. Shape slopes to avoid loosening material below or outside the proposed grades.  
6 Remove and dispose of slides as directed.
- 7 G. Rock Cuts
- 8 1. Excavate to finish grades.
- 9 2. In the event of over excavation due to contractor error below the lines and grades  
10 established in the Drawings, use approved embankment material compacted in  
11 accordance with Section 31 24 00 to replace the over excavated at no additional  
12 cost to City.
- 13 H. Earth Cuts
- 14 1. Excavate to finish subgrade
- 15 2. In the event of over excavation due to contractor error below the lines and grades  
16 established in the Drawings, use approved embankment material compacted in  
17 accordance with Section 31 24 00 to replace the over excavated at no additional  
18 cost to City.
- 19 3. Manipulate and compact subgrade in accordance with Section 31 24 00.

20 **3.5 REPAIR [NOT USED]**

21 **3.6 RE-INSTALLATION [NOT USED]**

22 **3.7 FIELD QUALITY CONTROL**

23 A. Subgrade Tolerances

- 24 1. Excavate to within 0.1 foot in all directions.
- 25 2. In areas of over excavation, Contractor provides fill material approved by the City  
26 at no expense to the City.

27 **3.8 SYSTEM STARTUP [NOT USED]**

28 **3.9 ADJUSTING [NOT USED]**

29 **3.10 CLEANING [NOT USED]**

30 **3.11 CLOSEOUT ACTIVITIES [NOT USED]**

31 **3.12 PROTECTION [NOT USED]**

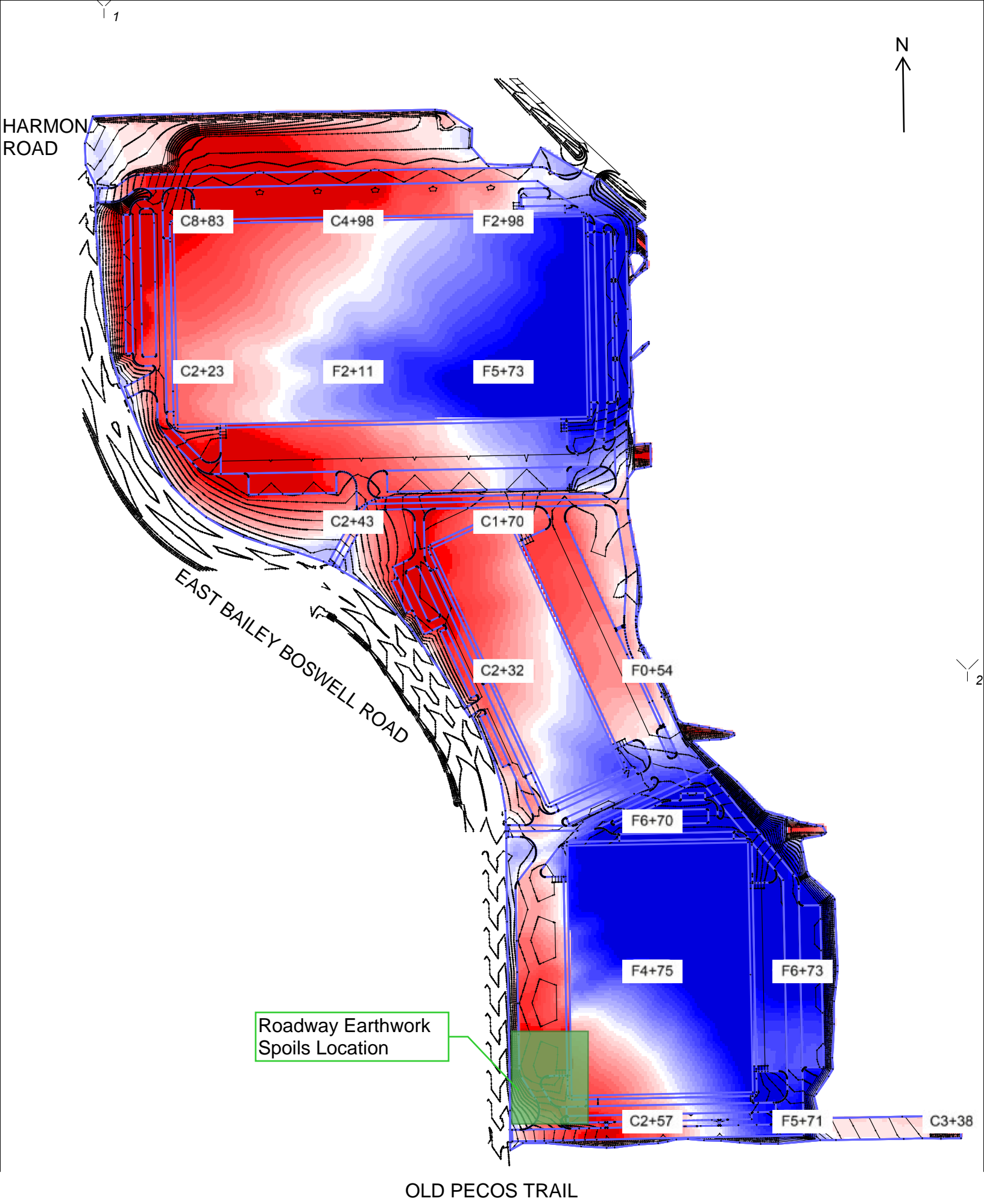
32 **3.13 MAINTENANCE [NOT USED]**

33 **3.14 ATTACHMENTS**

34 A. Exhibit 'A' – Spoils Location

35

36



**EXHIBIT 'A' - SPOILS LOCATION**

1

2

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
12/20/2012	D. Johnson	1.2 - Measurement and Payment Section modified; Blue Text added for clarification
1/28/13	D. Johnson	1.2 – Modified Bid Item names in payment section to differentiate between Payment Methods on bid list.
8/04/21	J. Buchanan	Added Section 1.10.B Added 3.14 Attachments

3

**SECTION 32 32 13**  
**CAST-IN-PLACE CONCRETE RETAINING WALLS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes
  - 1. Construction of cast-in-place concrete retaining wall adjacent to concrete sidewalk (3 foot maximum height) of the size and shape detailed on the Drawings and at the location shown on the Drawings.
  - 2. Construction of TxDOT standard cast-in-place, spread foot concrete retaining wall of the size and shape detailed on the Drawings and at the location shown on the Drawings.
- B. Deviations from this City of Fort Worth Standard Specification
  - 1. *Modified Section 1.2.A.3.C.6.*
- C. Related Specification Sections include, but are not necessarily limited to:
  - 1. Division 0 - Bidding Requirements, Contract Forms, and Conditions of the Contract
  - 2. Division 1 - General Requirements
  - 3. Section 03 30 00 - Cast-in-Place Concrete
  - 4. Section 31 23 16 – Unclassified Excavation
  - 5. Section 31 23 23 - Borrow
  - 6. Section 31 24 00 - Embankments
  - 7. Section 32 13 20 - Concrete Sidewalks, Driveways and Barrier Free Ramps
  - 8. Section 33 46 00 - Subdrainage

**1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement and Payment
  - 1. Concrete Retaining Wall Adjacent to Sidewalk
    - a. Measurement
      - 1) Measurement for this Item shall be by the square foot of the front surface of the wall (face) from the top of the adjacent sidewalk to the top of the wall.
    - b. Payment
      - 1) The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid per square foot of Concrete Retaining Wall Adjacent to Sidewalk constructed.
    - c. The price bid shall include:
      - 1) Excavation in back of Retaining Walls
      - 2) Furnishing and placing footings
      - 3) Leveling pads and copings
      - 4) Furnishing, placing, and compacting backfill (except in embankment areas)
      - 5) Furnishing and placing concrete, reinforcing steel, waterproofing material, filter material and drain pipe, joint material, water stop, and filter fabric when required

- 6) Fabricating, curing, and finishing wall including special coatings when specified
2. Concrete Sidewalk Adjacent to Retaining Wall
  - a. Measurement
    - 1) Measurement for this Item shall be by the square foot of completed and accepted Concrete Sidewalk Adjacent to Retaining Wall in its final position. Measurement shall be taken from face of wall to edge of concrete sidewalk.
  - b. Payment
    - 1) The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid per square foot of Concrete Sidewalk Adjacent to Retaining Wall installed.
  - c. The price bid shall include:
    - 1) Excavating and preparing the subgrade
    - 2) Furnishing and placing all materials
3. TxDOT Standard – Spread Footing Walls
  - a. Measurement
    - 1) Measurement for this Item shall be by the square foot of the front surface of the wall. Unless otherwise shown on the Drawings, measure area from finished ground line on the face of the exterior wall to the top of the wall including any coping required (not including railing).
  - b. Payment
    - 1) The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid per square foot of Spread Footing Wall constructed.
  - c. The price bid shall include:
    - 1) Excavation in back of Retaining Walls
    - 2) Furnishing and placing footings
    - 3) Leveling pads and copings
    - 4) Furnishing, placing, and compacting backfill (except in embankment areas)
    - 5) Furnishing and placing concrete, reinforcing steel, waterproofing material, filter material and drain pipe, joint material, water stop, and filter fabric when required
    - 6) Fabricating, curing, and finishing wall including special coatings when specified. This includes preparation and use of formliner as specified on the plans.

### 1.3 REFERENCES

#### A. Definitions

1. Permanent Wall - Retaining wall with a design service life of 75 years. All walls are presumed to be permanent walls unless otherwise specified in the Drawings.

- #### B. Reference standards cited in this specification refer to the current reference standard published at the time of the latest revision date logged at the end of this specification, unless a date is specifically cited.

1. ASTM International (ASTM):
  - a. D4491, Standard Test Methods for Water Permeability of Geotextiles by Permittivity
  - b. D4533, Standard Test Method for Trapezoid Tearing Strength of Geotextiles

- c. D4632, Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
  - d. D4751, Standard Test Method for Determining Apparent Opening Size of a Geotextile
2. Texas Department of Transportation (TXDOT), Standard Specifications for Construction and Maintenance of Highways and Bridges:
- a. 110, Excavation
  - b. 132, Embankment
  - c. 400, Excavation and Backfill for Structures
  - d. 420, Concrete Structures
  - e. 421, Hydraulic Cement Concrete
  - f. 423, Retaining Walls
  - g. 440, Reinforcing Steel
  - h. 445, Galvanizing
  - i. 458, Waterproofing Membranes for Structures
  - j. 556, Pipe Underdrains
3. TxDOT Standard – Spread Footing Walls
- a. RW 1 (L) A – Low Footing Pressure, Design A Retaining Walls
  - b. RW 1 (L) B – Low Footing Pressure, Design B Retaining Walls
  - c. RW 1 (L) C – Low Footing Pressure, Design C Retaining Walls
  - d. RW 1 (H) A – High Footing Pressure, Design A Retaining Walls
  - e. RW 1 (H) B – High Footing Pressure, Design B Retaining Walls
  - f. RW 1 (H) C – High Footing Pressure, Design C Retaining Walls
  - g. RW 2 – Retaining Wall Miscellaneous Details
4. Texas Department of Transportation (TXDOT), Manual of Testing Procedures:
- a. Tex-616-J, Construction Fabrics

#### **1.4 ADMINISTRATIVE REQUIREMENTS [NOT USED]**

#### **1.5 SUBMITTALS**

- A. See Section 03 30 00.

#### **1.6 ACTION SUBMITTALS [NOT USED]**

#### **1.7 CLOSEOUT SUBMITTALS [NOT USED]**

#### **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

#### **1.9 QUALITY ASSURANCE**

- A. See Section 03 30 00.

#### **1.10 DELIVERY, STORAGE, AND HANDLING**

- A. See Section 03 30 00.

#### **1.11 SITE CONDITIONS**

- A. Ambient Conditions: See Section 03 30 00.

**1.12 WARRANTY [NOT USED]**

**PART 2 - PRODUCTS**

**2.1 OWNER-FURNISHED PRODUCTS [NOT USED]**

**2.2 MATERIALS**

- A. Concrete and Reinforcing Steel
  - 1. Concrete Retaining Wall with Sidewalk
    - a. Section 03 30 00.
  - 2. TxDOT Standard – Spread Footing Walls
    - a. 420, Concrete Structures
    - b. 421, Hydraulic Cement Concrete
    - c. 440, Reinforcing Steel
    - d. 445, Galvanizing
    - e. 458, Waterproofing Membranes for Structures
- B. Backfill
  - 1. Concrete Retaining Wall with Sidewalk
    - a. Section 31 23 23
  - 2. TxDOT Standard – Spread Footing Walls
    - a. 132, Embankments
- C. Underdrains
  - 1. Concrete Retaining Wall with Sidewalk
    - a. Section 33 46 00
  - 2. TxDOT Standard – Spread Footing Walls
    - a. 556, Pipe Underdrains
- D. Filter Fabric
  - 1. General
    - a. Provide standard weight fabric for retaining walls and soil separation.
    - b. Provide filter fabric rated as UV-resistant when used as part of the exposed facing for a temporary wall.
    - c. The fabric consists exclusively of manmade thermoplastic fibers, is a non-woven geotextile fabric, and forms a mat of uniform quality.
    - d. Fabric fibers are continuous and random throughout the fabric.
    - e. The fabric is mildew resistant and rot-proof, and it is satisfactory for use in a wet soil and aggregate environment.
  - 2. Physical Requirements: The fabric must conform to the requirements listed in Table 1 when tested in accordance with the test methods specified.

**Table 1  
 Filter Fabric Requirements**

Physical Properties	Test Method	Value
Fabric Weight, on an ambient temperature air-dried, tension free sample	Tex-616-J	4 oz/yard
Permittivity, 1/sec	ASTM D4491	1.0, min



Tensile Strength, lbs	ASTM D4632	100 lbs
Apparent Opening Size	ASTM D4751	70-100
Elongation at yield, percent	ASTM D4632	20-100
Trapezoidal Tear, lbs	ASTM D4533	35 lbs

**2.3 ACCESSORIES [NOT USED]**

**2.4 SOURCE QUALITY CONTROL [NOT USED]**

**PART 3 - EXECUTION**

**3.1 INSTALLERS [NOT USED]**

**3.2 EXAMINATION [NOT USED]**

**3.3 PREPARATION [NOT USED]**

**3.4 INSTALLATION**

A. Construct retaining walls in accordance with the Drawings and to the pertinent requirements of the following Sections:

1. Concrete Retaining Wall with Sidewalk
  - a. Section 03 30 00
  - b. Section 31 23 16
  - c. Section 31 23 23
  - d. Section 31 24 00
  - e. Section 33 46 00
2. TxDOT Standard – Spread Footing Walls
  - a. 110, Excavation
  - b. 132, Embankment
  - c. 400, Excavation and Backfill for Structures
  - d. 423, Retaining Walls
  - e. 420, Concrete Structures
  - f. 458, Water proofing Membranes for Structures
  - g. 556, Pipe Underdrains

**3.5 REPAIR**

A. See Section 03 30 00.

**3.6 RE-INSTALLATION [NOT USED]**

**3.7 FIELD QUALITY CONTROL**

A. See Section 03 30 00.

- 3.8 SYSTEM STARTUP [NOT USED]**
- 3.9 ADJUSTING [NOT USED]**
- 3.10 CLEANING [NOT USED]**
- 3.11 CLOSEOUT ACTIVITIES [NOT USED]**
- 3.12 PROTECTION [NOT USED]**
- 3.13 MAINTENANCE [NOT USED]**
- 3.14 ATTACHMENTS [NOT USED]**

**END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
12/20/2012	D. Johnson	1.2.A – Payment Item for concrete retaining wall with sidewalk was broken into two Items: one for the face of wall and one for the sidewalk.
6/5/18	M Owen	Revised Summary and Measurement and Payment sections.
08/04/21	J.Buchanan	<i>Modified Section 1.2.A.3.C.6.</i>

1 **SECTION 33 05 10**  
2 **UTILITY TRENCH EXCAVATION, EMBEDMENT AND BACKFILL**

3 **PART 1 - GENERAL**

4 **1.1 SUMMARY**

5 A. Section Includes:

- 6 1. Excavation, Embedment and Backfill for:  
7 a. Pressure Applications  
8 1) Water Distribution or Transmission Main  
9 2) Wastewater Force Main  
10 3) Reclaimed Water Main  
11 b. Gravity Applications  
12 1) Wastewater Gravity Mains  
13 2) Storm Sewer Pipe and Culverts  
14 3) Storm Sewer Precast Box and Culverts  
15 2. Including:  
16 a. Excavation of all material encountered, including rock and unsuitable materials  
17 b. Disposal of excess unsuitable material  
18 c. Site specific trench safety  
19 d. Pumping and dewatering  
20 e. Embedment  
21 f. Concrete encasement for utility lines  
22 g. Backfill  
23 h. Compaction

24 B. Deviations from this City of Fort Worth Standard Specification

- 25 1. *Modified Section 1.10.A.2*

26 C. Related Specification Sections include, but are not necessarily limited to:

- 27 1. Division 0 – Bidding Requirements, Contract Forms, and Conditions of the  
28 Contract  
29 2. Division 1 – General Requirements  
30 3. Section 02 41 13 – Selective Site Demolition  
31 4. Section 02 41 15 – Paving Removal  
32 5. Section 02 41 14 – Utility Removal/Abandonment  
33 6. Section 03 30 00 – Cast-in-place Concrete  
34 7. Section 03 34 13 – Controlled Low Strength Material (CLSM)  
35 8. Section 31 10 00 – Site Clearing  
36 9. Section 31 25 00 – Erosion and Sediment Control  
37 10. Section 33 05 26 – Utility Markers/Locators  
38 11. Section 34 71 13 – Traffic Control

39 **1.2 PRICE AND PAYMENT PROCEDURES**

40 A. Measurement and Payment

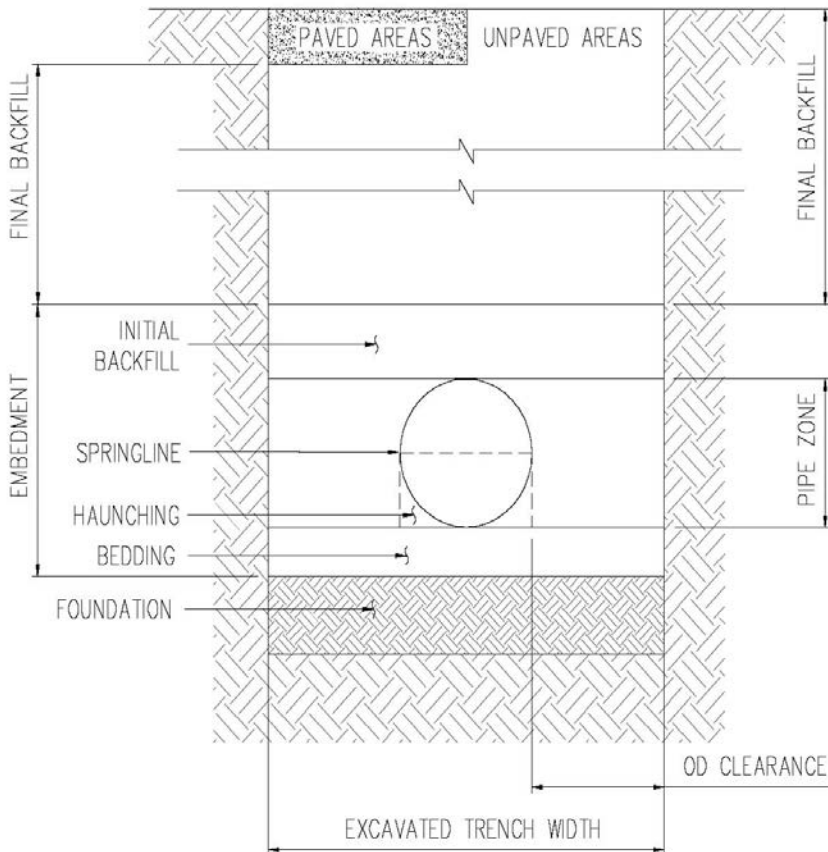
- 1           1. Trench Excavation, Embedment and Backfill associated with the installation of an  
2           underground utility or excavation
- 3           a. Measurement
- 4           1) This Item is considered subsidiary to the installation of the utility pipe line  
5           as designated in the Drawings.
- 6           b. Payment
- 7           1) The work performed and the materials furnished in accordance with this  
8           Item are considered subsidiary to the installation of the utility pipe for the  
9           type of embedment and backfill as indicated on the plans. No other  
10          compensation will be allowed.
- 11          2. Imported Embedment or Backfill
- 12          a. Measurement
- 13          1) Measured by the cubic yard as delivered to the site and recorded by truck  
14          ticket provided to the City
- 15          b. Payment
- 16          1) Imported fill shall only be paid when using materials for embedment and  
17          backfill other than those identified in the Drawings. The work performed  
18          and materials furnished in accordance with pre-bid item and measured as  
19          provided under "Measurement" will be paid for at the unit price bid per  
20          cubic yard of "Imported Embedment/Backfill" delivered to the Site for:  
21          a) Various embedment/backfill materials
- 22          c. The price bid shall include:
- 23          1) Furnishing backfill or embedment as specified by this Specification
- 24          2) Hauling to the site
- 25          3) Placement and compaction of backfill or embedment
- 26          3. Concrete Encasement for Utility Lines
- 27          a. Measurement
- 28          1) Measured by the cubic yard per plan quantity.
- 29          b. Payment
- 30          1) The work performed and materials furnished in accordance with this Item  
31          and measured as provided under "Measurement" will be paid for at the unit  
32          price bid per cubic yard of "Concrete Encasement for Utility Lines" per  
33          plan quantity.
- 34          c. The price bid shall include:
- 35          1) Furnishing, hauling, placing and finishing concrete in accordance with  
36          Section 03 30 00
- 37          2) Clean-up
- 38          4. Ground Water Control
- 39          a. Measurement
- 40          1) Measurement shall be lump sum when a ground water control plan is  
41          specifically required by the Contract Documents.
- 42          b. Payment
- 43          1) Payment shall be per the lump sum price bid for "Ground Water Control"  
44          including:
- 45          a) Submittals
- 46          b) Additional Testing
- 47          c) Ground water control system installation
- 48          d) Ground water control system operations and maintenance
- 49          e) Disposal of water

- 1 f) Removal of ground water control system
- 2 5. Trench Safety
- 3 a. Measurement
- 4 1) Measured per linear foot of excavation for all trenches that require trench
- 5 safety in accordance with OSHA excavation safety standards (29 CFR Part
- 6 1926 Subpart P Safety and Health regulations for Construction)
- 7 b. Payment
- 8 1) The work performed and materials furnished in accordance with this Item
- 9 and measured as provided under "Measurement" will be paid for at the unit
- 10 price bid per linear foot of excavation to comply with OSHA excavation
- 11 safety standards (29 CFR Part 1926.650 Subpart P), including, but not
- 12 limited to, all submittals, labor and equipment.

13 **1.3 REFERENCES**

14 **A. Definitions**

- 15 1. General – Definitions used in this section are in accordance with Terminologies
- 16 ASTM F412 and ASTM D8 and Terminology ASTM D653, unless otherwise
- 17 noted.
- 18 2. Definitions for trench width, backfill, embedment, initial backfill, pipe zone,
- 19 haunching bedding, springline, pipe zone and foundation are defined as shown in
- 20 the following schematic:



21

- 1           3. Deleterious materials – Harmful materials such as clay lumps, silts and organic  
2           material
- 3           4. Excavated Trench Depth – Distance from the surface to the bottom of the bedding  
4           or the trench foundation
- 5           5. Final Backfill Depth
- 6           a. Unpaved Areas – The depth of the final backfill measured from the top of the  
7           initial backfill to the surface
- 8           b. Paved Areas – The depth of the final backfill measured from the top of the  
9           initial backfill to bottom of permanent or temporary pavement repair
- 10          B. Reference Standards
- 11          1. Reference standards cited in this Specification refer to the current reference  
12          standard published at the time of the latest revision date logged at the end of this  
13          Specification, unless a date is specifically cited.
- 14          2. ASTM Standards:
- 15           a. ASTM C33-08 Standard Specifications for Concrete Aggregates
- 16           b. ASTM C88-05 Soundness of Aggregate by Use of Sodium Sulfate or  
17           Magnesium Sulfate
- 18           c. ASTM C136-01 Test Method for Sieve Analysis of Fine and Coarse Aggregate
- 19           d. ASTM D448-08 Standard Classification for Sizes of Aggregate for Road and  
20           Bridge Construction.
- 21           e. ASTM C535-09 Standard Test Method for Resistance to Degradation of Large-  
22           Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
- 23           f. ASTM D588 – Standard Test method for Moisture-Density Relations of Soil-  
24           Cement Mixture
- 25           g. ASTM D698-07 Test Method for Laboratory Compaction Characteristics of  
26           Soil Using Stand Efforts (12,400 ft-lb/ft<sup>3</sup> 600 Kn-m/M<sup>3</sup>)).
- 27           h. ASTM 1556 Standard Test Methods for Density and Unit Weight of Soils in  
28           Place by Sand Cone Method.
- 29           i. ASTM 2487 – 10 Standard Classification of Soils for Engineering Purposes  
30           (Unified Soil Classification System)
- 31           j. ASTM 2321-09 Underground Installation of Thermoplastic Pipe for Sewers  
32           and Other Gravity-Flow Applications
- 33           k. ASTM D2922 – Standard Test Methods for Density of Soils and Soil  
34           Aggregate in Place by Nuclear Methods (Shallow Depth)
- 35           l. ASTM 3017 - Standard Test Method for Water Content of Soil and Rock in  
36           place by Nuclear Methods (Shallow Depth)
- 37           m. ASTM D4254 - Standard Test Method for Minimum Index Density and Unit  
38           Weight of Soils and Calculations of Relative Density
- 39          3. OSHA
- 40           a. Occupational Safety and Health Administration CFR 29, Part 1926-Safety  
41           Regulations for Construction, Subpart P - Excavations

## 42   **1.4 ADMINISTRATIVE REQUIREMENTS**

### 43    A. Coordination

- 44      1. Utility Company Notification
- 45        a. Notify area utility companies at least 48 hours in advance, excluding weekends  
46        and holidays, before starting excavation.

1                   b. Request the location of buried lines and cables in the vicinity of the proposed  
2                   work.

3           B. Sequencing

4           1. Sequence work for each section of the pipe installed to complete the embedment  
5           and backfill placement on the day the pipe foundation is complete.

6           2. Sequence work such that proctors are complete in accordance with ASTM D698  
7           prior to commencement of construction activities.

8   **1.5 SUBMITTALS**

9           A. Submittals shall be in accordance with Section 01 33 00.

10          B. All submittals shall be approved by the City prior to construction.

11   **1.6 ACTION SUBMITTALS/INFORMATIONAL SUBMITTALS**

12          A. Shop Drawings

13           1. Provide detailed drawings and explanation for ground water and surface water  
14           control, if required.

15           2. Trench Safety Plan in accordance with Occupational Safety and Health  
16           Administration CFR 29, Part 1926-Safety Regulations for Construction, Subpart P -  
17           Excavations

18           3. Stockpiled excavation and/or backfill material

19           a. Provide a description of the storage of the excavated material only if the  
20           Contract Documents do not allow storage of materials in the right-of-way of the  
21           easement.

22   **1.7 CLOSEOUT SUBMITTALS [NOT USED]**

23   **1.8 MAINTENANCE MATERIAL SUBMITTALS [NOT USED]**

24   **1.9 QUALITY ASSURANCE [NOT USED]**

25   **1.10 DELIVERY, STORAGE, AND HANDLING**

26          A. Storage

27           1. Within Existing Rights-of-Way (ROW)

28           a. Spoil, imported embedment and backfill materials may be stored within  
29           existing ROW, easements or temporary construction easements, unless  
30           specifically disallowed in the Contract Documents.

31           b. Do not block drainage ways, inlets or driveways.

32           c. Provide erosion control in accordance with Section 31 25 00.

33           d. Store materials only in areas barricaded as provided in the traffic control plans.

34           e. In non-paved areas, do not store material on the root zone of any trees or in  
35           landscaped areas.

36           2. Designated Storage Areas

37           a. Refer to Section 31 24 00 for locations where spoils can be stored or stockpiled.  
38           Coordinate with the private contractor on the adjacent property prior to placing  
39           soil on private property.

40           b. Provide erosion control in accordance with Section 31 25 00.

41

42

- 1 c. Do not block drainage ways.
- 2 d. Only materials used for 1 working day will be allowed to be stored in the work
- 3 zone.

4 B. Deliveries and haul-off - Coordinate all deliveries and haul-off.

5 **1.11 FIELD [SITE] CONDITIONS**

6 A. Existing Conditions

- 7 1. Any data which has been or may be provided on subsurface conditions is not
- 8 intended as a representation or warranty of accuracy or continuity between soils. It
- 9 is expressly understood that neither the City nor the Engineer will be responsible
- 10 for interpretations or conclusions drawn there from by the Contractor.
- 11 2. Data is made available for the convenience of the Contractor.

12 **1.12 WARRANTY [NOT USED]**

13 **PART 2 - PRODUCTS**

14 **2.1 OWNER-FURNISHED [or] OWNER-SUPPLIED PRODUCTS**

15 **2.2 MATERIALS**

16 A. Materials

- 17 1. Utility Sand
- 18 a. Granular and free flowing
- 19 b. Generally meets or exceeds the limits on deleterious substances per Table 1 for
- 20 fine aggregate according to ASTM C 33
- 21 c. Reasonably free of organic material
- 22 d. Gradation: sand material consisting of durable particles, free of thin or
- 23 elongated pieces, lumps of clay, loam or vegetable matter and meets the
- 24 following gradation may be used for utility sand embedment/backfill
- 25

Sieve Size	Percent Retained
1/2"	0
1/4"	0-5
#4	0-10
#16	0-20
#50	20-70
#100	60-90
#200	90-100

- 26
- 27 e. The City has a pre-approved list of sand sources for utility embedment. The
- 28 pre-approved list can be found on the City website, Project Resources page.
- 29 The utility sand sources in the pre-approved list have demonstrated continued
- 30 quality and uniformity on City of Fort Worth projects. Sand from these sources
- 31 are pre-approved for use on City projects without project specific testing.
- 32 2. Crushed Rock
- 33 a. Durable crushed rock or recycled concrete
- 34 b. Meets the gradation of ASTM D448 size numbers 56, 57 or 67



- 1 c. May be unwashed
- 2 d. Free from significant silt clay or unsuitable materials
- 3 e. Percentage of wear not more than 40 percent per ASTM C131 or C535
- 4 f. Not more than a 12 percent maximum loss when subjective to 5 cycles of
- 5 sodium sulfate soundness per ASTM C88
- 6 3. Fine Crushed Rock
- 7 a. Durable crushed rock
- 8 b. Meets the gradation of ASTM D448 size numbers 8 or 89
- 9 c. May be unwashed
- 10 d. Free from significant silt clay or unsuitable materials.
- 11 e. Have a percentage of wear not more than 40 percent per ASTM C131 or C535
- 12 f. Not more than a 12 percent maximum loss when subjective to 5 cycles of
- 13 sodium sulfate soundness per ASTM C88
- 14 4. Ballast Stone
- 15 a. Stone ranging from 3 inches to 6 inches in greatest dimension.
- 16 b. May be unwashed
- 17 c. Free from significant silt clay or unsuitable materials
- 18 d. Percentage of wear not more than 40 percent per ASTM C131 or C535
- 19 e. Not more than a 12 percent maximum loss when subjected to 5 cycles of
- 20 sodium sulfate soundness per ASTM C88
- 21 5. Acceptable Backfill Material
- 22 a. In-situ or imported soils classified as CL, CH, SC or GC in accordance with
- 23 ASTM D2487
- 24 b. Free from deleterious materials, boulders over 6 inches in size and organics
- 25 c. Can be placed free from voids
- 26 d. Must have 20 percent passing the number 200 sieve
- 27 6. Blended Backfill Material
- 28 a. In-situ soils classified as SP, SM, GP or GM in accordance with ASTM D2487
- 29 b. Blended with in-situ or imported acceptable backfill material to meet the
- 30 requirements of an Acceptable Backfill Material
- 31 c. Free from deleterious materials, boulders over 6 inches in size and organics
- 32 d. Must have 20 percent passing the number 200 sieve
- 33 7. Unacceptable Backfill Material
- 34 a. In-situ soils classified as ML, MH, PT, OL or OH in accordance with ASTM
- 35 D2487
- 36 8. Select Fill
- 37 a. Classified as SC or CL in accordance with ASTM D2487
- 38 b. Liquid limit less than 35
- 39 c. Plasticity index between 8 and 20
- 40 9. Cement Stabilized Sand (CSS)
- 41 a. Sand
- 42 1) Shall be clean, durable sand meeting grading requirements for fine
- 43 aggregates of ASTM C33 and the following requirements:
- 44 a) Classified as SW, SP, or SM by the United Soil Classification System
- 45 of ASTM D2487
- 46 b) Deleterious materials
- 47 (1) Clay lumps, ASTM C142, less than 0.5 percent
- 48 (2) Lightweight pieces, ASTM C123, less than 5.0 percent

- 1 (3) Organic impurities, ASTM C40, color no darker than standard  
2 color  
3 (4) Plasticity index of 4 or less when tested in accordance with ASTM  
4 D4318.
- 5 b. Minimum of 4 percent cement content of Type I/II portland cement  
6 c. Water  
7 1) Potable water, free of soils, acids, alkalis, organic matter or other  
8 deleterious substances, meeting requirements of ASTM C94  
9 d. Mix in a stationary pug mill, weigh-batch or continuous mixing plant.  
10 e. Strength  
11 1) 50 to 150 psi compressive strength at 2 days in accordance with ASTM  
12 D1633, Method A  
13 2) 200 to 250 psi compressive strength at 28 days in accordance with ASTM  
14 D1633, Method A  
15 3) The maximum compressive strength in 7 days shall be 400 psi. Backfill  
16 that exceeds the maximum compressive strength shall be removed by the  
17 Contractor for no additional compensation.  
18 f. Random samples of delivered product will be taken in the field at point of  
19 delivery for each day of placement in the work area. Specimens will be prepared  
20 in accordance with ASTM D1632.
- 21 10. Controlled Low Strength Material (CLSM)  
22 a. Conform to Section 03 34 13
- 23 11. Trench Geotextile Fabric  
24 a. Soils other than ML or OH in accordance with ASTM D2487  
25 1) Needle punch, nonwoven geotextile composed of polypropylene fibers  
26 2) Fibers shall retain their relative position  
27 3) Inert to biological degradation  
28 4) Resist naturally occurring chemicals  
29 5) UV Resistant  
30 6) Mirafi 140N by Tencate, or approved equal  
31 b. Soils Classified as ML or OH in accordance with ASTM D2487  
32 1) High-tenacity monofilament polypropylene woven yarn  
33 2) Percent open area of 8 percent to 10 percent  
34 3) Fibers shall retain their relative position  
35 4) Inert to biological degradation  
36 5) Resist naturally occurring chemicals  
37 6) UV Resistant  
38 7) Mirafi FW402 by Tencate, or approved equal
- 39 12. Concrete Encasement  
40 a. Conform to Section 03 30 00.

1 **2.3 ACCESSORIES [NOT USED]**

2 **2.4 SOURCE QUALITY CONTROL [NOT USED]**

3 **PART 3 - EXECUTION**

4 **3.1 INSTALLERS [NOT USED]**

5 **3.2 EXAMINATION**

6 A. Verification of Conditions

- 7 1. Review all known, identified or marked utilities, whether public or private, prior to  
8 excavation.
- 9 2. Locate and protect all known, identified and marked utilities or underground  
10 facilities as excavation progresses.
- 11 3. Notify all utility owners within the project limits 48 hours prior to beginning  
12 excavation.
- 13 4. The information and data shown in the Drawings with respect to utilities is  
14 approximate and based on record information or on physical appurtenances  
15 observed within the project limits.
- 16 5. Coordinate with the Owner(s) of underground facilities.
- 17 6. Immediately notify any utility owner of damages to underground facilities resulting  
18 from construction activities.
- 19 7. Repair any damages resulting from the construction activities.

20 B. Notify the City immediately of any changed condition that impacts excavation and  
21 installation of the proposed utility.

22 **3.3 PREPARATION**

23 A. Protection of In-Place Conditions

24 1. Pavement

- 25 a. Conduct activities in such a way that does not damage existing pavement that is  
26 designated to remain.

- 27 1) Where desired to move equipment not licensed for operation on public  
28 roads or across pavement, provide means to protect the pavement from all  
29 damage.

- 30 b. Repair or replace any pavement damaged due to the negligence of the  
31 contractor outside the limits designated for pavement removal at no additional  
32 cost to the City.

33 2. Drainage

- 34 a. Maintain positive drainage during construction and re-establish drainage for all  
35 swales and culverts affected by construction.

36 3. Trees

- 37 a. When operating outside of existing ROW, stake permanent and temporary  
38 construction easements.
- 39 b. Restrict all construction activities to the designated easements and ROW.
- 40 c. Flag and protect all trees designated to remain in accordance with Section 31 10  
41 00.

- d. Conduct excavation, embedment and backfill in a manner such that there is no damage to the tree canopy.
  - e. Prune or trim tree limbs as specifically allowed by the Drawings or as specifically allowed by the City.
    - 1) Pruning or trimming may only be accomplished with equipments specifically designed for tree pruning or trimming.
  - f. Remove trees specifically designated to be removed in the Drawings in accordance with Section 31 10 00.
4. Above ground Structures
- a. Protect all above ground structures adjacent to the construction.
  - b. Remove above ground structures designated for removal in the Drawings in accordance with Section 02 41 13
5. Traffic
- a. Maintain existing traffic, except as modified by the traffic control plan, and in accordance with Section 34 71 13.
  - b. Do not block access to driveways or alleys for extended periods of time unless:
    - 1) Alternative access has been provided
    - 2) Proper notification has been provided to the property owner or resident
    - 3) It is specifically allowed in the traffic control plan
  - c. Use traffic rated plates to maintain access until access is restored.
6. Traffic Signal – Poles, Mast Arms, Pull boxes, Detector loops
- a. Notify the City’s Transportation Management Division a minimum of 48 hours prior to any excavation that could impact the operations of an existing traffic signal.
  - b. Protect all traffic signal poles, mast arms, pull boxes, traffic cabinets, conduit and detector loops.
  - c. Immediately notify the City’s Transportation Management Division if any damage occurs to any component of the traffic signal due to the contractors activities.
  - d. Repair any damage to the traffic signal poles, mast arms, pull boxes, traffic cabinets, conduit and detector loops as a result of the construction activities.
7. Fences
- a. Protect all fences designated to remain.
  - b. Leave fence in the equal or better condition as prior to construction.

### 3.4 INSTALLATION

#### A. Excavation

- 1. Excavate to a depth indicated on the Drawings.
- 2. Trench excavations are defined as unclassified. No additional payment shall be granted for rock or other in-situ materials encountered in the trench.
- 3. Excavate to a width sufficient for laying the pipe in accordance with the Drawings and bracing in accordance with the Excavation Safety Plan.
- 4. The bottom of the excavation shall be firm and free from standing water.
  - a. Notify the City immediately if the water and/or the in-situ soils do not provide for a firm trench bottom.
  - b. The City will determine if any changes are required in the pipe foundation or bedding.

- 1           5. Unless otherwise permitted by the Drawings or by the City, the limits of the  
2 excavation shall not advance beyond the pipe placement so that the trench may be  
3 backfilled in the same day.
- 4           6. Over Excavation  
5           a. Fill over excavated areas with the specified bedding material as specified for  
6 the specific pipe to be installed.  
7           b. No additional payment will be made for over excavation or additional bedding  
8 material.
- 9           7. Unacceptable Backfill Materials  
10           a. In-situ soils classified as unacceptable backfill material shall be separated from  
11 acceptable backfill materials.  
12           b. If the unacceptable backfill material is to be blended in accordance with this  
13 Specification, then store material in a suitable location until the material is  
14 blended.  
15           c. Remove all unacceptable material from the project site that is not intended to be  
16 blended or modified.
- 17           8. Rock – No additional compensation will be paid for rock excavation or other  
18 changed field conditions.
- 19        B. Shoring, Sheet piling and Bracing  
20           1. Engage a Licensed Professional Engineer in the State of Texas to design a site  
21 specific excavation safety system in accordance with Federal and State  
22 requirements.  
23           2. Excavation protection systems shall be designed according to the space limitations  
24 as indicated in the Drawings.  
25           3. Furnish, put in place and maintain a trench safety system in accordance with the  
26 Excavation Safety Plan and required by Federal, State or local safety requirements.  
27           4. If soil or water conditions are encountered that are not addressed by the current  
28 Excavation Safety Plan, engage a Licensed Professional Engineer in the State of  
29 Texas to modify the Excavation Safety Plan and provide a revised submittal to the  
30 City.  
31           5. Do not allow soil, or water containing soil, to migrate through the Excavation  
32 Safety System in sufficient quantities to adversely affect the suitability of the  
33 Excavation Protection System. Movable bracing, shoring plates or trench boxes  
34 used to support the sides of the trench excavation shall not:  
35           a. Disturb the embedment located in the pipe zone or lower  
36           b. Alter the pipe's line and grade after the Excavation Protection System is  
37 removed  
38           c. Compromise the compaction of the embedment located below the spring line of  
39 the pipe and in the haunching
- 40        C. Water Control  
41           1. Surface Water  
42           a. Furnish all materials and equipment and perform all incidental work required to  
43 direct surface water away from the excavation.  
44           2. Ground Water  
45           a. Furnish all materials and equipment to dewater ground water by a method  
46 which preserves the undisturbed state of the subgrade soils.  
47           b. Do not allow the pipe to be submerged within 24 hours after placement.

- c. Do not allow water to flow over concrete until it has sufficiently cured.
- d. Engage a Licensed Engineer in the State of Texas to prepare a Ground Water Control Plan if any of the following conditions are encountered:
  - 1) A Ground Water Control Plan is specifically required by the Contract Documents
  - 2) If in the sole judgment of the City, ground water is so severe that an Engineered Ground Water Control Plan is required to protect the trench or the installation of the pipe which may include:
    - a) Ground water levels in the trench are unable to be maintained below the top of the bedding
    - b) A firm trench bottom cannot be maintained due to ground water
    - c) Ground water entering the excavation undermines the stability of the excavation.
    - d) Ground water entering the excavation is transporting unacceptable quantities of soils through the Excavation Safety System.
- e. In the event that there is no bid item for a Ground Water Control and the City requires an Engineered Ground Water Control Plan due to conditions discovered at the site, the contractor will be eligible to submit a change order.
- f. Control of ground water shall be considered subsidiary to the excavation when:
  - 1) No Ground Water Control Plan is specifically identified and required in the Contract Documents
- g. Ground Water Control Plan installation, operation and maintenance
  - 1) Furnish all materials and equipment necessary to implement, operate and maintain the Ground Water Control Plan.
  - 2) Once the excavation is complete, remove all ground water control equipment not called to be incorporated into the work.
- h. Water Disposal
  - 1) Dispose of ground water in accordance with City policy or Ordinance.
  - 2) Do not discharge ground water onto or across private property without written permission.
  - 3) Permission from the City is required prior to disposal into the Sanitary Sewer.
  - 4) Disposal shall not violate any Federal, State or local regulations.

#### D. Embedment and Pipe Placement

1. Water Lines less than, or equal to, 12 inches in diameter:
  - a. The entire embedment zone shall be of uniform material.
  - b. Utility sand shall be generally used for embedment.
  - c. If ground water is in sufficient quantity to cause sand to pump, then use crushed rock as embedment.
    - 1) If crushed rock is not specifically identified in the Contract Documents, then crushed rock shall be paid by the pre-bid unit price.
  - d. Place evenly spread bedding material on a firm trench bottom.
  - e. Provide firm, uniform bedding.
  - f. Place pipe on the bedding in accordance with the alignment of the Drawings.
  - g. In no case shall the top of the pipe be less than 42 inches from the surface of the proposed grade, unless specifically called for in the Drawings.
  - h. Place embedment, including initial backfill, to a minimum of 6 inches, but not more than 12 inches, above the pipe.

- 1 i. Where gate valves are present, the initial backfill shall extend to 6 inches above  
2 the elevation of the valve nut.
- 3 j. Form all blocking against undisturbed trench wall to the dimensions in the  
4 Drawings.
- 5 k. Compact embedment and initial backfill.
- 6 l. Place marker tape on top of the initial trench backfill in accordance with  
7 Section 33 05 26.
- 8 2. Water Lines 16-inches through 24-inches in diameter:
  - 9 a. The entire embedment zone shall be of uniform material.
  - 10 b. Utility sand may be used for embedment when the excavated trench depth is  
11 less than 15 feet deep.
  - 12 c. Crushed rock or fine crushed rock shall be used for embedment for excavated  
13 trench depths 15 feet, or greater.
  - 14 d. Crushed rock shall be used for embedment for steel pipe.
  - 15 e. Provide trench geotextile fabric at any location where crushed rock or fine  
16 crushed rock come into contact with utility sand
  - 17 f. Place evenly spread bedding material on a firm trench bottom.
  - 18 g. Provide firm, uniform bedding.
    - 19 1) Additional bedding may be required if ground water is present in the  
20 trench.
    - 21 2) If additional crushed rock is required not specifically identified in the  
22 Contract Documents, then crushed rock shall be paid by the pre-bid unit  
23 price.
  - 24 h. Place pipe on the bedding according to the alignment shown on the Drawings.
  - 25 i. The pipe line shall be within:
    - 26 1)  $\pm 3$  inches of the elevation on the Drawings for 16-inch and 24-inch water  
27 lines
  - 28 j. Place and compact embedment material to adequately support haunches in  
29 accordance with the pipe manufacturer's recommendations.
  - 30 k. Place remaining embedment including initial backfill to a minimum of 6 inches,  
31 but not more than 12 inches, above the pipe.
  - 32 l. Where gate valves are present, the initial backfill shall extend to up to the valve  
33 nut.
  - 34 m. Compact the embedment and initial backfill to 95 percent Standard Proctor  
35 ASTM D 698.
  - 36 n. Density test performed by a commercial testing firm approved by the City to  
37 verify that the compaction of embedment meets requirements.
  - 38 o. Place trench geotextile fabric on top of the initial backfill.
  - 39 p. Place marker tape on top of the trench geotextile fabric in accordance with  
40 Section 33 05 26.
- 41 3. Water Lines 30-inches and greater in diameter
  - 42 a. The entire embedment zone shall be of uniform material.
  - 43 b. Crushed rock shall be used for embedment.
  - 44 c. Provide trench geotextile fabric at any location where crushed rock or fine  
45 crushed rock come into contact with utility sand.
  - 46 d. Place evenly spread bedding material on a firm trench bottom.
  - 47 e. Provide firm, uniform bedding.
    - 48 1) Additional bedding may be required if ground water is present in the  
49 trench.

- 1                   2) If additional crushed rock is required which is not specifically identified in  
2                   the Contract Documents, then crushed rock shall be paid by the pre-bid unit  
3                   price.
- 4                   f. Place pipe on the bedding according to the alignment shown on the Drawings.  
5                   g. The pipe line shall be within:  
6                   1)  $\pm 1$  inch of the elevation on the Drawings for 30-inch and larger water lines  
7                   h. Place and compact embedment material to adequately support haunches in  
8                   accordance with the pipe manufacturer's recommendations.  
9                   i. For steel pipe greater than 30 inches in diameter, the initial embedment lift shall  
10                  not exceed the spring line prior to compaction.  
11                  j. Place remaining embedment, including initial backfill, to a minimum of 6  
12                  inches, but not more than 12 inches, above the pipe.  
13                  k. Where gate valves are present, the initial backfill shall extend to up to the valve  
14                  nut.  
15                  l. Compact the embedment and initial backfill to 95 percent Standard Proctor  
16                  ASTM D 698.  
17                  m. Density test may be performed by a commercial testing firm approved by the  
18                  City to verify that the compaction of embedment meets requirements.  
19                  n. Place trench geotextile fabric on top of the initial backfill.  
20                  o. Place marker tape on top of the trench geotextile fabric in accordance with  
21                  Section 33 05 26.
- 22                  4. Sanitary Sewer Lines and Storm Sewer Lines (HDPE)  
23                  a. The entire embedment zone shall be of uniform material.  
24                  b. Crushed rock shall be used for embedment.  
25                  c. Place evenly spread bedding material on a firm trench bottom.  
26                  d. Spread bedding so that lines and grades are maintained and that there are no  
27                  sags in the sanitary sewer pipe line.  
28                  e. Provide firm, uniform bedding.  
29                  1) Additional bedding may be required if ground water is present in the  
30                  trench.  
31                  2) If additional crushed rock is required which is not specifically identified in  
32                  the Contract Documents, then crushed rock shall be paid by the pre-bid unit  
33                  price.
- 34                  f. Place pipe on the bedding according to the alignment shown in the Drawings.  
35                  g. The pipe line shall be within  $\pm 0.1$  inches of the elevation, and be consistent  
36                  with the grade shown on the Drawings.  
37                  h. Place and compact embedment material to adequately support haunches in  
38                  accordance with the pipe manufacturer's recommendations.  
39                  i. For sewer lines greater than 30 inches in diameter, the embedment lift shall not  
40                  exceed the spring line prior to compaction.  
41                  j. Place remaining embedment including initial backfill to a minimum of 6 inches,  
42                  but not more than 12 inches, above the pipe.  
43                  k. Compact the embedment and initial backfill to 95 percent Standard Proctor  
44                  ASTM D 698.  
45                  l. Density test may be performed by a commercial testing firm approved by the  
46                  City to verify that the compaction of embedment meets requirements.  
47                  m. Place trench geotextile fabric on top of the initial backfill.  
48                  n. Place marker tape on top of the trench geotextile fabric in accordance with  
49                  Section 33 05 26.



- 1           5. Storm Sewer (RCP)
- 2           a. The bedding and the pipe zone up to the spring line shall be of uniform
- 3           material.
- 4           b. Crushed rock shall be used for embedment up to the spring line.
- 5           c. The specified backfill material may be used above the spring line.
- 6           d. Place evenly spread bedding material on a firm trench bottom.
- 7           e. Spread bedding so that lines and grades are maintained and that there are no
- 8           sags in the storm sewer pipe line.
- 9           f. Provide firm, uniform bedding.
- 10           1) Additional bedding may be required if ground water is present in the
- 11           trench.
- 12           2) If additional crushed rock is required which is not specifically identified in
- 13           the Contract Documents, then crushed rock shall be paid by the pre-bid unit
- 14           price.
- 15           g. Place pipe on the bedding according to the alignment of the Drawings.
- 16           h. The pipe line shall be within  $\pm 0.1$  inches of the elevation, and be consistent
- 17           with the grade, shown on the Drawings.
- 18           i. Place embedment material up to the spring line.
- 19           1) Place embedment to ensure that adequate support is obtained in the haunch.
- 20           j. Compact the embedment and initial backfill to 95 percent Standard Proctor
- 21           ASTM D 698.
- 22           k. Density test may be performed by a commercial testing firm approved by the
- 23           City to verify that the compaction of embedment meets requirements.
- 24           l. Place trench geotextile fabric on top of pipe and crushed rock.
- 25           6. Storm Sewer (PP - Polypropylene)
- 26           a. The entire embedment zone shall be of uniform material.
- 27           b. Crushed rock shall be used for embedment up to top of pipe.
- 28           c. Place evenly spread bedding material on a firm trench bottom.
- 29           d. Spread bedding so that lines and grades are maintained and that there are no sags
- 30           in the storm sewer pipe line.
- 31           e. Provide firm, uniform bedding.
- 32           1) Additional bedding may be required if ground water is present in the
- 33           trench.
- 34           2) If additional crushed rock is required which is not specifically
- 35           identified in the Contract Documents, then crushed rock shall be paid
- 36           by the pre-bid unit price.
- 37           f. Place pipe on the bedding according to the alignment shown in the Drawings.
- 38           g. The pipe line shall be within  $\pm 0.1$  inches of the elevation, and be consistent with
- 39           the grade shown on the Drawings.
- 40           h. Place and compact embedment material to adequately support haunches in
- 41           accordance with the pipe manufacturer's recommendations.
- 42           i. Compact the embedment and initial backfill to 95 percent Standard Proctor
- 43           ASTM D 698.
- 44           j. Density test may be performed by City to verify that the compaction of
- 45           embedment meets requirements.
- 46           k. Place trench geotextile fabric on top of the initial backfill.
- 47           7. Storm Sewer Reinforced Concrete Box
- 48           a. Crushed rock shall be used for bedding.
- 49           b. The pipe zone and the initial backfill shall be:

- 1) Crushed rock, or
  - 2) Acceptable backfill material compacted to 95 percent Standard Proctor density
  - c. Place evenly spread compacted bedding material on a firm trench bottom.
  - d. Spread bedding so that lines and grades are maintained and that there are no sags in the storm sewer pipe line.
  - e. Provide firm, uniform bedding.
    - 1) Additional bedding may be required if ground water is present in the trench.
    - 2) If additional crushed rock is required which is not specifically identified in the Contract Documents, then crushed rock shall be paid by the pre-bid unit price.
  - f. Fill the annular space between multiple boxes with crushed rock, CLSM according to 03 34 13.
  - g. Place pipe on the bedding according to the alignment of the Drawings.
  - h. The pipe shall be within  $\pm 0.1$  inches of the elevation, and be consistent with the grade, shown on the Drawings.
  - i. Compact the embedment initial backfill to 95 percent Standard Proctor ASTM D698.
8. Water Services (Less than 2 Inches in Diameter)
- a. The entire embedment zone shall be of uniform material.
  - b. Utility sand shall be generally used for embedment.
  - c. Place evenly spread bedding material on a firm trench bottom.
  - d. Provide firm, uniform bedding.
  - e. Place pipe on the bedding according to the alignment of the Plans.
  - f. Compact the initial backfill to 95 percent Standard Proctor ASTM D698.
9. Sanitary Sewer Services
- a. The entire embedment zone shall be of uniform material.
  - b. Crushed rock shall be used for embedment.
  - c. Place evenly spread bedding material on a firm trench bottom.
  - d. Spread bedding so that lines and grades are maintained and that there are no sags in the sanitary sewer pipe line.
  - e. Provide firm, uniform bedding.
    - 1) Additional bedding may be required if ground water is present in the trench.
    - 2) If additional crushed rock is required which is not specifically identified in the Contract Documents, then crushed rock shall be paid by the pre-bid unit price.
  - f. Place pipe on the bedding according to the alignment of the Drawings.
  - g. Place remaining embedment, including initial backfill, to a minimum of 6 inches, but not more than 12 inches, above the pipe.
  - h. Compact the initial backfill to 95 percent Standard Proctor ASTM D698.
  - i. Density test may be required to verify that the compaction meets the density requirements.
- E. Trench Backfill
1. At a minimum, place backfill in such a manner that the required in-place density and moisture content is obtained, and so that there will be no damage to the surface, pavement or structures due to any trench settlement or trench movement.

- 1 a. Meeting the requirement herein does not relieve the responsibility to damages  
2 associated with the Work.
- 3 2. Backfill Material
- 4 a. Final backfill (not under existing pavement or future pavement)
- 5 1) Backfill with:
- 6 a) Acceptable backfill material
- 7 b) Blended backfill material, or
- 8 c) Select backfill material, CSS, or CLSM when specifically required
- 9 b. Final backfill depth 15 feet or greater (under existing or future pavement)
- 10 1) Backfill depth from 0 to 15 feet deep
- 11 a) Backfill with:
- 12 (1) Acceptable backfill material
- 13 (2) Blended backfill material, or
- 14 (3) Select backfill material, CSS, or CLSM when specifically required
- 15 2) Backfill depth from 15 feet and greater
- 16 a) Backfill with:
- 17 (1) Select Fill
- 18 (2) CSS, or
- 19 (3) CLSM when specifically required
- 20 b)
- 21 c. Backfill for service lines:
- 22 1) Backfill for water or sewer service lines shall be the same as the  
23 requirement of the main that the service is connected to.
- 24 3. Required Compaction and Density
- 25 a. Final backfill (depths less than 15 feet/under existing or future pavement)
- 26 1) Compact acceptable backfill material, blended backfill material or select  
27 backfill to a minimum of 95 percent Standard Proctor per ASTM D698 at  
28 moisture content within -2 to +5 percent of the optimum moisture.
- 29 2) CSS or CLSM requires no compaction.
- 30 b. Final backfill (depths 15 feet and greater/under existing or future pavement)
- 31 1) Compact select backfill to a minimum of 98 percent Standard Proctor per  
32 ASTM D 698 at moisture content within -2 to +5 percent of the optimum  
33 moisture up to the final grade.
- 34 2) CSS or CLSM requires no compaction.
- 35 c. Final backfill (not under existing or future pavement)
- 36 1) Compact acceptable backfill material blended backfill material, or select  
37 backfill to a minimum of 95 percent Standard Proctor per ASTM D 698 at  
38 moisture content within -2 to +5 percent of the optimum moisture.
- 39 4. Saturated Soils
- 40 a. If in-situ soils consistently demonstrate that they are greater than 5 percent over  
41 optimum moisture content, the soils are considered saturated.
- 42 b. Flooding the trench or water jetting is strictly prohibited.
- 43 c. If saturated soils are identified in the Drawings or Geotechnical Report in the  
44 Appendix, Contractor shall proceed with Work following all backfill procedures  
45 outlined in the Drawings for areas of soil saturation greater than 5 percent.
- 46 d. If saturated soils are encountered during Work but not identified in Drawings or  
47 Geotechnical Report in the Appendix:
- 48 1) The Contractor shall:
- 49 a) Immediately notify the City.

- 1                                   b) Submit a Contract Claim for Extra Work associated with direction from  
2                                   City.
- 3                                   2) The City shall:
  - 4                                   a) Investigate soils and determine if Work can proceed in the identified  
5                                   location.
  - 6                                   b) Direct the Contractor of changed backfill procedures associated with  
7                                   the saturated soils that may include:
    - 8                                   (1) Imported backfill
    - 9                                   (2) A site specific backfill design
- 10                                  5. Placement of Backfill
  - 11                                  a. Use only compaction equipment specifically designed for compaction of a  
12                                  particular soil type and within the space and depth limitation experienced in the  
13                                  trench.
  - 14                                  b. Flooding the trench or water setting is strictly prohibited.
  - 15                                  c. Place in loose lifts not to exceed 12 inches.
  - 16                                  d. Compact to specified densities.
  - 17                                  e. Compact only on top of initial backfill, undisturbed trench or previously  
18                                  compacted backfill.
  - 19                                  f. Remove any loose materials due to the movement of any trench box or shoring  
20                                  or due to sloughing of the trench wall.
  - 21                                  g. Install appropriate tracking balls for water and sanitary sewer trenches in  
22                                  accordance with Section 33 05 26.
- 23                                  6. Backfill Means and Methods Demonstration
  - 24                                  a. Notify the City in writing with sufficient time for the City to obtain samples  
25                                  and perform standard proctor test in accordance with ASTM D698.
  - 26                                  b. The results of the standard proctor test must be received prior to beginning  
27                                  excavation.
  - 28                                  c. Upon commencing of backfill placement for the project the Contractor shall  
29                                  demonstrate means and methods to obtain the required densities.
  - 30                                  d. Demonstrate Means and Methods for compaction including:
    - 31                                  1) Depth of lifts for backfill which shall not exceed 12 inches
    - 32                                  2) Method of moisture control for excessively dry or wet backfill
    - 33                                  3) Placement and moving trench box, if used
    - 34                                  4) Compaction techniques in an open trench
    - 35                                  5) Compaction techniques around structure
  - 36                                  e. Provide a testing trench box to provide access to the recently backfilled  
37                                  material.
  - 38                                  f. The City will provide a qualified testing lab full time during this period to  
39                                  randomly test density and moisture content.
    - 40                                  1) The testing lab will provide results as available on the job site.
- 41                                  7. Varying Ground Conditions
  - 42                                  a. Notify the City of varying ground conditions and the need for additional  
43                                  proctors.
  - 44                                  b. Request additional proctors when soil conditions change.
  - 45                                  c. The City may acquire additional proctors at its discretion.
  - 46                                  d. Significant changes in soil conditions will require an additional Means and  
47                                  Methods demonstration.

1 **3.5 REPAIR [NOT USED]**

2 **3.6 RE-INSTALLATION [NOT USED]**

3 **3.7 FIELD QUALITY CONTROL**

4 A. Field Tests and Inspections

5 1. Proctors

- 6 a. The City will perform Proctors in accordance with ASTM D698.  
7 b. Test results will generally be available to within 4 calendar days and distributed  
8 to:  
9 1) Contractor  
10 2) City Project Manager  
11 3) City Inspector  
12 4) Engineer  
13 c. Notify the City if the characteristic of the soil changes.  
14 d. City will perform new proctors for varying soils:  
15 1) When indicated in the geotechnical investigation in the Appendix  
16 2) If notified by the Contractor  
17 3) At the convenience of the City  
18 e. Trenches where different soil types are present at different depths, the proctors  
19 shall be based on the mixture of those soils.

20 2. Density Testing of Backfill

- 21 a. Density Tests shall be in conformance with ASTM D2922.  
22 b. Provide a testing trench protection for trench depths in excess of 5 feet.  
23 c. Place, move and remove testing trench protection as necessary to facilitate all  
24 test conducted by the commercial testing firm approved by the City.  
25 d. The commercial testing lab will perform moisture/density test for every 200-ft  
26 or less of trench length, as measured along the length of the pipe. A minimum of  
27 one test shall be performed for every 2 vertical feet of compacted backfill  
28 material, independent of the contractor's lift thickness for compaction. Test  
29 locations shall be staggered within each lift so that successive lifts are not tested  
30 in the same location. A random number generator may be used to determine test  
31 locations. Moisture/density tests shall be performed at a depth not more than 2  
32 feet above the top of the pipe bedding and in 2-foot increments up to the final  
33 grade. The project inspector or project manager may request testing at an  
34 increased frequency and/or at specific locations.  
35 e. The contractor can proceed with subsequent earthwork only after test results for  
36 previously completed work comply with requirements. If the required  
37 compaction density has not been obtained, the backfill should be scarified and  
38 moistened or aerated, or removed to a depth required, and be replaced with  
39 approved backfill, and re-compacted to the specified density at the contractor's  
40 expense. In no case will excavation, pipe-laying, or other operation be allowed  
41 to proceed until the specified compaction is attained.  
42 f. The testing lab will provide results to Contractor and the City's Inspector upon  
43 completion of the testing.  
44 g. A formal report will be posted to the City's Accela (Developer Projects) and  
45 BIM 360 (City Projects) site within 48 hours.  
46 h. Test reports shall include:  
47 1) Location of test by station number

- 1                    2) Time and date of test
- 2                    3) Depth of testing
- 3                    4) Field moisture
- 4                    5) Dry density
- 5                    6) Proctor identifier
- 6                    7) Percent Proctor Density
- 7                    3. Density of Embedment
- 8                    a. Storm sewer boxes that are embedded with acceptable backfill material,
- 9                        blended backfill material, cement modified backfill material or select material
- 10                        will follow the same testing procedure as backfill.
- 11                    b. The City may test fine crushed rock or crushed rock embedment in accordance
- 12                        with ASTM D2922 or ASTM 1556.

13                    B. Non-Conforming Work

- 14                    1. All non-conforming work shall be removed and replaced.

15                    **3.8 SYSTEM STARTUP [NOT USED]**

16                    **3.9 ADJUSTING [NOT USED]**

17                    **3.10 CLEANING [NOT USED]**

18                    **3.11 CLOSEOUT ACTIVITIES [NOT USED]**

19                    **3.12 PROTECTION [NOT USED]**

20                    **3.13 MAINTENANCE [NOT USED]**

21                    **3.14 ATTACHMENTS [NOT USED]**

22                    **END OF SECTION**

Revision Log		
DATE	NAME	SUMMARY OF CHANGE
12/20/2012	D. Johnson	1.2 – Added Item for Concrete Encasement for Utility Lines Various Sections – Revised Depths to Include 15’ and greater 3.3.A – Additional notes for pavement protection and positive drainage. 3.4.E.2 – Added requirements for backfill of service lines. 3.4.E.5 – Added language prohibiting flooding of trench
6/18/2013	D. Johnson	1.2.A.3 – Clarified measurement and payment for concrete encasement as per plan quantity 2.2.A – Added language for concrete encasement
11/09/16	Z. Arega	2.2.A.1.d Modify gradation for sand material
2/26/2021	Z. Arega	2.2 A. 1. E. - Added reference to pre-approved list of sand sources for embedment; 3.3 A. 6. - Changed reference to Transportation Management Division; 3.4 - Provided clarification re: use of commercial testing firms approved by City and backfill requirements; and 3.7 A. 2. Provided clarification re: backfill testing requirements.

4/2/2021	M Owen	3.4 D. 6. Add requirements Storm Sewer (PP - Polypropylene)
----------	--------	---

1



# GEOTECHNICAL INVESTIGATION

## EAST BAILEY BOSWELL ROAD EXTENSION FORT WORTH, TEXAS

**AGG REPORT: DE19-317**

**DECEMBER 31, 2019**

*PREPARED FOR:*

**CRIADO & ASSOCIATES, INC.  
DALLAS, TEXAS**

*PRESENTED BY:*



Geotechnical Engineering – Construction Services – Construction Materials Engineering Testing  
3228 Halifax Street - Dallas, TX 75247 Ph. 972.444.8889 FX. 972.444.8893





- GEOTECHNICAL ENGINEERING
- ENVIRONMENTAL CONSULTING
- CONSTRUCTION MATERIALS ENGINEERING AND TESTING
- CONSTRUCTION INSPECTION

December 31, 2019

Ms. Kelly Moncrief, P.E.  
Senior Project Manager  
Criado & Associates, Inc.  
4100 Spring Valley Road, Suite 1001  
Dallas, Texas 75244

E-mail: [kmoncrief@craidoassociates.com](mailto:kmoncrief@craidoassociates.com)  
Phone: (469) 547-6076

Re: Geotechnical Investigation  
East Bailey Boswell Road Extension  
Fort Worth, Texas  
AGG Project No.: DE19-317

Dear Ms. Moncrief:

Please find enclosed our report summarizing the results of the geotechnical investigation performed at the above referenced project. We trust the recommendations derived from this investigation will provide you with the information necessary to complete your proposed project successfully.

For your future construction materials testing and related quality control requirements, it is recommended that the work be performed by Alliance Geotechnical Group, Inc. in order to maintain continuity of inspection and testing services for the project under the direction of the Geotechnical Project Engineer.

We thank you for the opportunity to provide you with our professional services. If we can be of further assistance, please do not hesitate to contact us.

Sincerely,

**ALLIANCE GEOTECHNICAL GROUP**

  
Francis Mbogning, P.E.  
Project Engineer



  
Michael D. Roland, P.E.  
Vice President

## TABLE OF CONTENTS

	PAGE
1.0 INTRODUCTION .....	1
1.1 PROJECT DESCRIPTION .....	1
1.2 PURPOSE AND SCOPE .....	1
2.0 FIELD INVESTIGATION .....	2
3.0 LABORATORY TESTING .....	3
4.0 SITE AND SUBSURFACE CONDITIONS .....	3
4.1 GENERAL SITE CONDITIONS .....	3
4.2 GENERAL SUBSURFACE CONDITIONS .....	3
4.3 GROUNDWATER CONDITIONS .....	4
4.4 SITE GEOLOGY .....	4
4.5 SIESMIC SITE CLASS .....	4
5.0 ANALYSES AND RECOMMENDATIONS .....	5
5.1 SOIL MOVEMENT .....	5
5.2 EXISTING FILL SOILS .....	5
5.3 STRAIGHT SHAFT FOUNDATION SYSTEM .....	5
5.3.1 DRILLED SHAFT SOIL INDUCED UPLIFT LOADS .....	7
5.3.2 LATERALLY LOADED PIERS .....	7
5.3.3 DRILLED SHAFT CONSTRUCTION CONSIDERATIONS .....	9
5.3.4 GRADE BEAMS / ABUTMENTS .....	10
5.4 BRIDGE APPROACH SLABS .....	11
6.0 RETAINING WALL FOUNDATION SYSTEMS .....	14
6.1 SITE PREPARATION WORK .....	16
6.2 RETAINING WALL RECOMMENDATIONS .....	17
6.3 RETAINING WALL BACKFILL .....	18
6.4 GLOBAL STABILITY ANALYSIS .....	19
7.0 PAVEMENT RECOMMENDATIONS .....	19
7.1 SOIL MOVEMENTS .....	19
7.2 OPTIONAL SITE MODIFICATION TO REDUCE SOIL MOVEMENTS .....	20
7.3 EXISTING FILL SOILS .....	20
7.4 PROOFROLLING AND FILL PLACEMENT .....	21
7.5 SITE GRADING AND DRAINAGE .....	21
7.6 STABILIZATION WITH HYDRATED LIME .....	22
7.7 CRUSHED CONCRETE BASE .....	23
7.8 PAVEMENT ANALYSES AND SECTION RECOMMENDATIONS .....	24
7.9 PAVEMENT CONSIDERATIONS .....	26
8.0 TREE EFFECTS .....	26
9.0 FIELD SUPERVISION AND DENSITY TESTING .....	27
10.0 LIMITATIONS .....	27

**FIGURES**

	<b>FIGURE</b>
PLANS OF BORINGS -----	1A & 1B
LOGS OF BORINGS-----	2 thru 21
LEGEND - KEY TO LOG TERMS & SYMBOLS -----	22
SWELL TEST RESULTS -----	23
LIME / ATTERBERG SERIES RESULTS-----	24
DIRECT SHEAR TEST RESULTS -----	25

**APPENDICES**

MEASURES TO MINIMIZE SOIL SWELL MOVEMENTS -----	APPENDIX A
SLOPE STABILITY ANALYSES .....	APPENDIX B

**GEOTECHNICAL INVESTIGATION  
EAST BAILEY BOSWELL ROAD EXTENSION  
FORT WORTH, TEXAS**

**1.0 INTRODUCTION**

**1.1 PROJECT DESCRIPTION**

The project consists of a new roadway extension of E. Bailey Boswell Road in Fort Worth, Texas. We understand that the new roadway will connect Blue Mound Road and US 81. We understand that the new road will consist of reinforced concrete pavement and will consist of two proposed bridge crossings.

One bridge will be about 500 feet in length and will cross over Big Fossil Creek. The other bridge will be about 200 feet in length and will cross over an existing stream that is present between Pepperidge Lane and Ponwar Drive. Big Fossil Creek is about 10 feet deep at the proposed alignment. There is a large elevation change that occurs near Big Fossil Creek. The adjacent ground on the east side of this creek is about 20 feet higher in elevation than the adjacent ground on the west side of this creek.

In addition, several short retaining walls are anticipated to be required along this proposed roadway alignment. The proposed retaining walls will consist of both cut and fill walls. The fill walls will have maximum heights of 8 feet and the cut walls will have maximum heights of 5 feet. We understand that conventional concrete reinforced gravity walls are anticipated for these short retaining walls.

Based upon traffic studies performed by others for the proposed roadway, it is anticipated that the proposed roadway after construction will have 23,800 average vehicles per day. We also understand that 2.4% truck traffic is anticipated.

**1.2 PURPOSE AND SCOPE**

The purposes of this geotechnical investigation were to: 1) explore the subsurface conditions at the site, 2) evaluate the pertinent engineering properties of the subsurface materials, 3) provide foundation recommendations for the proposed new bridge structures, 4) provide recommendations for short retaining walls, 5) provide pavement subgrade stabilization and concrete pavement thickness recommendations, and 6) provide comments and recommendations for site grading and drainage. This report was prepared in general

accordance with Alliance Geotechnical Group's Proposal P18-1043E dated October 26, 2018.

## **2.0 FIELD INVESTIGATION**

As requested, the field investigation consisted of drilling a total of nineteen (19) test borings. Four (4) bridge borings (B-1 thru B-4) were advanced until at least 15 feet of unweathered rock was penetrated to termination depths of 30 feet below the existing ground surface. Three (3) retaining wall borings (RW-1 thru RW-3) were advanced to depths ranging from 15 to 40 feet below the existing ground surface. Twelve (12) pavement borings (P-1 thru P-12) were advanced to depths of 10 feet below the existing ground surface. The borings were located at the approximate locations shown on the Plans of Borings (Figures 1A & 1B).

Both truck mounted and ATV buggy drilling rigs were used to advance the borings and to obtain samples for laboratory evaluation. The test borings were backfilled with soil cuttings upon drilling completion.

Undisturbed samples of cohesive soils were obtained at intermittent intervals with standard, thin-walled, seamless tube samplers. These samples were extruded in the field, logged, sealed, and packaged to protect them from disturbance and maintain their in-situ moisture content during transportation to our laboratory.

The relative density of the overburden soils encountered in the borings was evaluated by the Standard Penetration test in conjunction with split spoon sampling. The Standard Penetration tests involves driving a standard 2 inch diameter sampler a total of eighteen inches and recording the blow counts and driving distances for each 6 inch or 50 blow increment. The first 6 inch drive is for seating purposes. The results of the Standard Penetration tests are recorded at the respective testing depths on the Logs of Borings.

The rock encountered in the test borings were evaluated by the Texas Department of Transportation Penetrometer (TxDOT Cone) tests. The TxDOT Cone is driven with the resulting penetration in inches recorded for 100 blows. The results of the TxDOT Cone test are recorded at the respective testing depths on the Logs of Borings.

The results of the boring program are presented on the Logs of Borings, Figures 2 thru 21. A key to the descriptive terms and symbols used on the log is presented on Figure 22.

### **3.0 LABORATORY TESTING**

Laboratory tests were performed on representative samples of the soil to aid in classification of the soil materials. These tests included Atterberg limits tests, percent passing #200 sieve, moisture content tests, and unit weight determinations. Hand penetrometer tests were performed on the clay soil samples to provide indications of the swell potential and the foundation bearing properties of the subsurface strata. Unconfined compression strength testing was performed on selected cohesive soil samples in order to provided foundation bearing properties.

To provide additional information about the swell characteristics of these soils at their in-situ moisture conditions, absorption swell tests were performed on selected samples of the clay soils. In order to determine the optimum amount of hydrated lime for stabilization, a lime / Atterberg limits series test was performed on a selected soil sample. To assist with the slope stability analyses, a direct shear test was performed on a selected soil sample. The results of our testing program are presented on the Logs of Borings (Figures 2 and 21), on the Swell Test Results (Figure 23), on the Lime Series Results (Figure 24), and on the Direct Shear Test Results (Figure 25).

### **4.0 SITE AND SUBSURFACE CONDITIONS**

#### **4.1 GENERAL SITE CONDITIONS**

The project consists of a new roadway extension of E. Bailey Boswell Road in Fort Worth, Texas. We understand that the new roadway will connect Blue Mound Road and US 81. The proposed alignment extends over undeveloped property and will cross over Big Fossil Creek. See Plans of Borings (Figures 1A & 1B) for site location, proposed alignment and aerial views.

#### **4.2 GENERAL SUBSURFACE CONDITIONS**

Subsurface conditions encountered in the borings, including descriptions of the various strata and their depths and thicknesses, are presented on the Boring Logs (Figures 2 thru 21). Note that depth on all borings refers to the depth from the existing grade or ground surface present at the time of the investigation. Boundaries between the various soil types are approximate.

### **4.3 GROUNDWATER CONDITIONS**

The borings were advanced using continuous flight auger methods. Advancement of the borings using these methods allows observation of the initial zones of seepage. Groundwater was generally not encountered within the test borings. However, shallow groundwater levels were encountered within the two farthest test borings to the west (Borings B-1 and RW-1). Groundwater was encountered within these two test borings at depths ranging from 4 to 7 feet below the existing ground surface. Shallow groundwater levels should be anticipated in all areas if construction occurs after periods of rain and/or when the water level within Big Fossil Creek is elevated.

It is not possible to accurately predict the magnitude of subsurface water fluctuations that might occur based upon short-term observations. The subsurface water conditions are subject to change with variations in climatic conditions and are functions of subsurface soil conditions, and rainfall.

### **4.4 SITE GEOLOGY**

As shown on the Geologic Atlas of Texas, the majority of the proposed alignment is located in an area underlain by the Pawpaw Formation, Weno Limestone and Denton Clay undivided. The Pawpaw formation typically consists of claystone, mudstone, and sandstone. The Weno Limestone typically consists of limestone with alternating clay layers. The Denton Clay typically consists of alternating layers of clay, marl and limestone.

The western end of the proposed alignment is located in an area underlain by the Fort Worth Limestone and Duck Creek formation. The Fort Worth Limestone typically consists of limestone with alternating clay layers. The Duck Creek Formation typically consists of limestone.

**Note:** Soils derived from these formations typically consist of plastic clays exhibiting a high shrink/swell potential with variations in moisture content.

### **4.5 SEISMIC SITE CLASS**

The International Building Code (IBC) was reviewed to determine the seismic site class of the subject property. In accordance to Table 1615.1.1 of the IBC, the subject site has a seismic site class of C for a very dense soil/soft rock profile.

## **5.0 ANALYSES AND RECOMMENDATIONS**

### **5.1 SOIL MOVEMENT**

The subsurface exploration revealed the presence of expansive clay soils over limestone. Potential upward soil swell movements calculations were performed using swell test results, pocket penetrometer readings, and moisture content tests to estimate the swell potential of the soil. Potential upward soil swell movement values based upon the current soil moisture conditions and current grades have been estimated to be on the order of 2 to 3 inches at the bridge abutments. In a dry condition, the potential upward soil swell movements will be on the order of 4 to over 5+ inches at the bridge abutments. The potential upward soil swell movements typically currently range from 6 to over 8+ inches along the proposed roadway and short retaining wall alignments.

### **5.2 EXISTING FILL SOILS**

Existing fill soils were encountered within about half of the test borings. The existing fill soils extended to depths of up to 7 feet below the existing ground surface at these test boring locations. If the existing fill soils were placed in an uncontrolled manner without engineering supervision and without moisture / compaction verification of each fill lift, some settlement should be anticipated for slabs, pavements, retaining walls and flatwork placed over existing uncontrolled fill soils.

### **5.3 STRAIGHT SHAFT FOUNDATION SYSTEM**

The bridge structures should be supported by straight sided continuously reinforced drilled shaft piers founded in the hard to very hard gray unweathered shaley limestone stratum. The hard to very hard gray shaley unweathered limestone was first encountered at depths ranging from 12 to 13 feet below the existing ground surface at the bridge boring locations.

It should be recognized that the depth to the hard to very hard gray unweathered shaley limestone near Big Fossil Creek will be deeper due to creek erosion and weathering of the bedrock. Design penetrations into the hard to very hard gray unweathered shaley limestone should not be counted on above a line extending from the anticipated creek scour depth to the ground surface along a 3 (H):1 (V) slope.

The allowable end bearing pressure and side resistance pressures are provided in Table 1 and have been developed based on the assumption that a minimum 2 pier diameter clear spacing will be provided between piers. For piers touching, a 50% reduction in skin friction



should be used. Where the clear spacing is 2D, no reduction is necessary. For a spacing between 0 and 2D, a straight line interpolation should be used.

The skin friction values provided are for compression loading and for resistance to soil swell uplift. For other tension loads (sustained uplift and wind uplift), the allowable skin friction is 50% of the value indicated above.

These foundations should be subject to settlements of one-half inch. Differential settlements should be on the order of one-quarter inch.

**TABLE 1. ALLOWABLE BEARING VALUES**

SHAFT LOADING TYPE	BEARING STRATA
	HARD TO VERY HARD GRAY UNWEATHERED SHALEY LIMESTONE
Axial End Bearing	30,000 psf **
Skin Friction Side Resistance	5,000 psf *

\* For penetrations into hard to very hard gray unweathered shaley limestone exceeding 2 feet as verified by the AGG geotechnical team. The skin friction values provided are for compression loading and for resistance to soil swell uplift. For other tension loads (sustained uplift), the allowable skin friction is 50% of the value indicated above. All pier penetrations below temporary casing may be counted on for resistance to soil swell uplift.

\*\*A minimum 5 feet or 2 pier diameters into hard to very hard gray unweathered shaley limestone (whichever is greater) is recommended to develop the allowable end bearing pressure. Larger penetrations may be required to resist soil swell uplift and for axial loading. Penetrations into gray weathered shaley limestone (identified by iron staining or tan colored seams) should not be counted on for the design penetrations during pier installations. The design penetrations should be counted on only for penetrations into continuous hard to very hard gray unweathered shaley limestone below any temporary casing. Design penetrations should not be counted on within the cased length. Penetrations made beneath the casing should match the size of the design shaft diameter.

**Note 1:** We recommend than an AGG Geotechnical Engineer be present at the start of the drill pier operations in order to identify the proper bearing stratum to field personnel.

**Note 2:** A minimum shaft diameter of 18 inches should be used for the straight shaft piers. In addition, we recommend that a maximum length to diameter ratio of 30 be used for design of the drilled shafts.

### 5.3.1 DRILLED SHAFT SOIL INDUCED UPLIFT LOADS

All piers will be subject to uplift loads as a result of swelling within the overlying clays. Straight shafts should be designed by the Structural Engineer with adequate penetration lengths in order to have sufficient anchorage in resisting uplift forces generated by soil swelling. The piers should have sufficient continuous vertical reinforcing steel extending to the bottom of the piers to resist the computed net uplift loads (uplift less dead load).

The magnitude of the uplift loads varies with the shaft diameter, soil parameters, free water sources, and the depth of the active clays acting on the shaft. The uplift pressures can be approximated at this site by assuming a uniform uplift pressure of 2,500 pounds per square foot acting on the shaft perimeter for a depth of 10 feet.

### 5.3.2 LATERALLY LOADED PIERS

For evaluating shaft deflections, L-Pile parameters for each soil and rock strata are provided below for individual laterally loaded drilled shafts. The parameters indicated above and below do not include reductions related to group effects (see Note 2 below).

**Neglect passive resistance within upper 10 feet below finish grade or 10 feet below top of pier, whichever is deeper.**

**For alternating layers of hard to very hard tan weathered LIMESTONE and CLAY below 10 feet neglect depth**

Water Level Condition	Material Type for L-Pile	Undrained Cohesion (psf)	Total Soil Unit Weight (pcf)	Strain Factor $E_{50}$	Static Horizontal Modulus of Subgrade Reaction, k (pci)
Above Water	Stiff Clay without Free Water	5,000	120.0	0.004	800
Below Water	Stiff Clay with Free Water	5,000	58.0	0.004	800

Design Parameter	Design Values
	Hard to Very Hard Unweathered Gray Shaley Limestone w/ shale seams
Material Type	Weak Rock
Effective Unit Weight, pcf	140.0 above water 78.0 below water
Young's Modulus, psi	20,000
Uniaxial Compressive Strength (PSF)	30,000
Rock Quality Index (RQD, %)	85
Stiffness Constant (Km)	0.0004

**Note 1:** Groundwater seepage was encountered at a depth of 7 feet below the existing ground surface during drilling of Boring B-1. The condition consisting of shallow groundwater levels in all areas should also be evaluated during design.

**Note 2:** Reduction factors must be applied to account for group effects for laterally loaded piers. If the center to center spacing is less than 7D for laterally loaded piers, then an L-Pile study using the Ensoft Group Pile Program would be required to determine the appropriate reduction factors that must be applied for laterally loaded piers. Alliance Geotechnical Group should be retained to work with the Structural Engineer in performing the Group Pile Analyses, if required. This includes group effects in the direction of loading, side by side effects, and effects in skewed directions. Otherwise, the Structural Engineer could use the information in the below paragraphs to conservatively approximate reductions for group effects.

In order to determine the appropriate reduction for group effects of a pier in a group, the reduction for side by side effects ( $R_{SS}$ ), the reduction for in-line loading effects ( $R_{IL}$ ), and the reduction for skewed effects ( $R_{SK}$ ) will need to be determined for each adjacent pier and multiplied together to determine the reduction factor for the subject pier in the group. The reduction for in-line loading effects ( $R_{IL}$ ) will consist of either leading pier ( $R_{LP}$ ) or trailing pier ( $R_{TP}$ ). Each of these reductions should be determined as recommended below.

Reduction due to Side by Side effects ( $R_{SS}$ )

For 1D center to center spacing (piers touching), 64% of the lateral resistance should be used. Where the center to center spacing is 4D, no reduction is necessary. For a spacing between 1D and 4D, a straight line interpolation should be used.

Reduction due to Leading Pier ( $R_{LP}$ )

For 1D center to center spacing (piers touching), 70% of the lateral resistance should be used. Where the center to center spacing is 4D, no reduction is necessary. For a spacing between 1D and 4D, a straight line interpolation should be used.

#### Reduction due to Trailing Pier ( $R_{TP}$ )

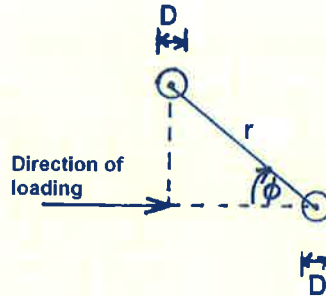
For 1D center to center spacing (piers touching), 47% of the lateral resistance should be used. Where the center to center spacing is 4D, 80% of the lateral resistance should be used. For a spacing between 1D and 4D, a straight line interpolation should be used between the 47% to 80% of lateral resistance. Where the center to center spacing is 7D, no reduction is necessary. For a spacing between 4D and 7D, a straight line interpolation should be used between the 80% and 100% of lateral resistance.

#### Reduction due to Skewed Pier ( $R_{SK}$ )

The reduction factor for skewed piers (piers neither side-by-side or in line with the direction of loading) should be determined by the below formula.

$$R_{SK} = (R_{IL}^2 \cos^2 \phi + R_{SS}^2 \sin^2 \phi)^{1/2}$$

The reduction for in-line loading effects ( $R_{IL}$ ) will consist of either leading pier ( $R_{LP}$ ) or trailing pier ( $R_{TP}$ ) whichever one is applicable to the loading direction. The center to center spacing is based upon  $r/D$  and  $\phi$  (where  $\phi$  is the angle between the direction of loading and the line between the piers as shown in the detail below).



**Note 3:** For all of the above reduction factors, if different size piers are used in a group, D used in the above formulas should be the largest pier diameter in the group.

### 5.3.3 DRILLED SHAFT CONSTRUCTION CONSIDERATIONS

Groundwater was generally not encountered within the test borings. However, shallow groundwater levels were encountered within the two farthest test borings to the west (Borings B-1 and RW-1) at depths ranging from 4 to 7 feet below the existing ground surface. Therefore, temporary casing is anticipated to be required for some of the piers. However, if only minor water seepage occurs, the pier steel and concrete could be placed

immediately without the use of temporary casing as verified by AGG. Temporary casing is required if excessive groundwater infiltration or caving soils are encountered. Temporary casing should be properly seated and sealed within the hard to very hard gray unweathered shaley limestone to prevent seepage into the drilled shaft excavation. Care must be taken that a sufficient head of plastic concrete is maintained within the casing during extraction.

Concrete used for the shafts should have a slump of 4 to 6 inches and placed in a manner to avoid striking the reinforcing steel and walls of the shaft during placement. If temporary casing is required, the concrete slump should be increased to 6 to 8 inches. Complete installation of individual shafts should be accomplished within an 8-hour period in order to help prevent deterioration of bearing surfaces. The drilling of individual shafts should be excavated in a continuous operation and concrete placed as soon as practical after completion of the drilling. No shaft should be left open for more than 8 hours.

We recommend that Alliance Geotechnical Group be retained to observe and document the drilled pier construction. The engineer, or his representative, should document the shaft diameter, penetration, depth, casing installations and extractions, cleanliness, plumbness of the shaft, and the type of bearing material. Significant deviations from the specified or anticipated conditions should be reported to the owner's representative and to the structural engineer. The drilled pier excavation should be observed to verify the bottom of the excavation is dry and thoroughly cleaned of cuttings after completion.

**Note:** "Mushrooming" should not be allowed around piers, pier caps or grade beams.

#### **5.3.4 GRADE BEAMS / ABUTMENTS**

Grade beams, wing walls, abutments and pier caps supported by straight shaft piers should be constructed over a void space. We recommend that a minimum 8 inch void space with permanent retainer forms be considered beneath any pier supported grade beams, strap beams, wing walls, or abutment wall. For heavily loaded walls where contact bearing pressure is greater than the swell pressure of the clay soils, carton forms are not required. The clay pressure swell is estimated range from 10,000 to 12,000 psf for dry conditions. Structural cardboard forms are one acceptable means of providing this void beneath these members. Care must be exercised during concrete placement to avoid collapsing the cardboard void boxes. The cardboard carton forms should not be allowed to become wet or crushed prior to concrete placement. Permanent earth retainer forms should be used. "Mushrooming" should not be allowed around piers, pier caps or grade beams.

The exterior portions of the grade beams along the perimeter of the structure should be carefully backfilled with on-site clayey soils unless specified otherwise below. The backfill soils should be placed at a moisture content between +1% and +4% above optimum. The fill should be compacted to 95 percent of maximum dry density as determined in accordance with ASTM D-698 (Standard Proctor).

#### **5.4 BRIDGE APPROACH SLABS**

The subsurface exploration revealed the presence of expansive clay soils at the bridge sites. In a dry condition, the potential upward soil swell movements will be on the order of 4 to over 5+ inches at the bridge abutments based upon existing grades. However, the grades are being elevated for 3 of the 4 bridge abutments. The grades are being raised about 10 feet for the Big Fossil Creek Bridge west abutment but no filling is anticipated at the Big Fossil Creek Bridge east abutment. The grades are being raised 7 to 10 feet at the abutments for the Stream Crossing Bridge. The potential soil swell movements at the bridge approach slabs that are receiving 7 to 10 feet of fill will be dependent on the material used and the moisture conditioning used for the embankment fills. If cement stabilized backfill (CSB) and/or flowable fill is used for these abutments (as recommended below), the potential soil swell movements should be reduced to on the order of 2 inches at the abutments.

The potential soil swell movements at the proposed west abutment of Big Fossil Creek Bridge will be dependent on the moisture condition of the clay soils at the time of construction. Potential soil swell movement values based upon dry moisture conditions and current grades has been estimated to be over 5+ inches. In order to reduce the potential soil swell movements at this abutment, consideration should be given to over-excavating the clay soils and replacing with CSB and/or flowable fill.

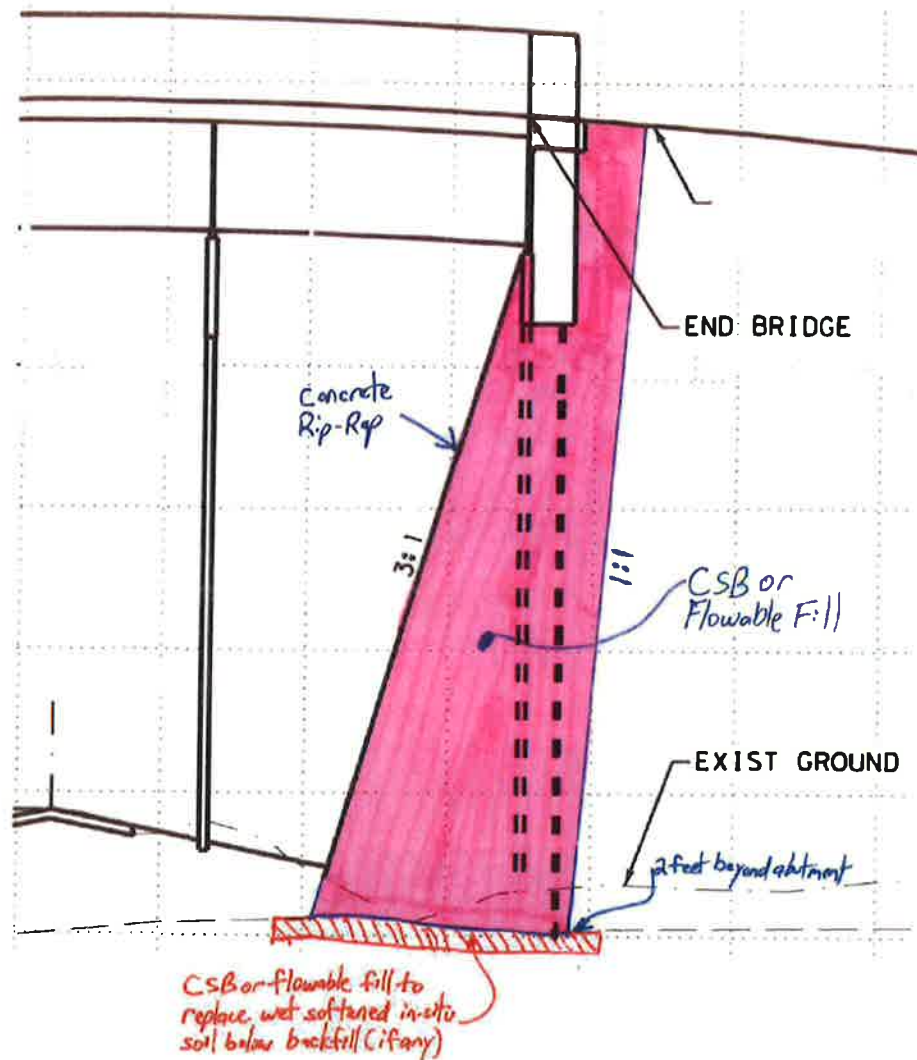
Provisions should be made for post-construction differential upward movement of the bridge approaches. Site grading plans should include provisions for the effects of soil swell movements and settlements on adjacent flatwork and all pavement slabs. Differential upward movement of all ground-supported slabs should be anticipated and considered during the design of the grading plan including the bridge approach slabs.

Significant filling (7 to 10 feet) is required for most of the bridge abutments. In addition to heaving due to soil swelling, differential settlements will potentially occur due to consolidation of the embankment fill soil. If native clay soils are used as embankment fill and compacted in 8 inch loose lifts, settlements of the clay embankment fill would be on the order of 1% of the fill height. Minimal settlements should be anticipated where the embankment fill consists of CSB and/or flowable fill.

Also, additional settlement is anticipated due to consolidation of the existing in-situ clay and fill soils that would be supporting the embankment fills. The magnitude of additional settlement caused by consolidation of the in-situ soil below the deep fill will depend upon the moisture condition at the time of construction. At the time of the geotechnical investigation (early December 2019), the clay soils were in an average to dry moisture condition and were very stiff to hard. In this condition, additional future settlements would be on the order of about 1 inch. If the upper soils are wet and softer at the time of construction (after periods of rain), additional settlements could be over 4+ inches. These settlements should be anticipated below pavement approach slabs and below sloped concrete rip-rap around the abutments.

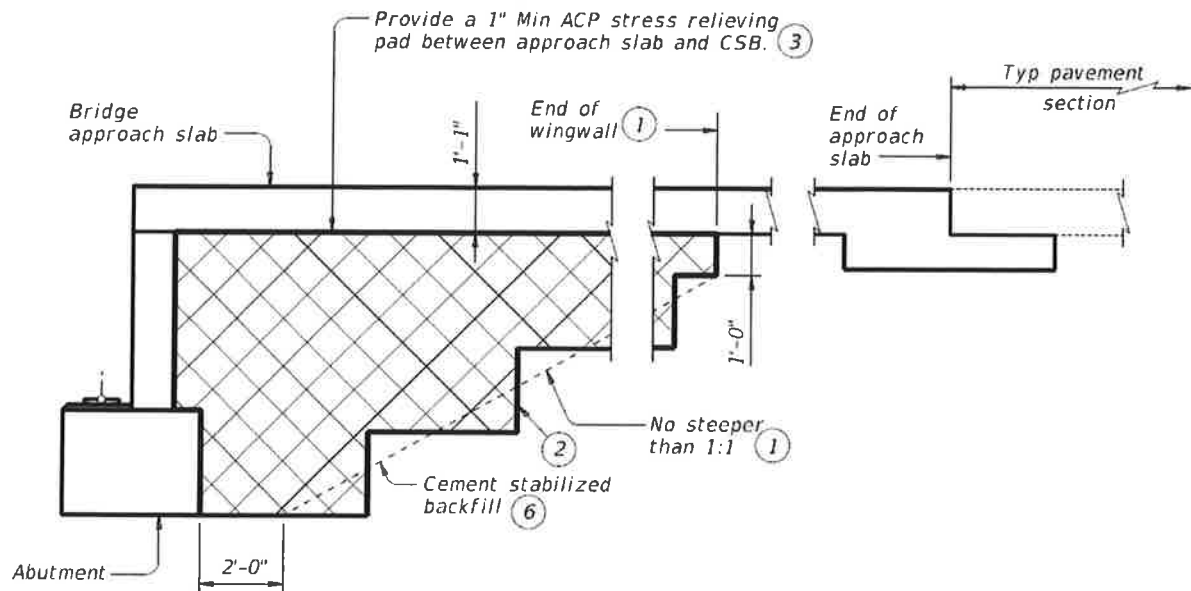
Due to concerns associated with differential movement around the bridge abutments, we recommend that all backfill around the abutments consist of cement stabilized backfill (CSB) and/or flowable fill. The CSB and/or flowable fill should have a minimum compressive strength of 300 psi at 7 days. These materials should be tested prior to placement and tested during construction. We recommend that a hinged transition approach slab be considered in order to minimize the effects of differential movements at the bridges (see below).

As a minimum, the CSB and/or flowable fill should extend 2 feet beyond the abutments and then extend upwards on slopes no steeper than 1H:1V to the bridge approach slabs. The CSB and/or flowable fill and hinged transition approach slabs should be placed in accordance with TxDOT Standard Sheet CSAB. The CSB and/or flowable fill should also be placed below any sloped concrete rip-rap at the abutments. A schematic of the required CSB / flowable fill placement adjacent to the abutment is shown below.



Prior to placement of the CSB and/or flowable fill, the existing subgrade soils should be probed and tested by a qualified Geotechnical Engineer. All wet and softened in-situ soil identified should be removed to limits of 5 feet beyond the backfill limits until drier very stiff to hard clay soils are encountered as verified by a qualified Geotechnical Engineer. This softened soil should be replaced with CSB and/or flowable fill. If CSB and/or flowable fill is used as backfill (and is used to replace wet softened soil as described above) and hinged transition approach slabs per the TxDOT CSAB detail (shown below) is used, then potential for differential ground movements at the bridge approach slabs and below the sloped concrete rip-rap should be minimized.

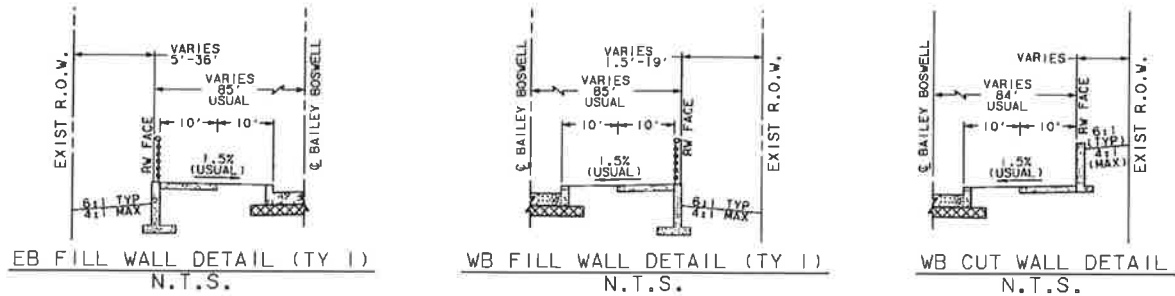




The same requirements apply to sloped embankments to be armored with concrete rip-rap. It is imperative that all cracks and joints in the pavement and around the concrete rip-rap be sealed and maintained by routine sealing in order to minimize water migration and resulting settlement caused by hydro-compaction and settlement caused by erosion associated with long term water migration below the approach slabs and below sloped embankments covered with concrete rip-rap. It is also imperative that positive drainage be provided along the pavement edges to prevent ponding.

## 6.0 RETAINING WALL FOUNDATION SYSTEMS

Several short retaining walls are anticipated to be required along this proposed roadway alignment. The proposed retaining walls will consist of both cut and fill walls. The fill walls will have maximum heights of 8 feet and the cut walls will have maximum heights of 5 feet. We understand that conventional concrete reinforced gravity walls are anticipated for these short retaining walls. We understand that flat grades will occur beyond the top of the fill walls and that grades beyond the toe of the fill walls will typically be 6H:1V or flatter but will occasionally be as steep as 4H:1V. We understand that flat grades will occur beyond the toe of the cut walls and that grades beyond the top of the cut walls will typically be 6H:1V or flatter but will occasionally be as steep as 4H:1V. See the below current details for the proposed retaining walls.



Retaining walls supported by shallow footings at this site could be subject to large differential soil swell upward movements (6 to over 8+ inches). See Section 5.1 of this report. Cracking of concrete retaining walls (supported by shallow footings) will occur due to differential soil movements. The retaining walls could be supported by straight shaft piers founded in hard to very hard gray shaley limestone in conjunction with void spaces beneath the retaining walls if it is desired to minimize wall movements. These recommendations could be provided upon request. Additional deeper test borings would be required along the retaining wall alignments.

If the retaining walls can be designed to accommodate large differential shrink/swell movements, shallow footing systems could be used to support the retaining walls as long as existing fill soils are over-excavated and recompacted. The retaining wall footings should be founded at depths of at least 2 feet below final grade on very stiff to hard clay soils, calcareous clay soils and/or firm severely weathered limestone. Where existing fill soils are present at base of footing, the existing fill soils should be over-excavated until very stiff to hard natural clay soils are encountered and then backfilled with onsite clay soils in 8 inch lifts. The backfill should be compacted to a minimum of 98 percent of ASTM D 698 at -1% to +2% of its optimum moisture content. The over-excavation of existing fill soils and replacement with on-site clay soils should extend at least 3 feet or 1D beyond the edges of the retaining wall footings, whichever is greater (where D is the required depth of over-excavation).

**Note 1:** The base of the footings should be inspected by a qualified Geotechnical Engineer to verify that all existing fill soils have been removed prior to filling.

**Note 2:** In order to reduce cracking of concrete walls (supported by shallow footings), full height joints should be provided along the walls.

## **6.1 SITE PREPARATION WORK**

We recommend that the following site preparation work be performed beneath the proposed new wall footing.

1. Excavate to a depth of 1 foot below bottom of wall. The excavations should extend at least 3 feet beyond the edges of the retaining wall base.
2. After excavation, the subgrade should be probed and proofrolled under the direction of a qualified Geotechnical Engineer. A compressive strength as measured with a penetrometer reading by an AGG Engineer of at least 1.5 tsf is required for an allowable bearing capacity of 2,000 psf. If existing fill soils and/or softer soils that do not have adequate allowable bearing capacity to support the bearing pressures of the walls are encountered at base of cut, these existing fill soils and/or soft soils will have to be over-excavated until very stiff soils are encountered as specified above. Excavated soil should be aeriated, moisture conditioned and compacted in maximum 8 inch lifts to a minimum of 98% of ASTM D698 between -1% to +2% of optimum moisture content. Any required over-excavation should extend 3 feet or 1D beyond the edges of the footing, whichever is greater and then up to the ground surface along a 1H:1V slope (where D is the required depth of over-excavation and reworking).

Excavation should also extend 3 feet beyond both ends of the required excavation and then up to the ground surface along a 3H:1V slope. We recommend that a line item for over-excavating and reworking of softer clay areas be included in the bid documents and is considered for the construction budget.

3. The upper 8 inches at the base of the cut (below the 12 inches of flex base) should be scarified, moistened conditions and compacted to a minimum of 98% ASTM D698 at -1% to +2% of optimum moisture content. The first layer of crushed stone flex base should be placed as soon as possible after completion of the excavation operations in order to minimize disturbances caused by wetting or drying of the subgrade.

If a rain event occurs prior to the placement and compaction of the first lift of crushed stone flex base, all soft wet soils must be removed until competent very stiff clay soils are encountered as verified by a qualified Geotechnical Engineer. The over-excavation should be backfilled with compacted crushed stone flex base.

4. Fill to final footing grade with a minimum of 12 inches of crushed stone flex base (two 6-inch lifts). The flex base should extend to the excavation limits (see Item 1 above). The material used as flex base should be crushed "Chico" stone flex base per TxDOT Item 247, Type A, Grade 1. The flex base should be compacted in maximum 8 inch lifts to a minimum of 95 percent of ASTM D1557 between optimum and +2% of the soil's optimum moisture content.

## 6.2 RETAINING WALL RECOMMENDATIONS

The retaining wall footings should be founded on compacted crushed stone base over very stiff to hard native clay soils and/or reworked and compacted fill soils as verified by a qualified Geotechnical Engineer. The footings should be founded a minimum of 2 feet below final adjacent lower grades. We recommend that the following parameters be used for design of the footings:

Allowable Bearing Capacity	2,000 psf
<u>Ultimate</u> Friction Factor for Sliding Resistance:	0.3 (Appropriate FOS should be used) This assumes the foundation subgrade below the wall footing is battered back (downward away from wall face) along a 5% slope.

Additional passive resistance could be considered for a key extending below the bottom of a concrete footing as follows.

Allowable Passive Resistance of Key below footing if required for sliding resistance	100 psf per foot of key depth below bottom of footing (linearly increasing with depth).
--	---

- Note 1:** In order to minimize long term wall creep caused by sliding, and achieve the friction factor indicated above, the excavation for the wall footing must be battered back along a 20(H):1(V) slope (sloping in a downward direction away from the wall face). Excavations that slope downward toward the wall face will allow horizontal sliding (creep) movements.
- Note 2:** The concrete footing should be constructed within a neat vertical cut. Forming of the footing should not be allowed.
- Note 3:** A suitable moisture barrier (with UV protection) is recommended for a distance of at least 8 feet from the base of walls to minimize excessive long term creep that would otherwise occur due to seasonal cyclic desiccation and wetting.
- Note 4:** Any existing or proposed utility trench backfill located within the bearing influence of the retaining wall footing (approximated by 1H:1V slope extending downward from edge of footings) should be tested to verify a compaction level of at least 98% ASTM D698.
- Note 5:** See Section 6.3 of this report for retaining wall backfilling requirements.
- Note 6:** Differential retaining wall movements should be anticipated due to post-construction upward soil swell movements (see Section 5.1 of this report).

Closely spaced vertical crack control joints should be used along the full height of all concrete walls to control cracking associated with differential foundation movements.

**Note 7:** See Section 8.0 in regards to tree effects.

### **6.3 RETAINING WALL BACKFILL**

The retaining walls should be backfilled with low PI select fill in compacted lifts within a 45 degree wedge extending 2 feet beyond the retaining wall and then upward from the base of the wall to the ground surface. The backfill material should consist of low PI select fill having a liquid limit of 35 or less and a PI of 5 to 14. The backfill material should be compacted in 8 inch maximum lifts between 95 and 100 percent of the maximum density as determined by ASTM D698 between -2% and +2% of the soil's optimum moisture content. Backfill placed within 5 feet of the walls should be hand compacted. Over-compaction should not be allowed. The select fill should be benched into the existing embankment and compacted in maximum 8 inch horizontal benched lifts. It is imperative that the interface between the existing embankment soils and the select fill soils be adequately compacted in horizontal benched lifts along the interface to eliminate any loose seam transmissive to water migration.

A minimum of 12 inches of free draining gravel or clean crushed stone should be placed adjacent to the wall to provide drainage of the backfill. A free-draining geotextile fabric should be used at the interface of the free draining stone and select fill. In addition, weep holes or a perimeter drain installed at the base of the wall should be provided to minimize hydrostatic pressures if the walls are to be designed for drained conditions. If drained select fill is used as specified above, the wall may be designed for a drained active earth pressure of 45 pcf equivalent fluid pressure. If the walls are to be designed for at-rest pressures, drained at-rest earth pressures would be 65 pcf equivalent fluid pressure. Any surcharge load or live load (including any sloped embankment above the select backfill limits) should also be included during design. An earth pressure coefficient may be assumed to be 0.50 for determination of lateral soil pressures resulting from surcharge loads.

## 6.4 GLOBAL STABILITY ANALYSIS

Global stability analyses were performed for the proposed retaining walls. The global stability analyses were performed based upon the assumption that the retaining walls will be founded at depths of 2 feet below final adjacent grades and that a suitable moisture barrier (with UV protection) is used for a distance of at least 8 feet beyond the base of the walls to minimize seasonal cyclic desiccation and wetting from occurring. The slope stability analyses were performed for the following conditions:

- 8 foot tall fill wall with flat grades beyond the top of the wall and 6H:1V grades beyond the toe of the wall.
- 8 foot tall fill wall with flat grades beyond the top of the wall and 4H:1V grades beyond the toe of the wall.
- 5 foot tall cut wall with flat grades beyond the toe of the wall and 6H:1V grades beyond the top of the wall.
- 5 foot tall cut wall with flat grades beyond the toe of the wall and 4H:1V grades beyond the top of the wall.

The slope stability analyses were performed using the Slope/W software and using estimates for C and phi soil parameters based upon the results of the direct shear testing. The results of the global stability analysis are provided in Appendix B to this report. Based upon the results, the retaining walls will generally have a factor of safety against global stability in excess of 1.5.

However, a factor of safety of less than 1.5 resulted for the 8 foot tall fill wall with 4H:1V grades beyond the toe of the wall condition. TxDOT recommends a minimum factor of safety of 1.5 for all critical walls. **Therefore, we recommend that flatter grades (6H:1V or flatter) be used beyond the toe of all fill walls in order to achieve a minimum factor of safety of 1.5.**

## 7.0 PAVEMENT RECOMMENDATIONS

### 7.1 SOIL MOVEMENTS

The subsurface exploration revealed the presence of expansive clay soils over limestone. The potential upward soil swell movements typically range from 6 to over of 8+ inches along the proposed roadway alignment. If construction occurs when the site soils are generally in a moist to average moisture condition, relatively large differential movements could occur

between tree influenced areas and non-tree areas where existing trees are removed during construction or if existing trees should die after the pavement is constructed.

**Note:** If the existing trees near the roadway remain and/or if new trees are planted near the roadway, differential pavement settlements caused by ground shrinkage associated with moisture absorption by the root systems will continue as the trees continue to mature. An arborist should be consulted for recommendations related to root barriers. See Section 8.0 for tree effects.

## **7.2 OPTIONAL SITE MODIFICATION TO REDUCE SOIL MOVEMENTS**

As mentioned above, large differential upward pavement movements are likely to occur at this site due to future shrink/swell movements. If this magnitude of differential pavement movements are not acceptable, site preparation work will have to be performed in order to lower the potential differential movements to acceptable levels. If it is required for the differential soil swell movements for the proposed new pavements to be reduced, excavation and moisture conditioning of the existing clay soils will be required. Moisture conditioning can be accomplished by excavation and moisture conditioning of the in-situ soils in compacted lifts. An Alliance Geotechnical Group Engineer should be contacted for site preparation work recommendations in order to reduce the potential soil swell movements to acceptable levels if it is desired to reduce differential upward pavement movements.

**Note :** See Section 8.0 regarding tree effects adjacent to the existing alignments.

## **7.3 EXISTING FILL SOILS**

Existing fill soils were encountered within about half of the test borings. The existing fill soils extended to depths of up to 7 feet below the existing ground surface at this test boring locations. If the existing fill soils were placed in an uncontrolled manner without engineering supervision and without moisture / compaction verification of each fill lift, some settlement should be anticipated for pavements placed over existing uncontrolled fill soils.

In order to provide adequate pavement support where existing fill soils are present within pavement areas, we recommend that the existing fill soils be tested for compaction to a minimum depth of 4 feet below final pavement subgrade. If compaction levels are less than 95% of ASTM D698, excavation of the existing fill soils will need to be performed to a minimum depth of 4 feet below the bottom of pavement to provide the minimum pavement support required for design. Pavement settlements could still occur where deeper non-

compact fill is present. If it is desired to minimize settlement in pavement areas sensitive to settlements, all non-compact fill should be removed and replaced in thin compacted lifts.

#### **7.4 PROOFROLLING AND FILL PLACEMENT**

After the existing pavement is removed and prior to placing fill, the exposed subgrade in areas to receive fill should be stripped and proofrolled. Proofrolling should also be performed in cut areas after cutting to final grades. Proofrolling can generally be accomplished using a heavy (25 ton or greater total weight) pneumatic tired roller making several passes over the areas. The proofrolling operations should be performed under the direction of an AGG geotechnical engineer. Where soft or compressible zones are encountered, these areas should be removed to a firm subgrade as determined by AGG. Any resulting void areas should be backfilled to finished subgrade in 8 inch compacted lifts as specified below.

After completion of proofrolling, the ground surface should then be scarified to a depth of 8 inches and recompacted to levels specified below prior to placement of additional fill. We recommend that fill be placed in 8 inch horizontal benched lifts. Clay fill materials should be placed in 8 inch loose lifts and compacted to a minimum of 98 percent of the maximum density as determined by ASTM D 698 between -1% and +2% of its optimum moisture content.

#### **7.5 SITE GRADING AND DRAINAGE**

All grading should provide positive drainage away from the proposed roadway and should prevent water from collecting or discharging near the pavements. Water must not be permitted to pond adjacent to or near the pavements during or after construction. Otherwise, differential upward soil swell movements will be exacerbated.

The pavements will be subject to large post construction movement (see Section 5.1 of this report). Joints in the concrete pavements should be sealed to prevent the infiltration of water. Since post construction movement of pavement will occur, joints should be periodically inspected and resealed along with pavement cracks that will occur.



## **7.6 STABILIZATION WITH HYDRATED LIME**

The subsurface exploration revealed surficial materials present beneath the pavement and base consisting of highly plastic clay soils having a high shrink/swell potential. These clay soils react with hydrated lime, which serves to improve their support value and provide a firm, uniform subgrade beneath the paving.

Based on the results of a lime / Atterberg limits series (Figure 24), eleven (11) percent hydrated lime by dry weight (66 pounds per square yard per 8-inch depth) will be required to stabilize the existing clay subgrade. The actual lime requirement will depend upon the actual subgrade soils exposed at final grade and should be determined at the time of construction. We recommend that soluble sulfate testing be performed on the pavement subgrade once final grading of the pavement has been achieved to verify that that sulfate levels are below 3,000 ppm.

The lime should be thoroughly mixed and blended with the active subgrade soil (TxDOT Item 260) and the mixture compacted to a minimum of 95 percent of maximum dry density as determined in accordance with ASTM D698, within -2% to +2% of the soil's optimum moisture content. We recommend that this lime stabilization extend 2 feet beyond exposed pavement edges in order to reduce the effects of shrinkage during extended dry periods.

**Note:** After final grading has been achieved, depth checks and PI verification checks should be performed to verify that the specified depth of stabilization is present.

Sand should be specifically prohibited beneath pavement areas during final grading (after stabilization), since these more porous soils can allow water inflow, resulting in heave and strength loss of subgrade soils. It should be specified that only lime-stabilized soil will be allowed for fine grading. After fine grading each area in preparation for paving, the subgrade surface should be lightly moistened, as needed, and recompacted to obtain a tight non-yielding subgrade.

Project specifications should allow a curing period between initial and final mixing of the lime/soil mixture. After initial mixing, the lime treated subgrade should be lightly rolled and maintained at or within 5 percentage points above the soil's optimum moisture content until final mixing and compaction. We recommend a 3-day curing period for these soils. The

following gradation requirements are recommended for the stabilized materials prior to final compaction:

	<u>Percent</u>
Minimum Passing 1 3/4" Sieve	100
Minimum Passing 3/4" Sieve	85
Minimum Passing No. 4 Sieve	60

All non-slaking aggregates retained on the No. 4 sieve should be removed prior to testing.

The stabilized subgrade should be protected and moist cured or sealed with a bituminous material for a minimum of 5 days before further courses are added or any construction traffic/equipment permitted. The final lift should not be exposed for more than 14 days without protection or the placement of a base course or pavement. Pavement areas should be graded to prevent ponding and infiltration of excessive moisture on or adjacent to the pavement areas.

Due to the presence of expansive clay soils, pavement movements should be anticipated. Inspection during construction is particularly important to insure proper construction procedures are followed.

## **7.7 CRUSHED CONCRETE BASE**

In lieu of lime stabilization, eight (8) inches of flexbase and/or recycled crushed concrete base could be used. The flex base should be compacted at optimum to +2% above optimum to a minimum of 95% Modified Proctor density (ASTM D1557). The base materials should comply with TxDOT Item 247, Type D, Grade 1.

After proofrolling (see Section 7.4), the upper eight (8) inches of pavement subgrade should be scarified and compacted prior to placing flex base. The upper eight (8) inches of the subgrade clay soils should be compacted at -1% to +2% above optimum moisture to a minimum of 98% Standard Proctor density (ASTM D 698). If a rain event occurs prior to paving, the subgrade should be aerated and re-tested prior to flex base placement.

## 7.8 PAVEMENT ANALYSES AND SECTION RECOMMENDATIONS

The required pavement section depends on the traffic volume and the frequency of truck traffic. Based upon traffic studies performed by others for the proposed roadway, it is anticipated the proposed roadway after being constructed will have 23,800 average vehicles per day (0% growth rate). We also understand that 2.4% truck traffic is anticipated. For the purpose of this study, we have assumed that the truck traffic will consist of WB-50 trucks.

The pavement section recommendations provided below in this report have been developed based upon the above traffic information and based upon both a 20 year and 30 year design life:

The pavement section recommendations provided below were designed based upon AASHTO Guide for Design of Pavement Structures using WinPASS 12 computer program. A summary of the inputs are provided below:

Initial Serviceability:	4.5
Terminal Serviceability:	2.5
Modulus of Rupture:	588 psi (4,000 psi concrete)
Elasticity Modulus:	3,932,000 psi
Effective k-value:	250 psi/in - for 8 inches of lime-stabilization or 8 inches of flex base
Reliability Level:	95%
Standard Deviation:	0.39
Load Transfer J:	2.7 (assumes adequate edge support is provided)
Drainage Coefficient:	1.0

Tables 2 and 3 presents the recommended pavement sections for this project:

**TABLE 2 - RECOMMENDED PAVEMENT SECTIONS**

20 YEAR DESIGN LIFE
11 inches Portland Cement Concrete (4,000 psi Concrete)* 8 inches Lime Stabilized Subgrade (Section 7.6)
<b>OR</b>
11 inches Portland Cement Concrete (4,000 psi Concrete)* 8 inches Recycled Crushed Concrete Flex Base (Section 7.7)

- \* These pavement thicknesses are based upon adequate pavement edge support being provided. If not, all of the above concrete thicknesses should be increased by one inch.

**TABLE 3 - RECOMMENDED PAVEMENT SECTIONS**

<b>30 YEAR DESIGN LIFE</b>
12 inches Portland Cement Concrete (4,000 psi Concrete)* 8 inches Lime Stabilized Subgrade (Section 7.6)
<b>OR</b>
12 inches Portland Cement Concrete (4,000 psi Concrete)* 8 inches Recycled Crushed Concrete Flex Base (Section 7.7)

- \* These pavement thicknesses are based upon adequate pavement edge support being provided. If not, all of the above concrete thicknesses should be increased by one inch.

The concrete should have a minimum 28 day compressive strength of 4,000 psi and a minimum 28 day flexural strength of 588 psi. Concrete quality will be important in order to produce the desired flexural strength and long term durability.

Proper joint placement and design is critical to pavement performance. Load transfer at all joints and maintenance of watertight joints should be provided. Control joints should be sawed as soon as possible after placing concrete and before shrinkage cracks occur. All joints including sawed joints should be properly cleaned and sealed as soon as possible to avoid infiltration of water.

Our previous experience indicates that joint spacing on 12 to 15 foot centers have generally performed satisfactorily. It is our recommendation that the concrete pavement be reinforced with a minimum of No. 4 bars placed on chairs on approximately 18-inch centers in each direction.

**Note:** We recommend that the perimeter of the pavements have a stiffening curb section to prevent possible distress due to heavy wheel loads near the edge of the pavements. If not, the above pavement thicknesses should be increased by one inch.

## **7.9 PAVEMENT CONSIDERATIONS**

All joints and pavements should be inspected at regular intervals to ensure proper performance and to prevent crack propagation. The soils at the site are active and differential heave within the paving areas will occur. See Section 5.1 of this report. The service life of paving may be reduced due to water infiltration into subgrade soils through heave induced cracks in the paving section. This will result in softening and loss of strength of the subgrade soils. A regular maintenance program to seal paving cracks will help prolong the service life of the paving. The life of the pavement can be increased with proper drainage. Areas should be graded to prevent ponding adjacent to curbs or pavement edges. Backfill materials, which could hold water behind the curb, should not be permitted. Flat pavement grades should be avoided.

## **8.0 TREE EFFECTS**

Mature trees are present in a few areas along the proposed roadway alignment. The roots of mature trees absorb large amounts of moisture from the supporting soils to depths of over 15 feet. If construction occurs when the site soils are generally in a moist to average moisture condition, relatively large differential movements could occur between tree influenced areas and non-tree areas where existing trees are removed during construction or if existing trees should die after the pavement and retaining walls are constructed. If this is the case, consideration should be given to performing over-excavation and moisture conditioning with tree influenced area in order to minimize the potential for differential soil swell movements.

It should be recognized that concrete slabs (retaining walls supported by shallow foundations, sidewalks, and pavements) will be subject to long term settlement due to ground shrinkage caused by moisture absorption of tree root systems. To minimize long term settlements, trees and deep rooted shrubs should not remain or be planted within 35 feet of the retaining walls and pavements in order to minimize settlements caused by ground shrinkage associated with moisture absorption of the tree root systems. Otherwise, an arborist should be contacted regarding the installation, effectiveness, and use of root barriers and irrigated tree wells to minimize future shallow foundation and pavement settlements due to ground shrinkage caused by tree root absorption.

## **9.0 FIELD SUPERVISION AND DENSITY TESTING**

Field density and moisture content determinations should be made on each lift of fill with a minimum of one test per lift for every 100 linear feet roadway fill. This includes general roadway fill and utility backfill. Supervision by the field technician and the project engineer is recommended. Some adjustments in the test frequencies may be required based upon the general fill types and soil conditions at the time of fill placement.

Many problems can be avoided or solved in the field if proper inspection and testing services are provided. It is recommended that drilled pier construction, proofrolling, site preparation, subgrade stabilization, bridge construction, retaining wall construction and pavement construction be monitored by a qualified engineering technician. Density tests should be performed to verify compaction and moisture content of any earthwork. Inspection should be performed before and during concrete placement operations. Alliance Geotechnical Group employs a group of experienced, well-trained technicians for inspection and construction materials testing who would be pleased to assist you on this project.

## **10.0 LIMITATIONS**

The professional services, which have been performed, the findings obtained, and the recommendations prepared were accomplished in accordance with currently accepted geotechnical engineering principles and practices. The possibility always exists that the subsurface conditions at the site may vary somewhat from those encountered in the test borings. The number and spacing of test borings were chosen in such a manner as to decrease the possibility of undiscovered abnormalities, while considering the nature of loading, size, and cost of the project. If there are any unusual conditions differing significantly from those described herein, Alliance Geotechnical Group should be notified to review the effects on the performance of the recommended foundation system.

The recommendations given in this report were prepared exclusively for the use of client, their client, and their consultants. The information supplied herein is applicable only for the design of the previously described development to be constructed at locations indicated at this site and should not be used for any other structures, locations, or for any other purpose.

We will retain the samples acquired for this project for a period of 30 days subsequent to the submittal date printed on the report. After this period, the samples will be discarded unless otherwise notified by the owner in writing.

# FIGURES



Project No:  
DE19-317

## PLAN OF BORINGS

E. BAILEY BOSWELL ROAD EXTENSION  
FORT WORTH, TEXAS

Figure No:  
**1A**





Project No:  
DE19-317

## PLAN OF BORINGS

E. BAILEY BOSWELL ROAD EXTENSION  
FORT WORTH, TEXAS

Figure No:  
**1B**

# LOG OF BORING B-1

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **12/3/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **7'4"**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %
0	2/6" 4/6" 5/6"	Dark brown <u>CLAY</u> and <u>sandy CLAY</u> w/ trace gravel (FILL)	22	49	18	31			3.0		
	3/6" 6/6" 10/6" 15/6" 13/6" 12/6"								3.5		
-5	18/6" 12/6"	Tan <u>CLAY</u> w/ crushed concrete (FILL)	8								
	2/6" 6/6" 8/6" 50/2.75"	Alternating layers of very hard tan <u>weathered LIMESTONE</u> and <u>CLAY</u>	11	46	16	30	18				
-10	50/0.25" 50/0"										
-15	50/0" 50/0.25"	Very hard gray <u>shaley LIMESTONE</u> w/ shale seams									
-20	50/0.25" 50/0"										
-25	50/0.25" 50/0.25"										
-30	50/0.25" 50/0"	Boring terminated at 30 feet									
-35											

Notes:

**FIGURE:2**

# LOG OF BORING B-2

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **12/4/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %	
0		Dark brown <u>CLAY</u> w/ limestone (FILL)										
-1.5		Brown and tan <u>calcareous CLAY</u> w/ crushed stone (FILL)	10	36	16	20			4.5+			
-5		Tan <u>CLAY</u> , jointed, w/ severely weathered limestone seams										
-10		Alternating layers of hard to very hard tan <u>weathered LIMESTONE</u> and <u>CLAY</u>										
-15		Hard to very hard gray <u>shaley LIMESTONE</u> w/ shale seams										
-20												
-25												
-30		Boring terminated at 30 feet										
-35												

Notes:

**FIGURE:3**

# LOG OF BORING B-3

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **12/4/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %	
0		Brown <u>CLAY</u> , jointed, w/ calcareous nodules							3.5			
				33	66	23	43			4.25		
										3.5		
-5		Alternating layers of hard to very hard tan <u>weathered LIMESTONE</u> and <u>CLAY</u>							4.5+			
-10												
-15		Hard to very hard gray <u>shaley LIMESTONE</u> w/ shale seams										
-20												
-25												
-30		Boring terminated at 30 feet										
-35												

Notes:

**FIGURE:4**

# LOG OF BORING B-4

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **12/5/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %
0		Dark brown <u>CLAY</u> , jointed	35	66	24	42		83	1.25 1.5 1.75 2.25	2.3	7.3
5		Brown <u>CLAY</u> , jointed, w/ calcareous nodules and trace gravel	25					98	2.25	3.4	7.3
10		Tan and light gray <u>calcareous CLAY</u> w/ severely weathered limestone seams	21	47	18	29					
15		Alternating layers of hard to very hard tan <u>weathered LIMESTONE</u> and <u>CLAY</u>									
20		Hard to very hard gray <u>shaley LIMESTONE</u> w/ shale seams									
25											
30		Boring terminated at 30 feet									
35											

Notes:

**FIGURE:5**

# LOG OF BORING RW-1

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **12/4/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **4 feet**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %
0  5  10  15  20  25  30  35		<p>Dark brown <u>CLAY</u> w/ trace gravel (FILL)</p> <p>Dark brown and brown <u>CLAY</u>, jointed -water seepage at 8 feet during drilling</p> <p>Tan <u>CLAY</u>, jointed, w/ limestone fragments</p> <p>Alternating layers of tan and gray hard to very hard <u>weathered LIMESTONE</u> and <u>CLAY</u></p> <p>Hard to very hard gray <u>shaley LIMESTONE</u> w/ shale seams</p> <p>Boring terminated at 25 feet</p>	31	62	23	39		87	3.5 3.75 4.5+	5.2	8.8
			22								
			17								

Notes:

**FIGURE:6**

# LOG OF BORING RW-2

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **12/4/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %	
0		Dark brown <u>CLAY</u> w/ crushed stone fragments (FILL)	10						3.0			
5		Tan and light gray <u>calcareous CLAY</u> w/ weathered limestone seams	10	26	14	12			4.5+			
10		Hard to very hard tan <u>weathered LIMESTONE</u> , fractured, w/ clay seams										
15		Hard to very hard gray <u>shaley LIMESTONE</u> w/ shale seams										
20		Boring terminated at 15 feet										
25												
30												
35												

Notes:

**FIGURE:7**

# LOG OF BORING RW-3

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **07/19/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %	
0		Brown and light brown <u>CLAY</u> w/ gravel, calcareous nodules, and crushed stone (FILL)	10						4.5+			
									4.5+			
				16	55	18	37	80		4.5+		
				26						4.5		
5		Dark brown <u>CLAY</u> , jointed										
		Tan <u>severely weathered LIMESTONE</u> , highly fractured, w/ clay layers										
10		Very hard tan <u>weathered LIMESTONE</u> , fractured, w/ clay seams and layers										
15												
20		Very hard gray <u>shaley LIMESTONE</u> w/ shale seams										
25												
30												
35												

Notes:

**FIGURE:8**



# LOG OF BORING RW-3

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **07/19/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> </div>	<p>Very hard gray <u>shaley</u> LIMESTONE w/ shale seams</p> <hr/> <p>Boring terminated at 40'</p>										
<p>40</p> <p>45</p> <p>50</p> <p>55</p> <p>60</p> <p>65</p> <p>70</p>											

Notes:

**FIGURE:9**

# LOG OF BORING P-1

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **12/4/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P. PEN tsf	UNCON ksf	Strain %
0		Dark brown <u>CLAY</u> , jointed, w/ calcareous nodules	22	59	26	33			2		
		Light tan <u>CLAY</u> , jointed, w/ limestone seams							2.5		
5		Alternating layers of hard to very hard tan <u>weathered LIMESTONE</u> and <u>CLAY</u>							4.5+		
10		Boring terminated at 10 feet							4.5++		
15											
20											
25											
30											
35											

Notes:

**FIGURE:10**

## LOG OF BORING P-2

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **07/18/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %
0		Brown <u>CLAY</u> w/ calcareous nodules & limestone fragments (FILL)	17	59	21	38			4.5		
		Tan <u>severely weathered LIMESTONE</u> , highly fractured, w/ calcareous clay layers	12						4.5+		
5		Alternating layers of hard to very hard tan <u>LIMESTONE</u> and <u>CLAY</u>									
10		Boring terminated at 10'									
15											
20											
25											
30											
35											

Notes:

FIGURE:11

## LOG OF BORING P-3

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **07/18/2019**

Elev.:

Location: **See Figure 1**


Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %	
0		Brown <u>CLAY</u> , jointed, w/ calcareous nodules, sand seams, and iron stains	16	56	20	36	91	115	4.5+			
									4.25			
										4.5		
-5			Light brown and tan <u>CLAY</u> , jointed, w/ calcareous deposits	17						4.5+		
									4.5+			
									4.5++			
									4.5+			
-10		Tan and gray <u>CLAY</u> , jointed, w/ calcareous nodules and sand seams	14						4.5			
									4.5+			
									4.5+			
-15		Boring terminated at 10'										
-20												
-25												
-30												
-35												

Notes:

**FIGURE:12**

## LOG OF BORING P-4

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **07/18/2019**

Elev.:

Location: **See Figure 1**


Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %
0		Brown to light brown <u>CLAY</u> w/ calcareous nodules, and limestone fragments (FILL)	18	59	21	38			4.5+		
-5									4.5+		
-10									4.0		
-15									4.5		
-20									4.5		
-25									4.5+		
-30		Brown <u>CLAY</u> , jointed, w/ calcareous nodules	23						4.5+		
-35		Tan <u>CLAY</u> , jointed, w/ calcareous deposits							4.5+		
		Boring terminated at 10'							4.0		
									4.5+		

Notes:

FIGURE:13

## LOG OF BORING P-5

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **07/18/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P. PEN tsf	UNCON ksf	Strain %	
0		Brown <u>CLAY</u> w/ calcareous nodules and gravel (FILL)	16	55	19	36			4.5+			
		Brown <u>CLAY</u> , jointed, w/ calcareous nodules	20						4.5+			
5			Tan and gray <u>CLAY</u> , jointed, w/ calcareous nodules and iron stains	17	51	19	32	98	115	4.5+		
										4.5+		
10			Tan <u>CLAY</u> , jointed, w/ limestone fragments and sand Boring terminated at 10'	19				96		4.5+		

Notes:

**FIGURE:14**







## LOG OF BORING P-8

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **10/10/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %	
0		Dark brown <u>CLAY</u> , jointed, w/ calcareous nodules	15	63	23	40			4.5+			
			17						4.5+			
				17				95		4.5+		
				13						4.5+		
5		Tannish brown <u>CLAY</u> , jointed, w/ calcareous deposits										
10		Hard to very hard tan weathered <u>LIMESTONE</u> , fractured, w/ clay seams										
15		Boring terminated at 10'										
20												
25												
30												
35												

Notes:

**FIGURE:17**

## LOG OF BORING P-9

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **10/10/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %
0		Dark brown <u>CLAY</u> , jointed, w/ calcareous nodules	11	50	19	31			4.5+		
5		Tan <u>calcareous CLAY</u> w/ severely weathered limestone seams	8						4.0		
10		Hard to very hard tan <u>weathered LIMESTONE</u> , fractured, w/ clay seams	11					111	4.5+		
10		Boring terminated at 10'									

Notes:

**FIGURE:18**

# LOG OF BORING P-10

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **10/10/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %	
0		Dark brown <u>CLAY</u> , jointed, w/ calcareous nodules	24	69	25	44			4.5+			
									4.5+			
				25						4.5+		
										4.5+		
5			Tan and brown <u>calcareous CLAY</u> w/ calcareous deposits	15						4.5+		
										4.5+		
				16	36	15	21			4.5+		
										4.5+		
10			Hard tan <u>weathered LIMESTONE</u> , fractured, w/ clay seams									
			Boring terminated at 10'									

Notes:

**FIGURE:19**

## LOG OF BORING P-11

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **10/10/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P.PEN tsf	UNCON ksf	Strain %
0		Dark brown <u>CLAY</u> , jointed, w/ calcareous nodules	17	68	26	42			4.5+		
22									4.5+		
9									4.5+		
5			Tan <u>calcareous CLAY</u>	12						4.0	
10		Very firm to hard tan <u>severely weathered LIMESTONE</u> , highly fractured, w/ calcareous clay layers	12	37	15	22					
13											
10		Boring terminated at 10'									
15											
20											
25											
30											
35											

Notes:

**FIGURE:20**

## LOG OF BORING P-12

Project: **E. Bailey Boswell Road Extension -Fort Worth, Texas**

Project No.: **DE19-317**

Date: **10/10/2019**

Elev.:

Location: **See Figure 1**

Depth to water at completion of boring: **Dry**

Depth to water when checked:

was:

Depth to caving when checked:

was:

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS & FIELD TEST DATA	DESCRIPTION	MC %	LL %	PL %	PI %	-200 %	DD pcf	P. PEN tsf	UNCON ksf	Strain %
0		Dark brown and brown <u>CLAY</u> w/ calcareous nodules (FILL)	13	54	19	35			4.5+		
		Dark brown to brown <u>CLAY</u> , jointed, w/ calcareous nodules	18					109	4.5+		
5		Tan and brown <u>CLAY</u> , jointed, w/ calcareous nodules	22						4.5+		
		Tan <u>calcareous CLAY</u> w/ severely weathered limestone seams	15						4.5+		
10		Boring terminated at 10'	18	37	16	21			3.0		
15											
20											
25											
30											
35											

Notes:

FIGURE:21

## KEY TO LOG TERMS & SYMBOLS

Symbol    Description

Symbol    Description

### Strata symbols

### Soil Samplers



CLAY



Standard  
Penetration  
Test



LIMESTONE,  
weathered



THD Cone  
Penetration  
Test



Shaley LIMESTONE



Thin Wall  
Shelby Tube



CLAY,  
Calcareous



Auger



LIMESTONE,  
severely  
weathered



LIMESTONE

### Misc. Symbols



Water table  
at boring  
completion



Boring continues

### Notes:

1. Exploratory borings were drilled on dates indicated using truck mounted drilling equipment.
2. Water level observations are noted on boring logs.
3. Results of tests conducted on samples recovered are reported on the boring logs. Abbreviations used are:
 

DD = natural dry density (pcf)	LL = liquid limit (%)
MC = natural moisture content (%)	PL = plastic limit (%)
Uncon. = unconfined compression (tsf)	PI = plasticity index
P.Pen. = hand penetrometer (tsf)	-200 = percent passing #200
4. Rock Cores
  - REC = (Recovery) sum of core sample recovered divided by length of run, expressed as percentage.
  - RQD = (Rock Quality Designation) sum of core sample recovery 4" or greater in length divided by the run, expressed as percentage.

FIGURE:22

## SWELL TEST RESULTS

BORING NO.	DEPTH (FEET)	DRY UNIT WEIGHT (pcf)	ATTERBURG LIMITS			IN-SITU MOISTURE CONTENT	FINAL MOISTURE CONTENT	LOAD (psf)	% VERTICAL SWELL
			LL	PL	PI				
P-3	5-6	114.5	-	-	-	17.0	25.5	688	12.7
P-5	6-7	115.3	51	19	32	17.3	22.2	813	6.3
P-6	3-4	105.2	-	-	-	19.7	27.2	438	9.5
P-7	7-8	114.9	53	19	34	15.6	19.8	938	4.1
P-9	3-4	111.2	-	-	-	11.4	17.1	313	6.5
P-12	2-3	108.9	-	-	-	18.1	24.9	438	8.0

**PROCEDURE:**

1. Sample placed in confining ring, design load (including overburden) applied, free water with surfactant made available, and sample allowed to swell completely.
2. Load removed and final moisture content determined.



<b>SWELL TEST RESULTS</b>		
E. BAILEY BOSWELL ROAD EXTENSION		
FORT WORTH, TEXAS		
ALLIANCE GEOTECHNICAL GROUP		
DE19-317	Date: 12/30/2019	FIGURE: 23

## LIME SERIES RESULTS

BORING NO.	DEPTH (FEET)	LIME ADDED (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (PI)
P-10	0-1	0%	69	44
		6%	55	19
		8%	54	17
		10%	52	13



**ALLIANCE  
GEOTECHNICAL  
GROUP**

### LIME SERIES TEST RESULTS

E. BAILEY BOSWELL ROAD EXTENSION

FORT WORTH, TEXAS

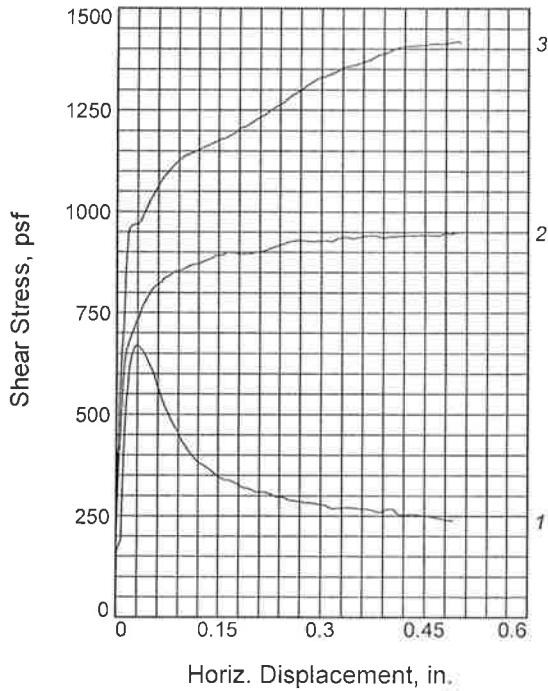
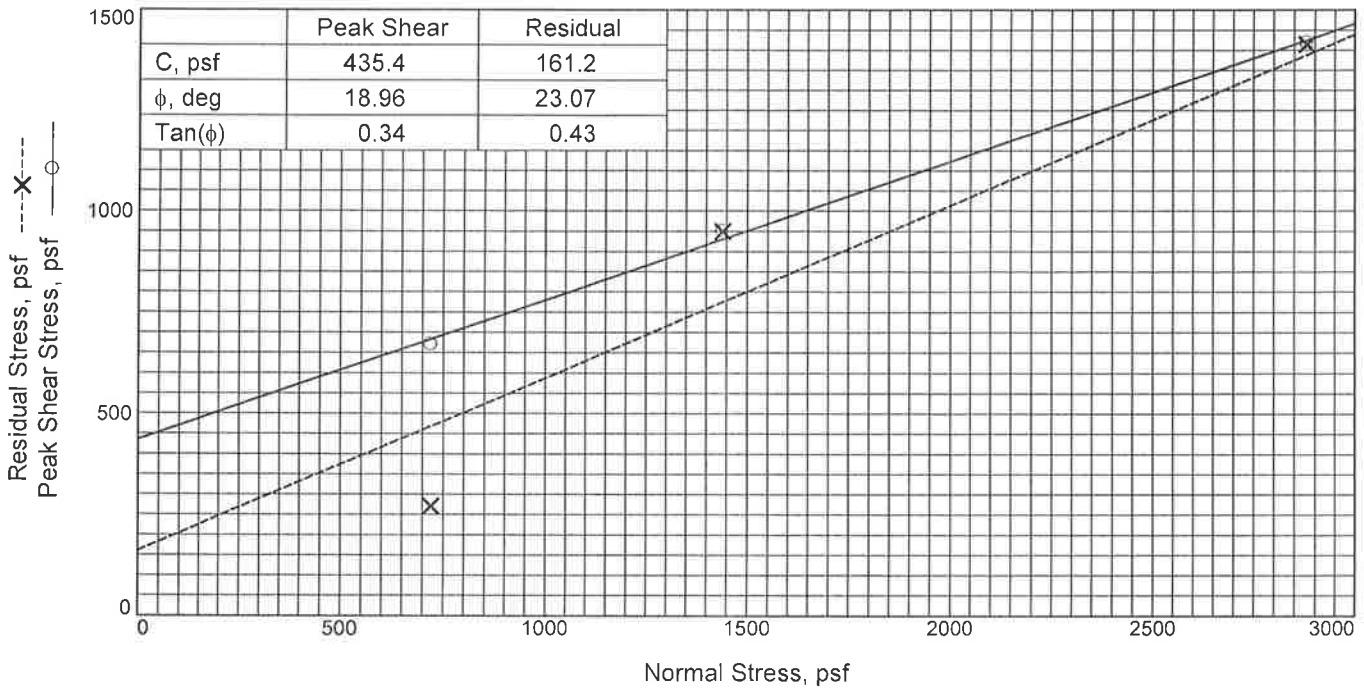
ALLIANCE GEOTECHNICAL GROUP

DE19-317

Date: 12/30/2019

FIGURE 24





Sample No.	1	2	3	
Initial	Water Content, %	24.3	24.3	24.3
	Dry Density, pcf	98.6	98.6	98.6
	Saturation, %	91.4	91.4	91.4
	Void Ratio	0.7219	0.7219	0.7219
	Diameter, in.	2.500	2.500	2.500
	Height, in.	1.000	1.000	1.000
At Test	Water Content, %	27.7	25.0	23.6
	Dry Density, pcf	94.6	97.3	99.3
	Saturation, %	94.9	91.2	90.2
	Void Ratio	0.7951	0.7460	0.7107
	Diameter, in.	2.500	2.500	2.500
	Height, in.	1.042	1.014	0.994
Normal Stress, psf	720.0	1440.0	2880.0	
Peak Shear Stress, psf	669.9	949.5	1418.4	
Displacement, in.	0.030	0.496	0.497	
Residual Stress, psf	270.7	949.5	1414.9	
Displacement, in.	0.336	0.496	0.500	
Strain rate, in./min.	0.070	0.070	0.070	

**Sample Type:** Undisturbed

**Description:** Brown clay

**Assumed Specific Gravity=** 2.72

**Remarks:** ASTM D3080

**Client:** Criado + Associates, Inc.

**Project:** East Bailey Boswell Road Extension

**Location:** B-3

**Depth:** 1'-2'

**Proj. No.:** DE19-317

**Date Sampled:** Figure 25

DIRECT SHEAR TEST REPORT  
Alliance Geotechnical Group, Inc.  
Dallas, TX

# **APPENDIX A**

## **MEASURES TO MINIMIZE SOIL SWELL MOVEMENTS**

## MEASURES TO MINIMIZE SOIL SWELL MOVEMENTS

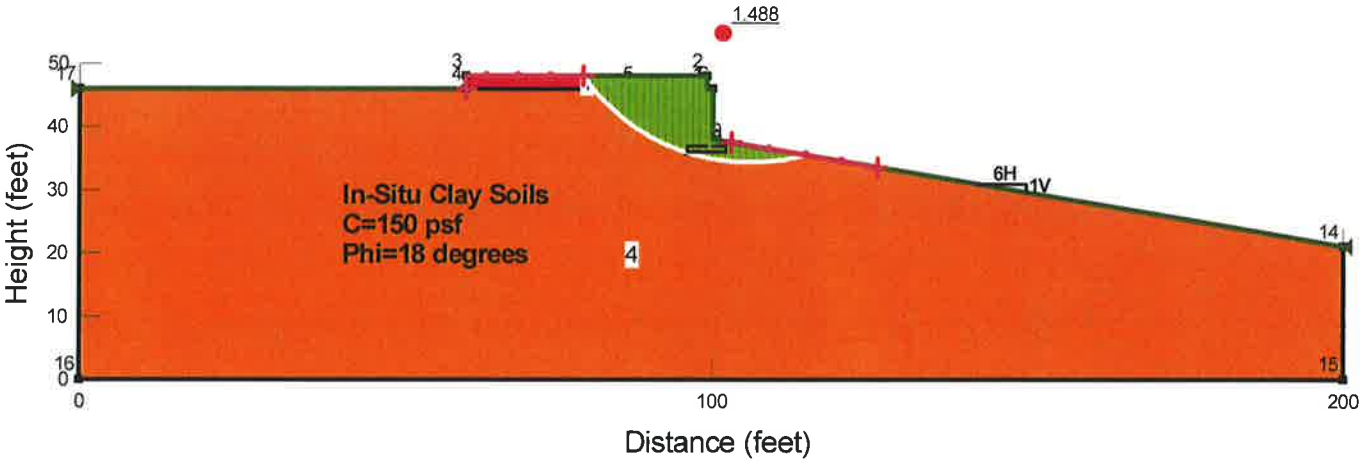
In order to reduce the risk of excessive upward ground movements caused by soil swelling associated with free water sources, the following measures should be taken during design and construction:

- The use of superior contractors and utility line materials accompanied with Quality Control inspection and testing of all utility line installations.
- Utility under-drains with impervious barriers along the trench bottom may be used as an additional safeguard to minimize post-construction upward movement caused by water percolation into the deeper clay soils.
- Positive drainage should be provided. Surface drainage gradients within 10 feet of the pavement should be constructed with maximum slopes allowed by local codes.
- Rapid repair of any utility leak including water lines, sewer lines, and storm drains.
- Trees and deep rooted shrubs should be located no closer to the pavement than their ultimate mature height (and to greater distances were multiple trees are present and/or when the ground beneath the drip lines are paved) to reduce foundation settlement effects caused by moisture absorption of the root systems.
- It is imperative that all cracks and joints in the pavement be sealed and maintained by routine sealing in order to minimize differential pavement deflections caused by soil swelling.
- It is important that porous fill soils (sandy soil) not be used as backfill behind the curbs or as leveling sand below pavements to prevent ponding beneath the pavement or near the curb line.

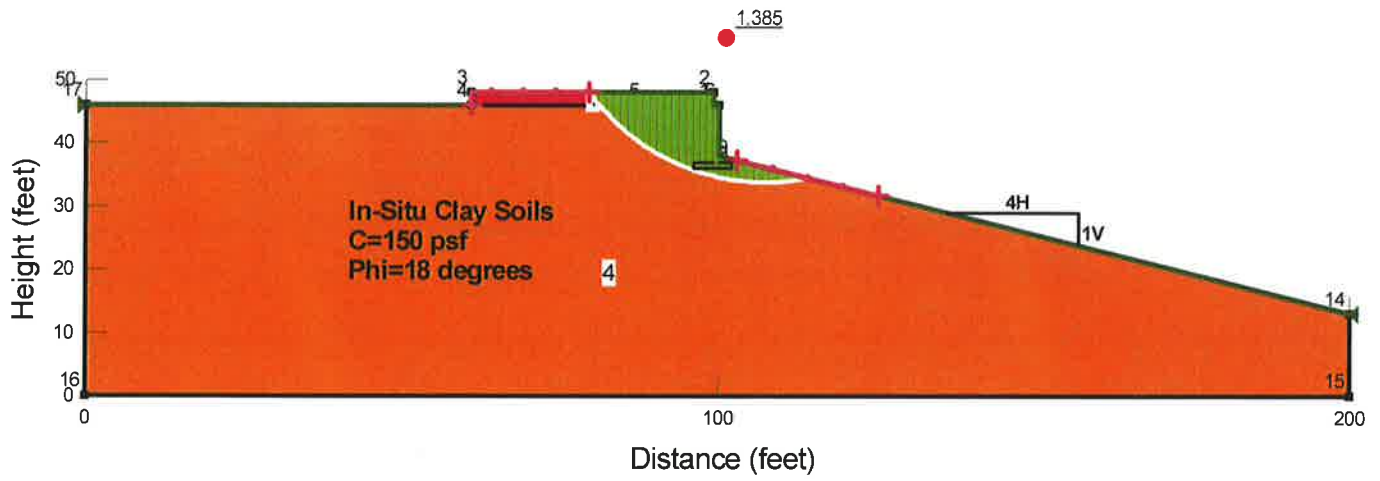
# **APPENDIX B**

## **GLOBAL STABILITY ANALYSES RESULTS**

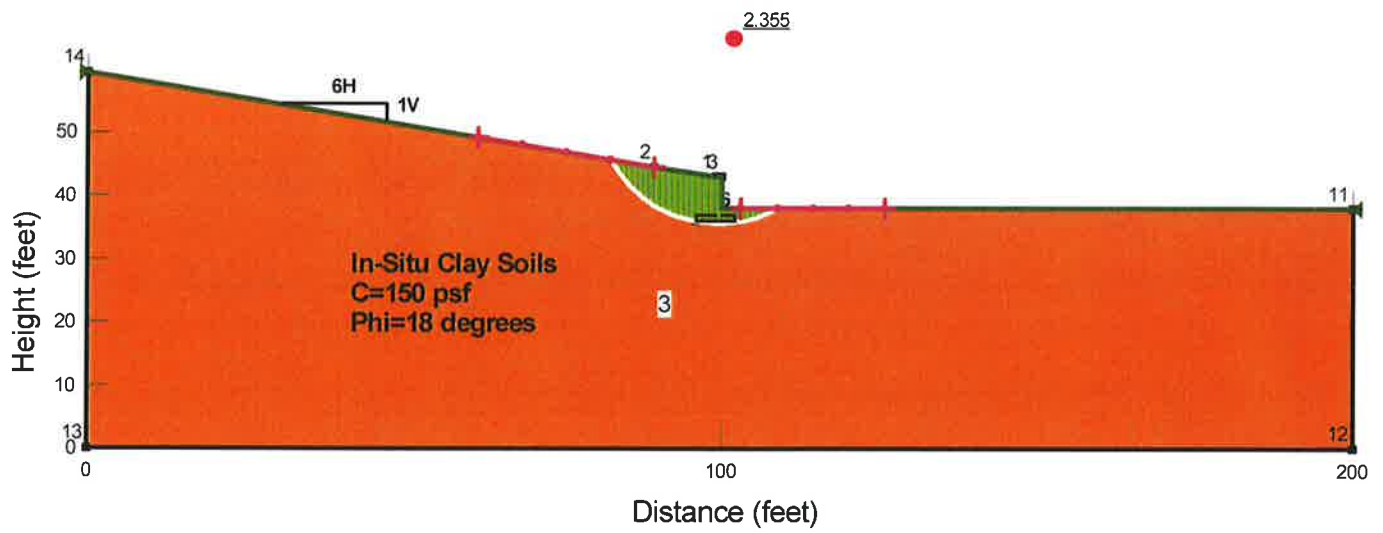
# Proposed New Fill Retaining Wall E. Bailey Boswell Road Extension (6H:1V Slopes)



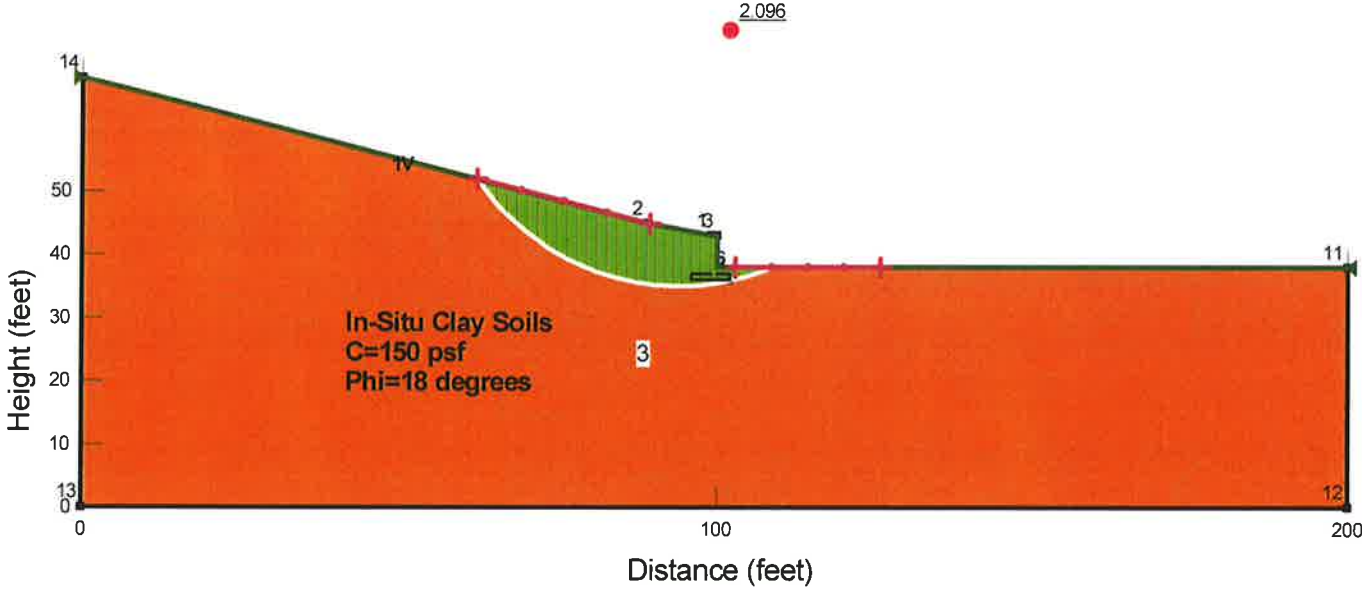
# Proposed New Fill Retaining Wall E. Bailey Boswell Road Extension (4H:1V Slopes)



# Proposed New Cut Retaining Wall E. Bailey Boswell Road Extension (6H:1V Slopes)



# Proposed New Cut Retaining Wall E. Bailey Boswell Road Extension (4H:1V Slopes)





**2013 PREVAILING WAGE RATES**  
(Heavy and Highway Construction Projects)

<b>CLASSIFICATION DESCRIPTION</b>	<b>Wage Rate</b>
Asphalt Distributor Operator	\$ 15.32
Asphalt Paving Machine Operator	\$ 13.99
Asphalt Raker	\$ 12.69
Broom or Sweeper Operator	\$ 11.74
Concrete Finisher, Paving and Structures	\$ 14.12
Concrete Pavement Finishing Machine Operator	\$ 16.05
Concrete Saw Operator	\$ 14.48
Crane Operator, Hydraulic 80 tons or less	\$ 18.12
Crane Operator, Lattice Boom 80 Tons or Less	\$ 17.27
Crane Operator, Lattice Boom Over 80 Tons	\$ 20.52
Crawler Tractor Operator	\$ 14.07
Electrician	\$ 19.80
Excavator Operator, 50,000 pounds or less	\$ 17.19
Excavator Operator, Over 50,000 pounds	\$ 16.99
Flagger	\$ 10.06
Form Builder/Setter, Structures	\$ 13.84
Form Setter, Paving & Curb	\$ 13.16
Foundation Drill Operator, Crawler Mounted	\$ 17.99
Foundation Drill Operator, Truck Mounted	\$ 21.07
Front End Loader Operator, 3 CY or Less	\$ 13.69
Front End Loader Operator, Over 3 CY	\$ 14.72
Laborer, Common	\$ 10.72
Laborer, Utility	\$ 12.32
Loader/Backhoe Operator	\$ 15.18
Mechanic	\$ 17.68
Milling Machine Operator	\$ 14.32
Motor Grader Operator, Fine Grade	\$ 17.19
Motor Grader Operator, Rough	\$ 16.02
Off Road Hauler	\$ 12.25
Pavement Marking Machine Operator	\$ 13.63
Pipelayer	\$ 13.24
Reclaimer/Pulverizer Operator	\$ 11.01
Reinforcing Steel Worker	\$ 16.18
Roller Operator, Asphalt	\$ 13.08
Roller Operator, Other	\$ 11.51
Scraper Operator	\$ 12.96
Servicer	\$ 14.58
Small Slipform Machine Operator	\$ 15.96
Spreader Box Operator	\$ 14.73
Truck Driver Lowboy-Float	\$ 16.24
Truck Driver Transit-Mix	\$ 14.14
Truck Driver, Single Axle	\$ 12.31
Truck Driver, Single or Tandem Axle Dump Truck	\$ 12.62
Truck Driver, Tandem Axle Tractor with Semi Trailer	\$ 12.86
Welder	\$ 14.84
Work Zone Barricade Servicer	\$ 11.68

The Davis-Bacon Act prevailing wage rates shown for Heavy and Highway construction projects were determined by the United States Department of Labor and current as of September 2013. The titles and descriptions for the classifications listed are detailed in the AGC of Texas' Standard Job Classifications and Descriptions for Highway, Heavy, Utilities, and Industrial Construction in Texas.

**2013 PREVAILING WAGE RATES**  
(Commercial Construction Projects)

<b>CLASSIFICATION DESCRIPTION</b>	<b>Wage Rate</b>
AC Mechanic	\$ 25.24
AC Mechanic Helper	\$ 13.67
Acoustical Ceiling Installer	\$ 16.83
Acoustical Ceiling Installer Helper	\$ 12.70
Bricklayer/Stone Mason	\$ 19.45
Bricklayer/Stone Mason Trainee	\$ 13.31
Bricklayer/Stone Mason Helper	\$ 10.91
Carpenter	\$ 17.75
Carpenter Helper	\$ 14.32
Concrete Cutter/Sawer	\$ 17.00
Concrete Cutter/Sawer Helper	\$ 11.00
Concrete Finisher	\$ 15.77
Concrete Finisher Helper	\$ 11.00
Concrete Form Builder	\$ 15.27
Concrete Form Builder Helper	\$ 11.00
Drywall Mechanic	\$ 15.36
Drywall Helper	\$ 12.54
Drywall Taper	\$ 15.00
Drywall Taper Helper	\$ 11.50
Electrician (Journeyman)	\$ 19.63
Electrician Apprentice (Helper)	\$ 15.64
Electronic Technician	\$ 20.00
Floor Layer	\$ 18.00
Floor Layer Helper	\$ 10.00
Glazier	\$ 21.03
Glazier Helper	\$ 12.81
Insulator	\$ 16.59
Insulator Helper	\$ 11.21
Laborer Common	\$ 10.89
Laborer Skilled	\$ 14.15
Lather	\$ 12.99
Metal Building Assembler	\$ 16.00
Metal Building Assembler Helper	\$ 12.00
Metal Installer (Miscellaneous)	\$ 13.00
Metal Installer Helper (Miscellaneous)	\$ 11.00
Metal Stud Frammer	\$ 16.12
Metal Stud Frammer Helper	\$ 12.54
Painter	\$ 16.44
Painter Helper	\$ 9.98
Pipefitter	\$ 21.22
Pipefitter Helper	\$ 15.39
Plasterer	\$ 16.17
Plasterer Helper	\$ 12.85
Plumber	\$ 21.98
Plumber Helper	\$ 15.85
Reinforcing Steel Setter	\$ 12.87

Reinforcing Steel Setter Helper	\$	11.08
Roofer	\$	16.90
Roofer Helper	\$	11.15
Sheet Metal Worker	\$	16.35
Sheet Metal Worker Helper	\$	13.11
Sprinkler System Installer	\$	19.17
Sprinkler System Installer Helper	\$	14.15
Steel Worker Structural	\$	17.00
Steel Worker Structural Helper	\$	13.74
Waterproofer	\$	15.00
<b>Equipment Operators</b>		
Concrete Pump	\$	18.50
Crane, Clamsheel, Backhoe, Derrick, D'Line Shovel	\$	19.31
Forklift	\$	16.45
Foundation Drill Operator	\$	22.50
Front End Loader	\$	16.97
Truck Driver	\$	16.77
Welder	\$	19.96
Welder Helper	\$	13.00

The prevailing wage rates shown for Commercial construction projects were based on a salary survey conducted and published by the North Texas Construction Industry (Fall 2012) Independently compiled by the Lane Gorman Trubitt, PLLC Construction Group. The descriptions for the classifications listed are provided on the TEXO's (The Construction Association) website. [www.texoassociation.org/Chapter/wagerates.asp](http://www.texoassociation.org/Chapter/wagerates.asp)



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: April 09, 2021**

The Fort Worth Water Department's Standard Products List has been developed to minimize the submittal review of products which meet the Fort Worth Water Department's Standard Specifications during utility construction projects. When Technical Specifications for specific products, are included as part of the Construction Contract Documents, the requirements of the Technical Specification will override the Fort Worth Water Department's Standard Specifications and the Fort Worth Water Department's Standard Products List and approval of the specific products will be based on the requirements of the Technical Specification whether or not the specific product meets the Fort Worth Water Department's Standard Specifications or is on the Fort Worth Water Department's Standard Products List.

# Table of Content

(Click on items to go directly to the page)

<b>Items</b>	<b>Page</b>
<b>A. Water &amp; Sewer</b>	
1. Manholes & Bases/Components .....	1
2. Manholes & Bases/Fiberglass .....	2
3. Manholes & Bases/Frames & Covers/Rectangular .....	3
4. Manholes & Bases/Frames & Covers/Round .....	4
5. Manholes & Bases/Frames & Covers/Water Tight & Pressure Tight ..	5
6. Manholes & Bases/Precast Concrete .....	6
7. Manholes & Bases/Rehab Systems/Cementitious .....	7
8. Manholes & Bases/Rehab Systems/NonCementitious .....	8
9. Manhole Insert (Field Operations Use Only) .....	9
10. Pipe Casing Spacer .....	10
11. Pipes/Ductile Iron .....	11
12. Utility Line Marker .....	12
<b>B. Sewer</b>	
13. Coatings/Epoxy .....	13
14. Coatings/Polyurethane .....	14
15. Combination Air Valves .....	15
16. Pipes/Concrete .....	16

17. Pipe Enlargement System (Method) .....	17
18. Pipes/Fiberglass Reinforced Pipe .....	18
19. Pipes/HDPE .....	19
20. Pipes/PVC (Pressure Sewer) .....	20
21. Pipes/PVC* .....	21
22. Pipes/Rehab/CIPP .....	22
23. Pipes/Rehab/Fold & Form .....	23
24. Pipes/Open Profile Large Diameter .....	24

**C. Water**

25. Appurtenances .....	25
26. Bolts, Nuts, and Gaskets .....	26
27. Combination Air Release Valve .....	27
28. Dry Barrel Fire Hydrants .....	28
29. Meters .....	29
30. Pipes/PVC (Pressure Water) .....	30
31. Pipes/Valves & Fittings/Ductile Iron Fittings .....	31
32. Pipes/Valves & Fittings/Resilient Seated Gate Valve .....	32
33. Pipes/Valves & Fittings/Rubber Seated Butterfly Valve .....	33
34. Polyethylene Encasement .....	34
35. Sampling Stations .....	35
36. Automatic Flusher .....	36



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water &amp; Sewer - Manholes &amp; Bases/Components 33-39-10 (Rev 2/3/16)</b>						
07/23/97	33 05 13	Urethane Hydrophilic Waterstop	Asahi Kogyo K.K.	AdEka Ultra-Seal P-201	ASTM D2240/D412/D792	
04/26/00	33 05 13	Offset Joint for 4' Diam. MH	Hanson Concrete Products	Drawing No. 35-0048-001		
04/26/00	33 05 13	Profile Gasket for 4' Diam. MH.	Press-Seal Gasket Corp.	250-4G Gasket	ASTM C-443/C-361	SS MH
1/26/99	33 05 13	HDPE Manhole Adjustment Rings	Ladtech, Inc	HDPE Adjustment Ring		Non-traffic area
5/13/05	33 05 13	Manhole External Wrap	Canusa - CPS	WrapidSeal Manhole Encapsulation System		





**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water &amp; Sewer - Manholes &amp; Bases/Fiberglass 33-39-13 (1/8/13)</b>						
1/26/99	33 39 13	Fiberglass Manhole	Fluid Containment, Inc.	Flowrite	ASTM 3753	Non-traffic area
08/30/06	33 39 13	Fiberglass Manhole	L.F. Manufacturing			Non-traffic area



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Water &amp; Sewer - Manholes &amp; Bases/Frames &amp; Covers/Rectangular 33-05-13 (Rev 2/3/16)</b>				
*	33 05 13	Manhole Frames and Covers	Western Iron Works, Bass & Hays Foundry	1001		24"x40" WD



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

Updated: 04/09/2021

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water &amp; Sewer - Manholes &amp; Bases/Frames &amp; Covers/Standard (Round) 33-05-13 (Rev 2/3/16)</b>						
*	33 05 13	Manhole Frames and Covers	Western Iron Works, Bass & Hays Foundry	30024		24" Dia.
*	33 05 13	Manhole Frames and Covers	McKinley Iron Works Inc.	A 24 AM		24" Dia.
08/24/18	33 05 13	Manhole Frames and Covers	Necnah Foundry	R-1272	ASTM A48 & AASHTO M306	24" Dia.
08/24/18	33 05 13	Manhole Frames and Covers	Necnah Foundry	R-165-LM (Hinged)	ASTM A48 & AASHTO M306	24" Dia.
08/24/18	33 05 13	Manhole Frames and Covers	Necnah Foundry	NF 1274	ASTM A48 & AASHTO M306	30" Dia.
08/24/18	33 05 13	Manhole Frames and Covers	Necnah Foundry	R-1743-LM (Hinged)	ASTM A48 & AASHTO M306	30" dia.
	33 05 13	Manhole Frames and Covers	Sigma Corporation	MH-144N		
	33 05 13	Manhole Frames and Covers	Sigma Corporation	MH-143N		
	33 05 13	Manhole Frames and Covers	Pont-A-Mousson	GTS-STD		24" dia.
	33 05 13	Manhole Frames and Covers	Necnah Casting			24" dia.
10/31/06	33 05 13	Manhole Frames and Covers (Hinged)	Powersal	Hinged Ductile Iron Manhole	ASTM A536	24" Dia.
7/25/03	33 05 13	Manhole Frames and Covers	Saint-Gobain Pipelines (Pannex/rexus)	RE32-R8FS		30" Dia.
01/31/06	33 05 13	30" Dia. MH Ring and Cover	East Jordan Iron Works	V1432-2 and V1483 Designs	AASHTO M306-04	30" Dia.
11/02/10	33 05 13	30" Dia. MH Ring and Cover	Sigma Corporation	MH1651FWN & MH16502		30" Dia.
07/19/11	33 05 13	30" Dia. MH Ring and Cover	Star Pipe Products	MHB2FTWSS-DC		30" Dia.
08/10/11	33 05 13	30" Dia. MH Ring and Cover	Acuteast	220700 Heavy Duty with Gasket Ring		30" Dia.
10/14/13	33 05 13	30" Dia. MH Ring and Cover (Hinged & Lockable)	East Jordan Iron Works	30" ERGO XL Assembly with Gann Lock/MPICT-Gasket	AASHTO M105 & ASTM A536	30" Dia.
06/01/17	34 05 13	30" Dia. MH Ring and Cover (Hinged & Lockable) CI	SIP Industries	2280 (32")	ASTM A 48	30" Dia.
09/16/19	33 05 13.10	30" Dia. MH Ring and Cover	Composite Access Products, L.P.	CAP-ONE-30-FTW, Composite, w/ Lock w/o Hing		30" Dia.



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	<b>Water &amp; Sewer - Manholes &amp; Bases/Frames &amp; Covers/Water Tight &amp; Pressure Tight 33-05-13 (Rev 2/3/16)</b>					
*	33 05 13	Manhole Frames and Covers	Pont-A-Mousson	Pantlight		24" Dia.
*	33 05 13	Manhole Frames and Covers	Necnah Casting			24" Dia.
*	33 05 13	Manhole Frames and Covers	Western Iron Works Bess & Hays Foundry	300-24P		24" Dia.
*	33 05 13	Manhole Frames and Covers	McKinley Iron Works Inc.	WP24AM		24" Dia.
03/08/00	33 05 13	Manhole Frames and Covers	Accutast	RC-2100		24" Dia.
04/20/01	33 05 13	Manhole Frames and Covers	(SIP) Serampore Industries Private Ltd.	300-24-23.75 Ring and Cover	ASTM A 48	24" Dia.



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water &amp; Sewer - Manholes &amp; Bases/Precast Concrete (Rev 1/8/13)</b>						
*	33 39 10	Manhole, Precast Concrete	Hydro Conduit Corp	SPL Item #49	ASTM C 478	48"
*	33 39 10	Manhole, Precast Concrete	Wall Concrete Pipe Co. Inc.		ASTM C-443	48"
09/23/96	33 39 10	Manhole, Precast Concrete	Concrete Product Inc.	48" I.D. Manhole w/ 32" Cone	ASTM C 478	48" w/32" cone
05/08/18	33 39 10	Manhole, Precast Concrete	The Turner Company	48" , 60" I.D. Manhole w/ 32" Cone	ASTM C 478	48" , 60"
10/27/06	33 39 10	Manhole, Precast Concrete	Oldcastle Precast Inc.	48" I.D. Manhole w/ 24" Cone	ASTM C 478	48" Diam w 24" Ring
06/09/10	33 39 10	Manhole, Precast (Reinforce Polymer) Concrete	US Composite Pipe	Reinforced Polymer Concrete	ASTM C-76	48" to 72"
09/06/19	33 39 20	Manhole, Precast Concrete	Forterra Pipe and Precast	60" & 72" I.D. Manhole w/32" Cone	ASTM C-76	60" & 72"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water &amp; Sewer - Manholes &amp; Bases/Rehab Systems/Cementitious</b>						
*	EI-14	Manhole Rehab Systems	Quadex			
04/23/01	EI-14	Manhole Rehab Systems	Standard Cement Materials, Inc.	Reliner MSP		
	EI-14	Manhole Rehab Systems	AP/M Permatform			
4/20/01	EI-14	Manhole Rehab System	Strong Company	Strong Seal MS2A Rehab System		
5/12/03	EI-14	Manhole Rehab System (Liner)	Poly-triplex Technologies	MH repair product to stop infiltration	ASTM D5813	
08/30/06		General Concrete Repair	FlexKrete Technologies	Vinyl Polyester Repair Product		Misc. Use



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water &amp; Sewer - Manholes &amp; Bases/Reliab Systems/NonCementitious</b>						
05/20/96	E1-14	Manhole Reliab Systems	Sprayroc, Sun Coast	Spray Wall Polyurethane Coating	ASTM D639/D790	
*	E1-14	Manhole Reliab Systems				For Exterior Coating of Concrete Structures Only
12/14/01		Coating for Corrosion protection(Exterior)	ERTTECH	Series 20230 and 2100 (Asphaltic Emulsion)		Sewer Applications
01/31/06		Coatings for Corrosion Protection	Chesteron	Arc 791, S1HB, S1, S2	Acid Resistance Test	Sewer Applications
8/28/2006		Coatings for Corrosion Protection	Warren Environmental	S-301 and M-301		Sewer Applications
08/30/06		Coatings for Corrosion Protection	Citadel	SLS-30 Solids Epoxy		Sewer Applications
03/19/18	33 05 16, 33 39 10, 33 39 20	Coating for Corrosion protection(Exterior)	Sherwin Williams	RR&C Dampproofing Non-Fibered Spray Grade (Asphaltic Emulsion)		For Exterior Coating of Concrete Structures Only



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	<b>Water &amp; Sewer - Manhole Inserts - Field Operations Use Only (Rev 2/3/16)</b>					
*	33 05 13	Manhole Insert	Knutson Enterprises	Made to Order - Plastic	ASTM D 1248	For 24" dia.
*	33 05 13	Manhole Insert	South Western Packaging	Made to Order - Plastic	ASTM D 1248	For 24" dia.
*	33 05 13	Manhole Insert	NoFlow-Inflow	Made to Order - Plastic	ASTM D 1248	For 24" dia.
09/23/96	33 05 13	Manhole Insert	Southwestern Packaging & Seals, Inc.	LifeSaver - Stainless Steel		For 24" dia.
09/23/96	33 05 13	Manhole Insert	Southwestern Packaging & Seals, Inc.	TetherLok - Stainless Steel		For 24" dia.





**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water &amp; Sewer - Pipe Casing Spacers 33-05-24 (07/01/13)</b>						
	11/04/02	Steel Band Casing Spacers	Advanced Products and Systems, Inc.	Carbon Steel Spacers, Model SI		
	02/02/93	Stainless Steel Casing Spacer	Advanced Products and Systems, Inc.	Stainless Steel Spacer, Model SSI		
	04/22/87	Casing Spacers	Cascade Waterworks Manufacturing	Casing Spacers		
	09/14/10	Stainless Steel Casing Spacer	Pipeline Seal and Insulator	Stainless Steel Casing Spacer		Up to 48"
	09/14/10	Coated Steel Casing Spacers	Pipeline Seal and Insulator	Coated Steel Casing Spacers		Up to 48"
	05/10/11	Stainless Steel Casing Spacer	Powerseal	4810 Powerhook		Up to 48"
	03/19/18	Casing Spacers	BWM	SS-12 Casing Spacer(Stainless Steel)		
	03/19/18	Casing Spacers	BWM	FB-12 Casing Spacer (Coated Carbon Steel) for Non_pressure Pipe and Grouted Casing		



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Water &amp; Sewer - Pipes/Ductile Iron 33-11-10(1/8/13)</b>				
*	33 11 10	Ductile Iron Pipe	Griffin Pipe Products, Co.	Super Bell-Tite Ductile Iron Pressure Pipe,	AWWA C150, C151	3" thru 24"
08/24/18	33 11 10	Ductile Iron Pipe	American Ductile Iron Pipe Co.	American Fastite Pipe (Bell Spigot)	AWWA C150, C151	4" thru 30"
08/24/18	33 11 10	Ductile Iron Pipe	American Ductile Iron Pipe Co.	American Flex Ring (Restrained Joint)	AWWA C150, C151	4" thru 30"
*	33 11 10	Ductile Iron Pipe	U.S. Pipe and Foundry Co.		AWWA C150, C151	
*	33 11 10	Ductile Iron Pipe	McWane Cast Iron Pipe Co.		AWWA C150, C151	



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	Water & Sewer - Utility Line Marker (08/24/2018)					



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Sewer - Coatings/Epoxy 33-39-60 (01/08/13)</b>				
02/25/02		Epoxy Lining System	Sauerisen, Inc	SewerGard 210RS	LA County #210-1.33	
12/14/01		Epoxy Lining System	Ertech Technical Coatings	Ertech 2030 and 2100 Series		
04/14/05		Interior Ductile Iron Pipe Coating	Induron	Protecto 401	ASTM B-117	Ductile Iron Pipe Only
01/31/06		Coatings for Corrosion Protection	Chesterton	Arc 791, SIHB, S1, S2	Acid Resistance Test	Sewer Applications
8/28/2006		Coatings for Corrosion Protection	Warren Environmental	S-301 and M-301		Sewer Applications



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	<u>Sewer - Coatings/</u>	<u>Polypurethane</u>				



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b><u>Sewer - Combination Air Valves</u></b>				
05/25/18	33-31-70	Air Release Valve	A.R.I. USA, Inc.	D025L TP02(Composite Body)		2"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Sewer - Pipes/Concrete</b>						
*	E1-04	Conc. Pipe, Reinforced	Wall Concrete Pipe Co. Inc.		ASTM C 76	
*	E1-04	Conc. Pipe, Reinforced	Hydro Conduit Corporation	Class III T&G, SPL Item #77	ASTM C 76	
*	E1-04	Conc. Pipe, Reinforced	Hanson Concrete Products	SPL Item #95-Manhole, #98-Pipe	ASTM C 76	
*	E1-04	Conc. Pipe, Reinforced	Concrete Pipe & Products Co. Inc.		ASTM C 76	



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Sewer - Pipe Enlargement System (Method) 33-31-23 (01/18/13)</b>				
		PIM System	PIM Corporation	Polyethylene	PIM Corp., Piscata Way, N.J.	Approved Previously
		McConnell Systems	McLat Construction	Polyethylene	Houston, Texas	Approved Previously
		TRIS Systems	Trenchless Replacement System	Polyethylene	Calgary, Canada	Approved Previously





**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Sewer - Pipe/Fiberglass Reinforced Pipe 33-31-13(1/8/13)</b>						
7/21/97	33 31 13	Cent. Cast Fiberglass (FRP)	Hobas Pipe USA, Inc.	Hobas Pipe (Non-Pressure)	ASTM D3262/D3754	
03/22/10	33 31 13	Fiberglass Pipe (FRP)	Ameron	Bondstrand RPPMP Pipe	ASTM D3262/D3754	
04/09/21		Glass-Fiber Reinforced Polymer Pipe (FRP)	Thompson Pipe Group	Thompson Pipe (Flowtite)	ASTM D3262/D3754	
4/14/05		Polymer Modified Concrete Pipe	Amitech USA	Meyer Polycrete Pipe	ASTM C33, A276, F477	8" to 102", Class V
06/09/10	EI-9	Reinforced Polymer Concrete Pipe	US Composite Pipe	Reinforced Polymer Concrete Pipe	ASTM C-76	



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	<b>Sewer - Pipes/HDPE 33-31-23(1/8/13)</b>					
*		High-density polyethylene pipe	Phillips Driscopipe, Inc.	Opticore Ductile Polyethylene Pipe	ASTM D 1248	8"
*		High-density polyethylene pipe	Plexco Inc.		ASTM D 1248	8"
*		High-density polyethylene pipe	Polly Pipe, Inc.		ASTM D 1248	8"
		High-density polyethylene pipe	CSR Hydro Conduit/Pipeline Systems	McConnell Pipe Enlargement	ASTM D 1248	



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Sewer - Pipes/PVC (Pressure Sewer) 33-11-12 (4/1/13)</b>				
12/02/11	33-11-12	DR-14 PVC Pressure Pipe	Pipelife Jastream	PVC Pressure Pipe	AWWA C900	4" thru 12"
10/22/14	33-11-12	DR-14 PVC Pressure Pipe	Royal Building Products	Royal Seal PVC Pressure Pipe	AWWA C900	4" thru 12"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

Updated:04/09/2021

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	<b>Sewer - Pipes/PVC* 33-31-20 (7/1/13)</b>					
*	33-31-20	PVC Sewer Pipe	J-M Manufacturing Co., Inc. (JM Eagle)	SDR-26	ASTM D 3034	4" - 15"
12/23/97*	33-31-20	PVC Sewer Pipe	Diamond Plastics Corporation	SDR-26	ASTM D 3034	4" thru 15"
*	33-31-20	PVC Sewer Pipe	Lamson Vylon Pipe		ASTM F 789	4" thru 15"
01/18/18	33-31-20	PVC Sewer Pipe	Vinyltech PVC Pipe	Gravity Sewer	ASTM D3034	4" thru 15"
11/1/98	33-31-20	PVC Sewer Pipe	Diamond Plastics Corporation	"S" Gravity Sewer Pipe	ASTM F 679	18" to 27"
*	33-31-20	PVC Sewer Pipe	J-M Manufacturing Co., Inc. (JM Eagle)	SDR 26/35 PS 115/46	ASTM F 679	18" - 28"
09/11/12	33-31-20	PVC Sewer Pipe	Pipelife Jet Stream	SDR-26 and SDR-35	ASTM F-679	18"
05/06/05	33-31-20	PVC Solid Wall Pipe	Diamond Plastics Corporation	SDR 26/35 PS 115/46	ASTM D-3034, D-1784, etc	18" to 48"
04/27/06	33-31-20	PVC Sewer Fittings	Harco	SDR-26 and SDR-35 Gasket Fittings		4" - 15"
*	33-31-20	PVC Sewer Fittings	Plastic Trends, Inc	Gasketed PVC Sewer Main Fittings	ASTM D 3034	
3/19/2018	33 31 20	PVC Sewer Pipe	Pipelife Jet Stream	SDR 35	ASTM F679	18"- 24"
3/19/2018	33 31 20	PVC Sewer Pipe	Pipelife Jet Stream	SDR 26	ASTM D3034	4"- 15"
3/29/2019	33 31 20	Gasketed Fittings (PVC)	GPk Products, Inc.	SDR 26	ASTM D3034/F-679	4"- 15"
10/21/2020	33 31 20	PVC Sewer Pipe	NAPCO	SDR 26	ASTM D3034	4" - 15"
10/22/2020	33 31 20	PVC Sewer Pipe	Sanderson Pipe Corp.	SDR 26	ASTM D3034	4"- 15"
10/21/2020	33 31 20	PVC Sewer Pipe	NAPCO	SDR 26/35 PS 115/46	ASTM F-679	18"- 36"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Sewer - Pipes/Rehab/CIPP 33-31-12 (01/18/13)</b>				
*		Cured in Place Pipe	Institutom Texark, Inc		ASTM F 1216	
05/03/99		Cured in Place Pipe	National Envirotech Group	National Liner (SPL) Item #27	ASTM F-1216/D-5813	
05/29/96		Cured in Place Pipe	Reynolds Inc/Inliner Technology (Inliner USA)	Inliner Technology	ASTM F 1216	



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Sewer - Pipes/Rehab/Fold &amp; Form</b>				
*		Fold and Form Pipe	Cullum Pipe Systems, Inc.			
11/03/98		Fold and Form Pipe	Institutorm Technologies, Inc.	Institutorm "Nub Pipe"	ASTM F-1504	
		Fold and Form Pipe	American Pipe & Plastics, Inc.			Demo, Purpose Only
12/04/00		Fold and Form Pipe	Ultraliner	Ultraliner PVC Alloy Pipeliner	ASTM F-1504, 1871, 1867	
06/09/03		Fold and Form Pipe	Miller Pipeline Corp.	EX Method	ASTM F-1504, F-1947	Up to 18" diameter



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Sewer - Pipes/Open Profile Large Diameter</b>				
09/26/91	E100-2	PVC Sewer Pipe, Ribbed	Lamson Nylon Pipe	Carlton Nylon H.C. Closed Profile Pipe,	ASTM F 679	18" to 48"
09/26/91	E100-2	PVC Sewer Pipe, Ribbed	Extrusion Technologies, Inc.	Ultra-Rib Open Profile Sewer Pipe	ASTM F 679	18" to 48"
	E100-2	PVC Sewer Pipe, Ribbed	Uponor ETI Company			
11/10/10	(E100-2)	Polypropylene (PP) Sewer Pipe, Double Wall	Advanced Drainage Systems (ADS)	SaniTie HP Double Wall (Corrugated)	ASTM F 2736	24"-30"
11/10/10	(E100-2)	Polypropylene (PP) Sewer Pipe, Triple Wall	Advanced Drainage Systems (ADS)	SaniTie HP Triple Wall Pipe	ASTM F 2764	30" to 60"
05/16/11		Steel Reinforced Polyethylene Pipe	ConTech Construction Products	Durmaxx	ASTM F 2562	24" to 72"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

Updated: 04/09/2021

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water - Appurtenances 33-12-10 (07/01/13)</b>						
	01/18/18	Double Strap Saddle	Romac	202NS Nylon Coated	AWWA C800	1"-2" SVC, up to 24" Pipe
	08/28/02	Double Strap Saddle	Smith Blair	#317 Nylon Coated Double Strap Saddle		
	07/23/12	Double Strap Service Saddle	Mueller Company	DR2S Double (SS) Strap DI Saddle	AWWA C800	1"-2" SVC, up to 24" Pipe
	10/27/87	Curb Stops-Ball Meter Valves	McDonald	6100M,6100MT & 610MT		3/4" and 1"
	10/27/87	Curb Stops-Ball Meter Valves	McDonald	4603B, 4604B, 6100M, 6100TM and 6101M		1 1/2" and 2"
	5/25/2018	Curb Stops-Ball Meter Valves	Ford Meter Box Co., Inc.	FB600-7NL, FB1600-7-NL, FV23-777-W-NL, 122-77NL	AWWA C800	2"
	5/25/2018	Curb Stops-Ball Meter Valves	Ford Meter Box Co., Inc.	FB600-6-NL, FB1600-6-NL, FV23-666-W-NL, 122-66NL	AWWA C800	1-1/2"
	5/25/2018	Curb Stops-Ball Meter Valves	Ford Meter Box Co., Inc.	FB600-4-NL, FB1600-4-NL, B11-444-WR-NL, B22444-WR-NL, 128-44NL	AWWA C800	1"
	5/25/2018	Curb Stops-Ball Meter Valves	Mueller Co., Ltd.	B-25000N, B-24277N-3, B-20200N-3, H-15000N, H-1552N, H142276N	AWWA C800, ANSF 61, ANS/NSF 372	2"
	5/25/2018	Curb Stops-Ball Meter Valves	Mueller Co., Ltd.	B-25000N, B-20200N-3, B-24277N-3, H-15000N, H-14276N, H-15525N	AWWA C800, ANSF 61, ANS/NSF 372	1-1/2"
	5/25/2018	Curb Stops-Ball Meter Valves	Mueller Co., Ltd.	B-25000N, B-20200N-3, H-15000N, H-15530N	AWWA C800, ANSF 61, ANS/NSF 372	1"
	01/26/00	Coated Tapping Saddle with Double SS Straps	JCM Industries, Inc.	#406 Double Band SS Saddle		1"-2" Taps on up to 12"
	0/5/21/12	Tapping Sleeve (Coated Steel)	JCM Industries, Inc.	412 Tapping Sleeve ESS	AWWA C-223	Up to 30" w/12" Out
	05/10/11	Tapping Sleeve (Stainless Steel)	Powersal	3490AS (Flange) & 3490MJ		4"-8" and 16"
	02/29/12	Tapping Sleeve (Coated Steel)	Romac	FTS 420	AWWA C-223	Up to 42" w/24" Out
	02/29/12	Tapping Sleeve (Stainless Steel)	Romac	SST-III Stainless Steel	AWWA C-223	Up to 24" w/12" Out
	02/29/12	Tapping Sleeve (Stainless Steel)	Romac	SST-III Stainless Steel	AWWA C-223	Up to 30" w/12" Out
	05/10/11	Joint Repair Clamp	Powersal	3232 Bell Joint Repair Clamp		4" to 30"
		Plastic Meter Box w/Composite Lid	DFW Plastics Inc.	DFW37C-12-1EPAF FTW		
		Plastic Meter Box w/Composite Lid	DFW Plastics Inc.	DFW39C-12-1EPAF FTW		
	08/30/06	Plastic Meter Box w/Composite Lid	DFW Plastics Inc.	DFW65C-14-1EPAF FTW		Class "A"
		Concrete Meter Box	Bas & Hays	CMB37-B12 1118 LID-9		
		Concrete Meter Box	Bas & Hays	CMB-18-Dual 1416 LID-9		
		Concrete Meter Box	Bas & Hays	CMB65-B65 1527 LID-9		





**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	Water - Bolts, Nuts, and Gaskets	33-11-05 (01/08/13)				



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	<b>Water - Combination Air Release 33-31-70 (01/08/13)</b>					
*	EI-11	Combination Air Release Valve	GA Industries, Inc.	Empire Air and Vacuum Valve, Model 935	ASTM A 126 Class B, ASTM A 240 - float, ASTM A 307 - Cover Bolts	1" & 2"
*	EI-11	Combination Air Release Valve	Multiplex Manufacturing Co.	Crispin Air and Vacuum Valves, Model No.		1/2", 1" & 2"
*	EI-11	Combination Air Release Valve	Valve and Primer Corp.	APCO #143C, #145C and #147C		1", 2" & 3"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Water - Dry Barrel Fire Hydrants 33-12-40 (01/15/14)</b>				
10/01/87	E-1-12	Dry Barrel Fire Hydrant	American-Darling Valve	Drawing Nos. 90-18608, 94-18560	AWWA C-502	
03/31/88	E-1-12	Dry Barrel Fire Hydrant	American Darling Valve	Shop Drawing No. 94-18791	AWWA C-502	
09/30/87	E-1-12	Dry Barrel Fire Hydrant	Clow Corporation	Shop Drawing No. D-19895	AWWA C-502	
01/12/93	E-1-12	Dry Barrel Fire Hydrant	American AVK Company	Model 2700	AWWA C-502	
08/24/88	E-1-12	Dry Barrel Fire Hydrant	Clow Corporation	Drawings D20433, D20436, B20506	AWWA C-502	
	E-1-12	Dry Barrel Fire Hydrant	ITT Kennedy Valve	Shop Drawing No. D:80783FW	AWWA C-502	
09/24/87	E-1-12	Dry Barrel Fire Hydrant	M&H Valve Company	Shop Drawing No. 13476	AWWA C-502	
10/14/87	E-1-12	Dry Barrel Fire Hydrant	Mueller Company	Shop Drawings No. 6461 A-423 Centurion	AWWA C-502	
01/15/88	E1-12	Dry Barrel Fire Hydrant	Mueller Company	Shop Drawing FH-12	AWWA C-502	
10/09/87	E-1-12	Dry Barrel Fire Hydrant	U.S. Pipe & Foundry	A-423 Super Centurion 200 Shop Drawing No. 960250	AWWA C-502	
09/16/87	E-1-12	Dry Barrel Fire Hydrant	Waterous Company	Shop Drawing No. SK740803	AWWA C-502	
08/12/16	33-12-40	Dry Barrel Fire Hydrant	EJ (East Jordan Iron Works)	WaterMaster 5CD250		



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water - Meters</b>						
02/05/93	E101-5	Detector Check Meter	Ames Company	Model 1000 Detector Check Valve	AWWA C550	4" - 10"
08/05/04		Magnetic Drive Vertical Turbine	Hersey	Magnetic Drive Vertical	AWWA C701, Class 1	3/4" - 6"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water - Pipes/PVC (Pressure Water) 33-31-70 (01/08/13)</b>						
01/18/18	33-11-12	PVC Pressure Pipe	Vinyltech PVC Pipe	DR14	AWWA C900, AWWA C605, ASTM D1784	4"-12"
3/19/2018	33 11 12	PVC Pressure Pipe	Pipefitc Jet Stream	DR14	AWWA C900	4"-12"
3/19/2018	33 11 12	PVC Pressure Pipe	Pipefitc Jet Stream	DR18	AWWA C900	16"-24"
5/25/2018	33 11 12	PVC Pressure Pipe	Diamond Plastics Corporation	DR 14	AWWA C900	4"-12"
5/25/2018	33 11 12	PVC Pressure Pipe	Diamond Plastics Corporation	DR 18	AWWA C900	16"-24"
12/6/2018	33 11 12	PVC Pressure Pipe	J-M Manufacturing Co., Inc d/b/a JM Eagle	DR 14	AWWA C900-16 UL 1285 ANSI/NSF 61 FM 1612	4"-28"
12/6/2018	33 11 12	PVC Pressure Pipe	J-M Manufacturing Co., Inc d/b/a JM Eagle	DR 18	AWWA C900-16 UL 1285 ANSI/NSF 61 FM 1612	16"-24"
9/6/2019	33 11 12	PVC Pressure Pipe	Underground Solutions Inc.	DR14 Frushle PVC	AWWA C900	4" - 8"
9/6/2019	33 11 12	PVC Pressure Pipe	NAPCO	DR18	AWWA C900	16" - 24"
9/6/2019	33 11 12	PVC Pressure Pipe	NAPCO	DR14	AWWA C900	4" - 12"
9/6/2019	33 11 12	PVC Pressure Pipe	Sanderson Pipe Corp.	DR14	AWWA C900	4" - 12"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

Updated:04/09/2021

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Water - Pipes/Valves &amp; Fittings/Ductile Iron Fittings 33-11-11 (01/08/13)</b>				
07/23/92	EI-07	Ductile Iron Fittings	Star Pipe Products, Inc.	Mechanical Joint Fittings	AWWA C153 & C110	
*	EI-07	Ductile Iron Fittings	Griffin Pipe Products, Co.	Mechanical Joint Fittings	AWWA C 110	
*	EI-07	Ductile Iron Fittings	McWane/Tyler Pipe/ Union Utilities Division	Mechanical Joint Fittings, SSB Class 350	AWWA C153, C 110, C 111	
08/11/98	EI-07	Ductile Iron Fittings	Sigma, Co.	Mechanical Joint Fittings, SSB Class 351	AWWA C153, C 110, C 112	
02/26/14	EI-07	MJ Fittings	Accecast	Class 350 C-153 MJ Fittings	AWWA C153	4"-12"
05/14/98	EI-07	Ductile Iron Joint Restraints	Ford Meter Box Co./Uni-Flange	Uni-Flange Series 1400	AWWA C111/C153	4" to 36"
05/14/98	EI-24	PVC Joint Restraints	Ford Meter Box Co./Uni-Flange	Uni-Flange Series 1500 Circle-Lock	AWWA C111/C153	4" to 24"
11/09/04	EI-07	Ductile Iron Joint Restraints	One Bolt, Inc.	One Bolt Restrained Joint Fitting	AWWA C111/C116/C153	4" to 12"
02/29/12	33-11-11	Ductile Iron Pipe Mechanical Joint Restraint	EBAA Iron, Inc.	Megaling Series 1100 (for DI Pipe)	AWWA C111/C116/C153	4" to 42"
02/29/12	33-11-11	PVC Pipe Mechanical Joint Restraint	EBAA Iron, Inc.	Megaling Series 2000 (for PVC Pipe)	AWWA C111/C116/C153	4" to 42"
08/05/04	EI-07	Mechanical Joint Retainer Glands(PVC)	Sigma, Co.	Sigma One-Lok SLG4 - SLG10	AWWA C111/C153	4" to 10"
03/06/19	33-11-11	Mechanical Joint Retainer Glands(PVC)	Sigma, Co.	Sigma One-Lok SLG4 - SLGS12	AWWA C111/C153	4" to 12"
08/05/04	EI-07	Mechanical Joint Retainer Glands(PVC)	Sigma, Co.	Sigma One-Lok SLCE	AWWA C111/C153	12" to 24"
08/10/98	EI-07	MJ Fittings(DIP)	Sigma, Co.	Sigma One-Lok SLDE	AWWA C153	4" - 24"
10/12/10	EI-24	Interior Restrained Joint System	S & B Technical Products	Buildog System ( Diamond Lok 21 & JM Eagle	ASTM F-1624	4" to 12"
08/16/06	EI-07	Mechanical Joint Fittings	SIP Industries(Serampore)	Mechanical Joint Fittings	AWWA C153	4" to 24"
11/07/16	33-11-11	Mechanical Joint Retainer Glands	Star Pipe Products, Inc.	PVC Stargrip Series 4000	ASTM A536 AWWA C111	
11/07/16	33-11-11	Mechanical Joint Retainer Glands	Star Pipe Products, Inc.	DIP Stargrip Series 3000	ASTM A536 AWWA C111	
03/19/18	33-11-11	Mechanical Joint Retainer Glands	SIP Industries(Serampore)	EZ Grip Joint Restraint (EZD) Black For DIP	ASTM A536 AWWA C111	3"-48"
03/19/18	33-11-11	Mechanical Joint Retainer Glands	SIP Industries(Serampore)	EZ Grip Joint Restraint (EZD) Red for C900	ASTM A536 AWWA C111	4"-12"
03/19/18	33-11-11	Mechanical Joint Retainer Glands	SIP Industries(Serampore)	EZ Grip Joint Restraint (EZD) Red for C900 DRI 8 PVC Pipe	ASTM A536 AWWA C111	16"-24"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

Updated: 04/09/2021

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
		<b>Water - Pipes/Valves &amp; Fittings/Resilient Seated Gate Valve* 33-12-20 (05/13/15)</b>				
		Resilient Wedged Gate Valve w/no Gears	American Flow Control	Series 2500 Drawing # 94-20247		16"
	12/13/02	Resilient Wedge Gate Valve	American Flow Control	Series 2530 and Series 2536	AWWA C515	30" and 36"
	08/31/99	Resilient Wedge Gate Valve	American Flow Control	Series 2520 & 2524 (SD 94-20235)	AWWA C515	20" and 24"
	05/18/99	Resilient Wedge Gate Valve	American Flow Control	Series 2516 (SD 94-20247)	AWWA C515	16"
	10/24/00	Resilient Wedge Gate Valve	American Flow Control	Series 2500 (Ductile Iron)	AWWA C515	4" to 12"
	08/05/04	Resilient Wedge Gate Valve	American Flow Control	42" and 48" AFC 2500	AWWA C515	42" and 48"
	05/23/91	Resilient Wedge Gate Valve	American AVK Company	American AVK Resilient Seated GV	AWWA C509	4" to 12"
	01/24/02	Resilient Wedge Gate Valve	American AVK Company			20" and smaller
	*	Resilient Seated Gate Valve	Kennedy			4" - 12"
	*	Resilient Seated Gate Valve	M&H			4" - 12"
	*	Resilient Seated Gate Valve	Mueller Co.			4" - 12"
	11/08/99	Resilient Wedge Gate Valve	Mueller Co.	Series A2361 (SD 6647)	AWWA C515	16"
	01/23/03	Resilient Wedge Gate Valve	Mueller Co.	Series A2360 for 18"-24" (SD 6709)	AWWA C515	24" and smaller
	05/13/05	Resilient Wedge Gate Valve	Mueller Co.	Mueller 30" & 36" C-515	AWWA C515	30" and 36"
	01/31/06	Resilient Wedge Gate Valve	Mueller Co.	Mueller 42" & 48" C-515	AWWA C515	42" and 48"
	01/28/88	Resilient Wedge Gate Valve	Clow Valve Co.		AWWA C509	4" - 12"
	10/04/94	Resilient Wedge Gate Valve	Clow Valve Co.	16" RS GV (SD D-20995)	AWWA C515	16"
	11/08/99	Resilient Wedge Gate Valve	Clow Valve Co.	Clow RW Valve (SD D-21652)	AWWA C515	24" and smaller
	11/29/04	Resilient Wedge Gate Valve	Clow Valve Co.	Clow 30" & 36" C-515	AWWA C515	30" and 36" (Note 3)
	11/30/12	Resilient Wedge Gate Valve	Clow Valve Co.	Clow Valve Model 2638	AWWA C515	24" to 48" (Note 3)
	05/08/91	Resilient Seated Gate Valve	Stockham Valves & Fittings		AWWA C 509, ANSI 420 - stem, ASTM A 276 Type 304 - Bolts & nuts	4" - 12"
	*	Resilient Seated Gate Valve	U.S. Pipe and Foundry Co.	Metrosal 250, requirements SPL #74		3" to 16"
	10/26/16	Resilient Seated Gate Valve	EI (East Jordan Iron Works)	EI FlowMaster Gate Valve & Boxes		
	08/24/18	Mateo Gate Valve	Mateo-Norca	225 MR	AWWA/ANSI C115/An2L15	4" to 16"



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	<b>Water - Pipes/Valves &amp; Fittings/Rubber Seated Butterfly Valve 33-12-21 (07/10/14)</b>					
*	E1-30	Rubber Seated Butterfly Valve	Henry Peat Co.		AWWA C-504	24"
*	E1-30	Rubber Seated Butterfly Valve	Mueller Co.		AWWA C-504	24" and smaller
1/1/99	E1-30	Rubber Seated Butterfly Valve	Dezurik Valves Co.		AWWA C-504	24" and larger
06/12/03	E1-30	Valmatic American Butterfly Valve	Valmatic Valve and Manufacturing Corp.	Valmatic American Butterfly Valve.	AWWA C-504	Up to 84" diameter
04/06/07	E1-30	Rubber Seated Butterfly Valve	M&H Valve	M&H Style 4500 & 1450	AWWA C-504	24" to 48"
03/19/18	33 12 21	Rubber Seated Butterfly Valve	G. A. Industries (Golden Anderson)	AWWA C504 Butterfly Valve	AWWA C-504	30"-54"





**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water - Polyethylene Encasement 33-11-10 (01/08/13)</b>						
05/12/05	E1-13	Polyethylene Encasement	Flexsol Packaging	Fulton Enterprises	AWWA C105	8 mil LLD
05/12/05	E1-13	Polyethylene Encasement	Mountain States Plastics (MSP) and AEP Ind.	Standard Hardware	AWWA C105	8 mil LLD
05/12/05	E1-13	Polyethylene Encasement	AEP Industries	Bullstrong by Cowtown Bolt & Gasket	AWWA C105	8 mil LLD
09/06/19	33-11-11	Polyethylene Encasement	Norhtown Products Inc.	PE Encasement for DIP	AWWA C105	8 mil LLD



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
3/12/96	<u>Water - Sampling Station</u>	Water Sampling Station	Water Plus	B20 Water Sampling Station		



**CITY OF FORT WORTH  
WATER DEPARTMENT  
STANDARD PRODUCT LIST**

**Updated: 04/09/2021**

Note: All water or sewer pipe larger than 15 inch diameter shall be approved for use by the Water Department on a project specific basis. Special bedding may be required for some pipes.

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Water - Automatic Flusher</b>						
		Automated Flushing System	Mueller Hydroguard	HG6-A-IN-2-BRN-1-PRR(Portable)		
10/21/20		Automated Flushing System	Kupferle Foundry Company	HG2-A-IN-2-PVC-018-L-PLG(Permanent)		
04/09/21		Automated Flushing System	Kupferle Foundry Company	Eclipse #9800wc		
04/09/21		Automated Flushing System	Kupferle Foundry Company	Eclipse #9700 (Portable)		



**CITY OF FORT WORTH**  
**TRANSPORTATION & PUBLIC WORKS DEPARTMENT**  
**STORMWATER MANAGEMENT DIVISION**  
**STANDARD PRODUCT LIST**

Updated: 03/19/2021

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Storm Sewer - Manholes &amp; Bases/Frames &amp; Covers/Standard (Round) 33-05-13 (Rev 03/19/2021)</b>						
9/28/2018	33 05 13	Manhole Frames and Covers	AccuCast (Govind Steel Company, LTD)	MHRC #220605	ASTM A48 AASHTO M306	**24" Dia
9/28/2018	33 05 13	Manhole Cover	Neenah Foundry	NF-1274-T91	ASTM A48 AASHTO M306	32" Dia
9/28/2018	33 05 13	Manhole Frames and Covers	Neenah Foundry	NF-1743-LM (Hinged)	ASTM A48 AASHTO M306	32" Dia
9/28/2018	33 05 13	Manhole Frame	Neenah Foundry	NF-1930-30	ASTM A48 AASHTO M306	32.25" Dia
9/28/2018	33 05 13	Manhole Frames and Covers	Neenah Foundry	R-1743-HV	ASTM A48 AASHTO M306	32" Dia
4/3/2019	33 05 13	Manhole Frames and Covers	SIP Industries ++	2279ST	ASTM A48 AASHTO M306	**24" Dia
4/3/2019	33 05 13	Manhole Frames and Covers	SIP Industries ++	2280ST	ASTM A48 AASHTO M306	32" Dia
10/8/2020	33 05 13	Manhole Frames and Covers	EJ (Formerly East Jordan Iron Works)	EJ1033 Z2/A	ASTM A536 AASHTO M306	32.25" Dia

\*\*Note: All new development and new installation manhole lids shall meet the minimum 30-inch opening requirement as specified in City Specification 33 05 13. Any smaller opening sizes will only be allowed for existing manholes that require replacement frames and covers.



**CITY OF FORT WORTH  
TRANSPORTATION & PUBLIC WORKS DEPARTMENT  
STORMWATER MANAGEMENT DIVISION  
STANDARD PRODUCT LIST**

Updated: 03/19/21

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
<b>Storm Sewer - Inlet &amp; Structures 33-05-13 (Rev 03/19/2021)</b>						
10/08/20	33 49 20	Curb Inlets	Forterra	FRT-10x3-405-PRECAST	ASTM C913	10' X 3'
10/08/20	33 49 20	Curb Inlets	Forterra	FRT-10x3-406-PRECAST	ASTM C913	10' X 3'
10/08/20	33 49 20	Curb Inlets	Forterra	FRT-10x4.5-407-PRECAST	ASTM C913	10' X 4.5'
10/08/20	33 49 20	Curb Inlets	Forterra	FRT-10x4.5-420-PRECAST	ASTM C913	10' X 4.5'
10/08/20	33 39 20	Manhole	Forterra	FRT-4X4-409-PRECAST-TOP	ASTM C913	4' X 4'
10/08/20	33 39 20	Manhole	Forterra	FRT-4X4-409-PRECAST-BASE	ASTM C913	4' X 4'
10/08/20	33 39 20	Manhole	Forterra	FRT-5X5-410-PRECAST-TOP	ASTM C913	5' X 5'
10/08/20	33 39 20	Manhole	Forterra	FRT-5X5-410-PRECAST-BASE	ASTM C913	5' X 5'
10/08/20	33 39 20	Manhole	Forterra	FRT-6X6-411-PRECAST-TOP	ASTM C913	6' X 6'
10/08/20	33 39 20	Manhole	Forterra	FRT-6X6-411-PRECAST-BASE	ASTM C913	6' X 6'
3/19/2021	33 49 20	Curb Inlets	Thompson Pipe Group	TPG-10X3-405-PRECAST INLET	ASTM 615	10' X 3'
3/19/2021	33 49 20	Curb Inlets	Thompson Pipe Group	TPG-15X3-405-PRECAST INLET	ASTM 615	15' X 3'
3/19/2021	33 49 20	Curb Inlets	Thompson Pipe Group	TPG-20X3-405-PRECAST INLET	ASTM 615	20' X 3'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-4X4-409-PRECAST TOP	ASTM 615	4' X 4'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-4X4-409-PRECAST BASE	ASTM 615	4' X 4'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-4X4-412-PRECAST 4-FT RISER	ASTM 615	4' X 4'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-5X5-410-PRECAST TOP	ASTM 615	5' X 5'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-5X5-410-PRECAST BASE	ASTM 615	5' X 5'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-5X5-412-PRECAST 5-FT RISER	ASTM 615	5' X 5'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-6X6-411-PRECAST TOP	ASTM 615	6' X 6'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-6X6-411-PRECAST BASE	ASTM 615	6' X 6'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-6X6-412-PRECAST 6-FT RISER	ASTM 615	6' X 6'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-7X7-411-PRECAST TOP	ASTM 615	7' X 7'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-7X7-411-PRECAST BASE	ASTM 615	7' X 7'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-7X7-412-PRECAST 4-FT RISER	ASTM 615	7' X 7'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-8X8-411-PRECAST TOP	ASTM 615	8' X 8'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-8X8-411-PRECAST BASE	ASTM 615	8' X 8'
3/19/2021	33 39 20	Manhole	Thompson Pipe Group	TPG-8X8-412-PRECAST 5-FT RISER	ASTM 615	8' X 8'
3/19/2021	33 49 20	Drop Inlet	Thompson Pipe Group	TPG-4X4-408-PRECAST INLET	ASTM 615	4' X 4'
3/19/2021	33 49 20	Drop Inlet	Thompson Pipe Group	TPG-5X5-408-PRECAST INLET	ASTM 615	5' X 5'
3/19/2021	33 49 20	Drop Inlet	Thompson Pipe Group	TPG-6X6-408-PRECAST INLET	ASTM 615	6' X 6'

\* From Original Standard Products List



**CITY OF FORT WORTH  
TRANSPORTATION & PUBLIC WORKS DEPARTMENT  
STORMWATER MANAGEMENT DIVISION  
STANDARD PRODUCT LIST**

Updated: 04/14/21

Approval	Spec No.	Classification	Manufacturer	Model No.	National Spec	Size
	Storm Sewer - Pipes	33-05-13 (Rev 03/19/21)				

4/9/2021      33 41 13      Storm Drain Pipes      Advanced Drainage Systems, Inc. (ADS)      ADS HP Storm Polypropylene (PP) Pipe      ASTM F2881 & AASHTO M330      12" - 60"

**CITY OF FORT WORTH  
Pre-Approved Concrete Mix Designs**

The concrete mix designs listed below meet the requirements of City of Fort Worth Standard Specifications. These mix designs are pre-approved for use on City projects.

The City reserves the right to sample and test materials at any time.

For more information on mix designs, contact the Material and Geotechnical Services at (817) 392-8930.

Updated: **06/01/2021**

**American Concrete Company**

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
30CAF029	376/94 = 470	5.00	3,000	3 – 5	0.50	Sidewalks & Ramps	02/21/2022
01JAF382	250/85 = 335	3.56	1,000	4 – 6	0.87	Concrete Base Material for Trench Repair	05/06/2022
40CNF065	451/113 = 564	6.00	4,000	3 – 5	0.45	Manholes / Utility Structures	02/21/2022
45CAF076	489/122 = 611	6.50	4,500	3 – 5	0.40	Hand Placed Paving	02/21/2022

**Argos**

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
D10000001737	468/117 = 585	6.22	4,500	3 – 5	0.44	Hand Placed Paving	03/03/2022
D10000001791	489/122 = 611	6.50	4,500	3 – 5	0.42	Hand Placed Paving	04/21/2022
D10000001793	481/120 = 601	6.39	4,500	3 – 5	0.43	Hand Placed Paving	07/28/2022
D10000001103	611/0 = 611	6.50	4,500	3 – 5	0.44	Hand Placed Paving	04/21/2022
D10000002107	611/0 = 611	6.50	4,500	3 – 5	0.43	Hand Placed Paving	05/07/2022
D10000001273	611/0 = 611	6.50	4,500	3 – 5	0.44	Hand Placed Paving	04/29/2023
D10000001223	517/0 = 517	5.50	3,600	1 – 3	0.47	Machine Placed Paving	09/22/2022
D10000001617	414/103 = 517	5.50	3,600	1 – 3	0.45	Machine Placed Paving	09/22/2022
D10000008381	752/0 = 752	8.00	4,500 (4,500 @ 72 hrs.)	3 - 5	0.33	HES Paving	08/04/2022
D10000009857	30/300 = 330	3.51	50	Flow	0.91	Flowable Fill	04/21/2022
D10000001055	494/0 = 494	5.26	3,000	3 – 5	0.50	Inlets, Junction Boxes, Manholes, Channel Liner, Sidewalk, Driveways, Curb & Gutter	02/27/2022
D1000001043S	470/0 = 470	5.00	3,000	3 – 5	0.56	Sidewalks, Curbs	06/15/2022
D1000001619S	414/103 = 517	5.50	3,600	3 – 5	0.48	Valley Gutter	06/25/2022

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
D1000001565S	376/94 = 470	5.00	3,000	3 – 5	0.54	Curbs, Curb & Gutter, Sidewalk, Driveway Approach, ADA Ramp	06/15/2022
D10000001615	406/101 = 507	5.39	3,600	3 – 5	0.49	Inlets, Boxes, Encasement, Blocking	04/21/2022
D10000001061	502/0 = 502	5.34	3,600	3 – 5		Inlets, Boxes, Encasement, Blocking	04/21/2022
D10000001083	554/0 = 554	5.89	4,000	3 – 5	0.46	Valve Pads	04/21/2022
D1000001083S	564/0 = 564	6.00	4,000	3 – 5	0.44	Inlets, Headwalls, Thrust Blocking	10/21/2022
D10000001685	451/113 = 564	6.00	4,000	3 – 5	0.45	Value Pads	04/21/2022
D10000005751	188/47 = 235	2.50	750	1 – 4	1.00	Trench Repair	10/21/2022
D10000001083	554/0 = 554	5.89	4,000	3 – 5	0.45	Inlets, Structures, Headwalls, Thrust Blocking	03/06/2022
D10000001681	451/113 = 564	6.00	4,000	3 – 5	0.45	Headwall, Retaining Wall, Box Culvert, Valley Gutter	06/19/2022

### Big D Concrete

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
7SKGRT	658/0 = 658	7.00	3,000	4 – 6	0.54	Grouting	04/13/2023
14500AE	846/0 = 846	9.00	4,500	3 – 5	0.38	HES Paving	07/14/2022

### Burnco Texas LLC

Supplier Mix ID	Cement/Fly ash (lbs.)		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
45U500BG	489/122 = 611	6.50	4,500	3 – 5	0.40	Hand Placed Paving, Storm Structures	01/29/2022
40U553BG	451/113 = 564	6.00	4,000	1 – 3	0.41	Machine Placed Paving	01/29/2022
55U120AG	705/0 = 705	7.50	5,500 (3,000 @ 3-days)	3 – 5	0.38	HES Paving	10/14/2021
30U100AG	470 / 0 = 470	5.00	3,000	3 – 5	0.47	Pipe Collars, Inlets, Thrust Blocks, Sidewalks and Ramps	03/03/2022
30U101AG	470/0 = 470	5.00	3,000	3 – 5	0.49	Flatwork	03/17/2022
30U500BG	380/94 = 474	5.04	3,000	3 – 5	0.49	Blocking, Driveways, Curb & Gutter, Sidewalks and Ramps	01/29/2022
40U500BG	451/113 = 564	6.00	4,000	3 – 5	0.44	Storm Drain Structures, Driveways, Screen walls	01/29/2022
36U500BG	432/108 = 540	5.74	3,600	3 – 5	0.44	Lighting and Traffic Signal Foundations	01/29/2022
08Y450BA	210/50 = 260	2.77	800	3 – 5	0.93	Concrete Base for Trench Repair	12/17/2021
01Y690BF	30/300 = 330	3.51	100	Flow	0.86	CLSM / Flowable Fill	01/29/2022



## Carder Concrete

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
FWCC602021	451/113 = 564	6.00	4,500	3 – 5	0.43	Hand Placed Paving	11/12/2022
FWCC552091	414/103 = 517	5.50	3,600	1 - 3	0.44	Machine Placed Paving	11/12/2022
FWCC602091	451/113 = 564	6.00	4,000	1 – 3	0.40	Machine Placed Paving	11/12/2022
FWCC359101	30/300 = 330	3.51	50 – 150	flow	0.86	Flowable Fill /CLSM	11/12/2022
FWFF237501	52/164 = 216	2.30	50 – 150	flow	1.74	Flowable Fill /CLSM	11/12/2022
FWCC602001	451/113 = 564	6.00	4,000	3 - 5	0.44	Storm Drain Structures, Manholes, Headwalls, Retaining Walls, Valley Gutters, Drive Approaches, Lighting & Traffic Signal Foundations	11/12/2022
FWCC502021	376/94 = 470	5.00	3,500	3 – 5	0.51	Sidewalks, Driveways, Ramps, Curb & Gutter	11/12/2022
FWCC502001	376/94 = 470	5.00	3,000	3 – 5	0.53	Sidewalks, Driveways, Ramps, Curb & Gutter, Flatwork	10/29/2022

## Charley's Concrete

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
4142	414/103 = 517	5.50	3,600	3 – 5	0.48	Curb Inlets, Junction Boxes, Sidewalks, Street Light Foundations	03/05/2022
4518	452/112 = 564	6.00	4,000	3 – 5	0.45	Headwalls, Wingwalls	02/02/2023
4145	414/103 = 517	5.50	3,600	1 – 3	0.48	Machine Placed Paving	03/23/2022
5167	517/0 = 517	5.50	3,600	1 – 3	0.45	Machine Placed Paving	03/23/2022
4609	489/122 = 611	6.50	4,500	3 – 5	0.44	Hand Placed Paving, Manholes	02/25/2022
6103	611/0 = 611	6.50	4,500	3 – 5	0.44	Hand Placed Paving, Manholes	02/25/2022
4502	470/0 = 470	5.00	3,000	3 – 5	0.46	Sidewalks, Blocking	08/10/2022
3759	376/94 = 470	5.00	3,000	3 – 5	0.50	Sidewalks	05/28/2022
1502	50/150 = 200	2.13	150	Flow	0.95	Flowable Fill	02/02/2023
1518	30/300	3.51	150	Flow	0.85	Flowable Fill	09/17/2022
5642	564/0 = 564	6.00	4,000	3 – 5	0.45	Junction Box	09/17/2022
6595	658/0 = 658	7.00	5,000 (4500 @ 72 hrs.)	3 - 5	0.40	HES Paving	04/14/2022
6589	658/0 = 658	7.00	4,500	3 – 5	0.36	HES Paving	02/24/2022

### Chisholm Trail Redi Mix

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
C13020AE	376/94 = 470	5.00	3,000	3 – 5	0.46	Driveways, Curb & Gutter	05/21/2023

### City Concrete Company

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
11-350-FF	94/235	3.50	50 – 150	Flow	0.83	Flowable Fill	05/26/2023
30HA25II	353/118 = 471	5.01	3,000	3 – 5	0.60	Riprap	03/18/2023
30HA20II	376/94 = 470	5.00	3,000	3 – 5	0.45	Blocking, Sidewalks, Flatwork, Pads	08/04/2022
45NG25II	458/153 = 611	6.50	3,600	5 – 7	0.45	Class C Drilled Shaft	04/21/2022
50QG25II	494/165 = 659	7.01	3,600	7 - 9	0.45	Slurry displaced drill shafts	03/16/2023
45NA20II	489/122 = 611	6.50	4,500	3 – 5	0.45	Hand Placed Paving	03/13/2022
36LA20II	451/113 = 564	6.00	3,600	1 – 3	0.44	Machine Placed Paving	03/13/2022
36JA00IJ	414/103 = 517	5.50	3,600	1 – 3	0.43	Machine Placed Paving	03/13/2022
40LA20II	451/113 = 564	6.00	4,000	3 – 5	0.44	Storm Drain Structures	03/13/2022

### Cornerstone Overtime Concrete

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
COC 4000	588/0 = 588	6.26	4,000	3 – 5	0.45	Lighting and Traffic Signal Foundations	07/23/2022

### Cow Town Redi Mix Concrete

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
250	376 / 94 = 470	5.00	3,000	3 – 5	0.51	Sidewalks, Driveways, Barrier Free Ramps	01/15/2022
122							
350	470 / 0 = 470	5.00	3,000	3 – 5	0.52	Sidewalks, Driveways, Barrier Free Ramps	01/15/2022
253-67A	399/100 = 499	5.31	3,000	3 – 5	0.49	Curb & Gutter, Sidewalks	04/29/2023
9	50/150 = 200	2.13	70	7 – 9	1.67	Flowable fill/CLSM	09/04/2022
9-S	200/0 = 200	2.13	70	7 – 9	1.67	Flowable fill/CLSM	03/06/2022
220-8	48/152 = 200	2.13	50	7 – 9	1.45	Flowable fill/CLSM	03/23/2022
320-8	200/0 = 200	2.13	50	7 - 9	1.45	Flowable fill/CLSM	03/23/2022
230-8	226/56 = 282	3.00	750	3 – 5	0.89	Concrete Base Material for Trench Repair	03/23/2022
330-S8	282/0 = 282	3.00	750	3 – 5	0.89	Concrete Base Material for Trench Repair	03/23/2022
353	494/0 = 494	5.26	3,000	3 – 5	0.50	Sidewalks & ADA Ramps, Driveways, Curb & Gutter, Safety End Treatments, Non-TxDOT Retaining Walls	06/25/2022

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
253-W	399/100 = 499	5.31	3,000	3 – 5	0.49	Curbs, Driveways, sidewalks & ADA Ramps, Inlets, Junction Boxes, Non-TxDOT Retaining Walls	06/25/2022
260	451/113 = 564	6.00	4,000	3 – 5	0.44	Bridge Slabs, Box Culver, Headwalls, Lighting and Traffic Signal Foundations	04/24/2022
260-1	451/113 = 564	6.00	3,600	3 – 5	0.44	Headwalls	05/04/2022
260-2	451/113 = 564	6.00	3,600	3 – 5	0.44	Box Culver, Headwalls, Lighting and Traffic Signal Foundations	03/06/2022
360	564/0 = 564	6.00	4,000	3 – 5	0.45	Bridge Slab, Box Culver, Headwalls, Lighting and Traffic Signal Foundations	04/24/2022
360-1	564/0 = 564	6.00	3,600	3 – 5	0.45	Box Culverts, Wing walls, Headwalls	03/06/2022
264-N	489/122 = 611	6.50	4,500	3 – 5	0.42	Hand Placed Paving	03/11/2022
366	611/0 = 611	6.50	4,500	3 – 5	0.41	Hand Placed Paving	03/11/2022
265	489/122 = 611	6.50	4,500	3 – 5	0.42	Hand Placed Paving	12/01/2021
365	611/0 = 611	6.50	4,500	3 – 5	0.42	Hand Placed Paving	03/23/2022
370-NC	658/0 = 658	7.00	4,500	3 – 5	0.40	HES Concrete Paving	03/23/2022
375-NC	705/0 = 705	7.50	5,000 (3,000 psi @ 24 hrs.)	3 – 5	0.38	HES Concrete Paving	06/02/2021
267	451/113 = 564	6.00	4,200	3 – 5	0.44	Manholes & Drainage Structures	12/17/2021
270	526/132 = 658	7.00	5,000	3 – 5	0.39	CIP Box Culvert	05/19/2022
370	658/0 = 658	7.00	5,000	3 – 5	0.40	CIP Box Culvert	05/19/2022
255-2	414/103 = 517	5.50	3,000	3 – 5	0.48	Inlets, Thrust Blocking, Concrete Encasement	03/06/2022
257	414/103 = 517	5.50	3,600	3 – 5	0.47	Lighting and Traffic Signal Foundations, Valley Gutter	07/23/2022
257-M	414/103 = 517	5.50	3,600	1 – 3	0.45	Machine Placed Paving	02/21/2022
260-M	451/113 = 564	6.00	4,000	1 – 3	0.43	Machine Placed Paving	04/14/2022
360-M	564/0 = 564	6.00	4,000	1 – 3	0.44	Machine Placed Paving	04/14/2022
255-LP	414/103 = 517	5.50	3,000	3 – 5	0.52	Curb & Gutter	02/24/2022
355-LP	517/0 = 517	5.50	3,000	3 – 5	0.48	Curb & Gutter	02/24/2022
255	414/103 = 517	5.5	3,500	3 – 5	0.48	Flatwork, Inlets, Thrust Blocking, Concrete Encasement	05/05/2022
355	517/0 = 517	5.50	3,000	3 – 5	0.48	Inlets, Thrust Blocking, Concrete Encasement	03/06/2022
357-M	517/0 = 517	5.50	3,600	1 – 2	0.48	Machine Placed Paving	04/27/2022
365-STX	611/0 = 611	6.50	4,000	3 – 5	0.43	Bridge slabs, top slabs of direct traffic culverts, approach slabs	08/18/2022
357	517/0 = 517	5.50	3,600	3 – 5	0.49	Lighting and Traffic Signal Foundations, Valley Gutter	01/29/2022

## GCH Concrete Services

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
GCH4000	451/113 = 564	6.00	4,000	3 – 5	0.45	for Sidewalks, Ramps, Headwalls, Inlets, and Storm Drain Structures	01/26/2023
GCHV5	451/113 = 564	6.00	4,000	1 – 2	0.45	Machine Placed Paving	03/15/2023
GCH4500	489/122 = 611	6.50	4,500	3 – 5	0.42	Hand Placed Paving	01/26/2022

## Ingram Concrete & Aggregates

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
151PX5DM	414/103 = 517	5.50	3,600	3 – 5	0.46	Lighting and Traffic Signal Foundations	07/23/2022
70K23504	517/0 = 517	5.50	3,600	3 – 5	0.47	Lighting and Traffic Signal Foundations	07/23/2022
C47PV5E5	353/118 = 471	5.01	3,000	1 – 3	0.46	Sidewalks & Ramps	05/28/2022
2MWR-70J23504	470/0 = 470	5.00	3,000	3 – 5	0.51	Sidewalks & Ramps	10/14/2022
2MWR-147QW5D5	376/94 = 470	5.00	3,000	3 – 5	0.50	Sidewalks and Ramps	10/14/2022
2MWR-C56PS5D5	451/113 = 464	6.00	4,000	1 – 2	0.39	Machine Placed Paving	12/03/2020
2MWR-161UV5DM	489/122 = 611	6.50	4,500	3 – 5	0.40	Hand Placed Paving	10/14/2022
2MWR-10MQS50N	611/0 = 611	6.50	4,500	3 – 5	0.40	Hand Placed Paving	10/14/2022
161PS5EM	458/153 = 611	6.50	4,500	3 – 5	0.36	Hand Placed Paving	05/28/2022

## LMC (Lattimore Materials Corp.)

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
5177	376/94 = 470	5.00	3,000	3 – 5	0.51	Sidewalks, Concrete Riprap	05/02/2022
1261	470/0 = 470	5.00	3,000	3 – 5	0.53	Sidewalks	05/06/2022
5409	451/113 = 564	6.00	4,000	3 – 5	0.45	Storm Drain Structures, Sidewalks, Bridge Substructure	12/07/2022
1551	517/0 = 517	5.50	3,000	3 – 5	0.49	Blocking	11/01/2021
5017	301/75 = 376	4.00	2,000	3 – 5	0.62	227 (Concrete Base)	11/30/2022
1701	564/0 = 564	6.00	4,000	3 – 5	0.45	Storm Drain Structures, SS Manhole	02/27/2022
5277	414/103 = 517	5.50	3,500	3 – 5	0.48	SS Manholes	11/30/2022
5507	489/122 = 611	6.50	4,500	3 – 5	0.42	Hand Placed Paving, Bridge	02/07/2022
9600	526/132 = 658	7.00	3,600	7 – 9	0.40	Class SS - Drill Shafts	11/01/2021
1851	564/0 = 564	6.00	4,500	3 – 5	0.44	Storm Drain Structures, Hand Placed Paving	04/22/2022

## Liquid Stone

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
C4000G	451/113 = 564	6.00	4,000	3 – 5	0.42	Lighting and Traffic Signal Foundations	07/23/2022

## Martin Marietta

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sacks					
R2131014	470/0 = 470	5.00	3,000	3 – 5	0.55	Sidewalks & Ramps	02/21/2022
R2132214	376/94 = 470	5.00	3,000	3 – 5	0.53	Sidewalks & Ramps	02/24/2022
D9490SC	495/0 = 495	5.27	3,000	3 – 5	0.52	Sidewalks & Ramps	02/24/2022
R2131214	376/94 = 470	5.00	3,000	3 – 5	0.53	Sidewalks & Ramps	04/06/2022
R2131314	353/118 = 471	5.01	3,000	3 – 5	0.53	Sidewalks & Ramps	09/29/2022
R2136014	470/0 = 470	5.00	3,000	3 – 5	0.55	Sidewalks & Ramps	02/02/2023
R2136214	376/94 = 470	5.00	3,000	3 – 5	0.53	Sidewalks & Ramps	11/12/2020
R2136220	400/100 = 500	5.32	3,500	3 – 5	0.50	Light Pole Bases	09/30/2022
R2136224	416/104 = 520	5.53	3,600	3 – 5	0.48	Curb Inlets	03/05/2022
R2141233	452/113 = 565	6.01	3,600	3 – 5	0.44	Storm Structures, Inlets, Blocking & Encasement	04/24/2022
FLOW25A	71/165 = 236	2.51	50	Flow fill	1.77	Flowable Fill/GLSM	04/29/2022
R2142233	452/113 = 565	6.01	3,600	3 – 5	0.44	Manholes, Inlets & Headwalls	02/24/2022
R2141230	440/110 = 550	5.85	4,000	3 – 5	0.45	Manholes, Inlets & Headwalls, Valve Pads	03/13/2022
R2146034	570/0 = 570	6.06	4,500	3 – 5	0.45	Manholes, Inlets & Headwalls	04/12/2023
R2161070	750/0 = 750	7.98	6,000 (3,000 @ 24-hrs.)	3 – 5	0.34	HES Paving	10/16/2022
Q2142231	424/106 = 530	5.64	4,000	1 – 3	0.46	Machine Placed Paving	02/24/2022
D9492SF C	595/0 = 595	6.33	4,000	1 – 3	0.41	Machine Placed Paving	02/24/2022
Q2141226	424/106 = 530	5.64	4,000	1 – 3	0.46	Machine Placed Paving	04/06/2022
Q2141225	420/105 = 525	5.59	4,000	1 – 3	0.46	Machine Placed Paving	11/12/2020
Q2141024	520/0 = 520	5.53	4,000	1 – 3	0.48	Machine Placed Paving	01/08/2023
R2146238	472/118 = 590	6.28	4,500	3 – 5	0.42	Hand Placed Paving, Inlets, Storm Drain Structures	03/13/2022
R2146336	435/145 = 580	6.17	4,500	3 – 5	0.43	Hand Placed Paving	07/21/2022
R2146235	460/115 = 575	6.18	4,500	4 – 5	0.43	Hand Placed Paving	11/12/2020
R2146038	590/0 = 590	6.28	4,500	3 – 5	0.44	Inlets, Storm Drain Structures	03/13/2022
R2146036	580/0 = 580	6.17	4,500	3 – 5	0.44	Hand Placed Paving	05/19/2022
R2146042	610/0 = 610	6.49	4,500	3 – 5	0.42	Hand Placed Paving	04/07/2020
R2146242	488/122 = 610	6.49	4,500	3 – 5	0.41	Hand Placed Paving	04/07/2020
R2146236	464/116 = 580	6.17	4,500	3-5	0.43	Hand Placed Paving	04/06/2022

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sacks					
D9493SC	640/0 = 640	6.81	4,500	3 – 5	0.40	Hand Placed Paving	02/24/2022
R2147241	484/121 = 611	6.44	4,500	3 – 5	0.41	Hand Placed Paving	02/24/2022

### NCS Redi Mix

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
NCS5020A	376/94 = 470	5.00	3,000	3 – 5	0.53	Curb & Gutter, Driveways, Sidewalks	06/10/2022
NCS5520AMP	414/103 = 517	5.50	3,600	1 – 2	0.48	Machine Placed Paving	06/10/2022
NCS6020AHP	451/113 = 564	6.00	4,500	3 – 5	0.45	Valley Gutters, Hand Placed Paving	06/10/2022

### Redi-Mix Concrete

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
DCA2E554	353/118 = 471	5.01	3,000	3 – 5	0.53	Rip Rap	05/28/2022
VOJ11524	376/94 = 470	5.00	3,000	3 – 5	0.55	Curb & Gutter	02/24/2022
F0C10021	150/38 = 188	2.00	215	Flow	2.33	Cement Stabilized Sand	06/10/2022
10J11524	376/94 = 470	5.00	3,000	3 – 5	0.52	Driveway, Ramp	02/24/2022
10L11504	564/0 = 564	6.00	3,600	3 – 5	0.44	Sidewalks, Curb & Gutter, Light Pole Foundations	04/12/2023
10L11524	452/112 = 564	6.00	3,600	3 – 5	0.44	Valley Gutter, Manhole, Inlet, Junction Box, Headwall	07/29/2022
1RJ11524	396/98 = 494	5.26	3,500	3 – 5	0.50	Thrust Blocks and Valve Pads, Light Pole Foundations	05/19/2022
15611524	452/112 = 564	6.00	4,000	3 – 5	0.44	CIP Storm Drain Structures	05/19/2022
10L115E4	423/141 = 564	6.00	3,600	3 – 5	0.44	Bridge Substructures	03/06/2023
DCC2G5E2	423/141 = 564	6.00	3,600	5 – 7	0.45	Drilled Shafts	03/08/2021
DCU1G5E2	493/165 = 658	7.00	3,600	7 - 9	0.39	Underwater Drilled Shafts	03/06/2023
156115D4	452/112 = 564	6.00	4,000	3 – 5	0.44	Bridge & Approach Slabs	03/06/2021
F35238VN	30/320 = 350	3.72	100	Flow	0.76	CLSM / Flowable Fill	02/25/2022
F0D138VM	24/211 = 235	2.50	100	Flow	1.17	CLSM / Flowable Fill	04/14/2022
10J11554	353/117 = 470	5.00	3,000	3 – 5	0.53	Riprap	03/06/2023
P0G138K9	188/188 = 376	4.00	1,000	9 – 11	0.84	Trench Repair Base Material	04/16/2022
10K11504	517/0 = 517	5.50	3,600	3 – 5	0.48	Lighting and Traffic Signal Foundations	07/23/2022
10K11524	414/103 = 517	5.50	3,600	3 – 5	0.48	Lighting and Traffic Signal Foundations, Encasement	12/01/2022
10N11507	658/0 = 658	7.00	4,500 (2,600 @ 24hrs.)	3 – 5	0.38	HES Paving	03/05/2022

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
10N11504	658/0 = 658	7.00	5,000 (3,600 @ 2-days)	3 – 5	0.40	HES Paving	05/19/2022
50K11524	414/103 = 517	5.50	3,600	1 – 3	0.45	Machine Placed Paving	02/25/2022
10M115D4	489/122 = 611	6.50	4,500	3 – 5	0.40	Hand Placed Paving	05/19/2022
10M11524	489/122 = 611	6.50	4,500	3 – 5	0.41	Hand Placed Paving	08/06/2021
10M11504	611/0 = 611	6.50	4,500	3 – 5	0.42	Hand Placed Paving	02/25/2022
145CD5P4	452/112 = 564	6.00	4,500	3 – 5	0.44	Hand Placed Paving	02/25/2022

### Tarrant Concrete

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
FW6020AHP	451/113 = 564	6.00	4,500	3 – 5	0.44	Hand Placed Paving	03/11/2022
FW60AHP	564/0 = 564	6.00	4,500	3 – 5	0.44	Hand Placed Paving	03/11/2022
FW7520AMR	526/132 = 658	7.00	4,500 (3,000 @72 hrs.)	3 – 5	0.35	HES Paving	09/09/2022
FW5520AMP	414/103 = 517	5.50	3,600	1 – 3	0.44	Machine Placed Paving	01/22/2023
FW5320A	398/100 = 498	5.30	3,000	3 – 5	0.50	Blocking	03/23/2022
FWFF150CLSM	30/300 = 330	3.51	50 – 150	Flow Fill	0.86	Flowable Fill/CLSM	03/24/2022
FWFF275	50/150 = 200	2.13	50 – 150	Flow Fill	1.9	Flowable Fill/CLSM	07/23/2022
FW6020A2	451/113 = 564	6.00	4,000	3 – 5	0.44	Storm Drain Structures	03/23/2022
FW6020A			3,600			Lighting and Traffic Signal Foundations	07/23/2022
FW5025A	353/117 = 470	5.00	3,000	3 – 5	0.51	Curb & Gutter, Driveways, Sidewalks & Ramps	09/09/2022
FW5020A	376/94 = 470	5.00	3,000	3 – 5	0.51	Curbs & Gutter, Sidewalks, Driveways	03/12/2022
CP5020A	376/94 = 470	5.00	3,000	3 – 5	0.51	Curb & Gutter	02/24/2022
FW5525A2	388/129 = 517	5.50	3,600	3 – 5	0.47	Valley Gutters, Sidewalks, Drive Approaches, ADA Ramp, Light Pole Foundations	08/19/2022

### Titan Ready Mix

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
3020AE	376/94 = 470	5.00	3,000	3 – 5	0.52	Sidewalks	04/01/2023
TRC4520	489/122 = 611	6.50	4,500	3 – 5	0.45	Hand Placed Paving	12/04/2022

### True Grit Redi Mix

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
0250.230	376/94 = 470	5.00	3,000	3 – 5	0.49	Flatwork, Curb & Gutter, Driveways, Sidewalks	06/30/2022
255.2302	414/103 = 517	5.50	3,600	3 – 5	0.46	Light Pole Foundations	09/08/2022
0250.2301	376/94 = 470	5.00	3,000	3 – 5	0.46	Curb & Gutter, Driveways, Sidewalks	02/21/2022
350.240							
0260.2302	451/113 = 564	6.00	4,000	1 – 3	0.39	Machine Placed Paving	04/27/2022
0255.2301	414/103 = 517	5.50	3,600	1 – 3	0.41	Machine Placed Paving	07/10/2022
0260.2301	451/113 = 564	6.00	4,500	3 – 5	0.44	Hand Placed Paving	07/10/2022
0265.2301	489/122 = 611	6.50	4,500	3 – 5	0.40	Valley Gutters, Hand Placed Paving	02/21/2022

### Wise Ready Mix

Supplier Mix ID	Cement/Fly ash		Min. 28-day Strength (psi)	Slump (Inch)	W/Cm Ratio	Approved For:	Expiration Date
	Lbs.	Sack					
3678	384/96 = 480	5.11	3,600	3 – 5	0.50	Lighting and Traffic Signal Foundations	07/23/2022



**CITY OF FORT WORTH**  
**Pre-Approved Utility Embedment Sand Sources**

Utility embedment sand from the Producers listed below have demonstrated continued quality and uniformity on City of Fort Worth projects. Sand from these Producers are pre-approved for use on projects without specific testing unless deemed necessary by the project manager.

The Producers are subject to sampling and testing at a maximum interval of six months to remain in the pre-approved list. The City reserves the right to sample and test materials from these Producers at any time to ensure quality. City representatives or City authorized commercial material testing firms may sample embedment sand stockpiled at a project site or the Producer's location.

For more information on utility embedment sand, contact the Material and Geotechnical Services Group at (817) 392-7920.

Updated: **09/22/2020**

**Utility Embedment Sand**

Producer	Address	Contact Person	Product	Expiration Date
Silver Creek Materials	2251 Silver Creek Rd. Fort Worth, TX 76108 (817) 246-2426	Jennifer Lutz <a href="mailto:Jennifer@silvercreekmaterials.com">Jennifer@silvercreekmaterials.com</a> (817) 914-1672	Utility Embedment Sand	03/04/2022
Crouch Materials	4635 S Dick Price Rd. Fort Worth, TX 76140 (972) 986-7951	Evon Stewart <a href="mailto:dispatch@crouchgs.com">dispatch@crouchgs.com</a> (972) 986-7951	Utility Embedment Sand	03/04/2022
F and L Dirt Movers	7551 Peden Rd. Azle, TX 76020 (817) 453-8998	Linda Schilling <a href="mailto:lschilling@att.net">lschilling@att.net</a> (817) 453-8998	Utility Embedment Sand	03/04/2022
F and L Dirt Movers	291 Private Rd. Aurora, TX 76028 (817) 453-8998	Linda Schilling <a href="mailto:lschilling@att.net">lschilling@att.net</a> (817) 453-8998	Utility Embedment Sand	03/04/2022
Tin Top Martin Marietta	5211 New Tin Top Rd. Weatherford, TX 76087 (817) 596-4307	Tonya Waxler <a href="mailto:Tonya.Waxler@martinmarietta.com">Tonya.Waxler@martinmarietta.com</a> (972) 647-3377	Utility Embedment Sand	03/04/2022