

**CONTRACT DOCUMENTS  
AND  
SPECIFICATIONS  
FOR  
HARDSCAPE AND LANDSCAPE IMPROVEMENTS TO FREEDOM PARK  
FOR THE CITY OF MESQUITE, TEXAS  
PUBLIC WORKS DEPARTMENT - ENGINEERING DIVISION  
CITY CONTRACT NO. 2016-055**



Prepared by:  
**City of Mesquite  
Public Works Department**

January 2016

**Contract Documents Template Update: January 21, 2016**



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# TENTATIVE SCHEDULE

## FOR

### **Hardscape and Landscape Improvements to Freedom Park City Contract No. 2016-055**

1 <sup>st</sup> Public Advertisement	Thursday, January 28, 2016
2 <sup>nd</sup> Public Advertisement	Thursday, February 4, 2016
Pre-Bid Conference	2:00 p.m., February 9, 2016
Open Bids <i>(Bid openings are held on Tuesdays and Thursdays)</i>	2:00 p.m., February 16, 2016
Agenda Item & Council Briefing Completed	February 26, 2016
*Council Awards Contract	March 7, 2016
Notice to Proceed - Start Construction <b>(Assumes rapid execution of contract documents by the Contractor with proper insurance and bonds)</b>	April 4, 2016
<b>Substantial Completion (Maximum 90 Calendar Day Contract)</b>	<b>July 3, 2016</b>

**\*City Council award date assumes no bidding irregularities or other issues with the low bidder requiring extensive checking of Qualifications.**

## ADVERTISEMENT FOR BIDS

Bid No. 2016-055

Sealed competitive bids or proposals as set forth and required in the plans and specifications (either of which shall hereinafter be referred to as the "Bid") addressed to the Mayor and City Council of the City of Mesquite, Texas will be received at the office of Le Sealey, Manager of Purchasing at the Municipal Center, 1515 N. Galloway Ave., Mesquite, Texas 75149 until **2:00 p.m. on Tuesday, February 16, 2016**, for the following: **Hardscape and Landscape Improvements to Freedom Park.**

As set forth in the plans and specifications the project is designed to *provide hardscape and landscape improvements to construct Freedom Park. Elements include, but are not limited to, lighting, concrete flat work, sidewalks, seat wall, monument sign, donor sign, landscaping, irrigation and structural elements to support beam from New York World Trade Center.*

**A pre-bid conference will be held at 2:00 p.m. on Tuesday, February 9, 2016**, at the City of Mesquite Municipal Center located at 1515 N. Galloway Avenue, Mesquite, Texas 75149, in the Engineering Division Conference Room.

Instruction to Bidders: proposal forms, plans and specifications (the "Bid Documents") may be obtained from the Engineering Division office, Municipal Center, 1515 N. Galloway, Mesquite, Texas 75149 upon a non-refundable payment of fifty dollars (\$50.00) per set.

The Bid shall be submitted on the form provided in the Bid Documents. Vendors should check the Mesquite Purchasing Department website, <http://www.cityofmesquite.com/674/Bid-Openings-Specifications-Conferences>, and BidSync, <http://www.cityofmesquite.com/678/BidSync-Bid-Openings>, to view documents relating to this RFP. Questions shall be submitted through BidSync and response will be posted through BidSync.

Bidder must submit, with their Bid, a Cashier's check, Certified check or a Bid Bond from an approved surety company, in the amount of five percent (5%) of their Bid as a guarantee that the Bidder will enter into a contract and guarantee forms, if required, within 10 days after notice of award of contract.

The successful bidder must furnish Performance Bond and Payment Bond, each in the amount of 100 percent of the contract price, from an approved Surety company holding a permit from the State of Texas to act as surety, and acceptable according to the latest list of companies holding Certificates of Authority from the Secretary of the Treasury of the United States, or another Surety acceptable to the City.

Further information concerning the procurement may be obtained **by email only** from the City of Mesquite Engineering Division – *Christina Hickey, PE, Project Engineer*, [chickey@cityofmesquite.com](mailto:chickey@cityofmesquite.com).

The right is reserved by the City of Mesquite to reject any and all bids.

CITY OF MESQUITE, TEXAS

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Sonja Land  
City Secretary

**CITY CONTRACT: 2016-055**

Publish: January 28, 2016

February 4, 2016

## INSTRUCTIONS TO BIDDERS

1. If you have questions regarding the preparation of your bid, you may contact Le Sealey, Manager of Purchasing, City of Mesquite, telephone 972-216-6201. For technical questions **send an email to *Christina Hickey, PE, Project Engineer* [chickey@cityofmesquite.com](mailto:chickey@cityofmesquite.com) and *Marlo Paris marlo@davidcbaldwin.net* with the consulting design firm.**
2. Mailed bids must be submitted in sufficient time to be received and time-stamped at the location in the advertisement on or before the published date and time shown on the Advertisement for Bids. The City of Mesquite is not responsible for mail delivered from the post office. Bids received after the published date and time will not be considered and will be returned unopened.
3. The Bidder/Contractor shall at all times observe and comply with all Federal, State and local laws, ordinances and regulations which in any manner affect the Contract or the work, and shall indemnify and save harmless the City against any claim arising from the violation of any such laws, ordinances and regulations whether by the Bidder/Contractor or his employees.
4. Prices shall be filled in and extended on the bid sheets. In case of discrepancy between unit price and the extension, the unit price will govern. Contractors may utilize the Microsoft Excel spreadsheet bid form available on the City's Purchasing Division web site. No other electronic forms will be accepted. A hard copy printout is required with the bid.
5. Bidder shall complete all information requested and blanks provided shall be filled in beside or under each bid item. Failure to completely describe the item being bid may result in rejection of the bid.
6. Prices quoted in the bid shall prevail for the entire term of the contract.
7. The Contract, Performance Bond and Payment Bond forms are included for Bidders information so that Bidders may be familiar with their contents and requirements. ***Bidder shall not fill in or execute these forms at time of bid submittal.***
8. The City of Mesquite reserves the right to reject any and all bids, waive formalities and to make award of bid as may be deemed to the best advantage of the City. No bid may be withdrawn within one hundred and twenty (120) days after date of opening. The City may, at its sole discretion, release any Bidder and return the bid security prior to that date.
9. The City of Mesquite reserves the right to evaluate variations from these specifications. If exceptions are made, bidder shall state wherein the bid item fails to meet these specifications. Failure to completely describe the item being bid may result in rejection of your bid.
10. Any ambiguity in the bid as a result of omission, error, lack of clarity or non-compliance by the Bidder with specifications, instructions and all conditions shall be construed in favor of the City.
11. Quantities are estimated. It is specifically understood and agreed that these quantities are approximate and any increased or decrease in quantities may result in contract adjustments per General Provision 104.2.
12. Disadvantaged business/HUB vendors listed with the Office of Small Business Assistance of the General Services Commission are requested to provide a copy of their current certificate with the bid.
13. Bidders shall complete the non-collusion statement included in the bid.

14. All BIDDERS must submit **with the bid**, either a Bid Bond provided herein, Cashier's Check or Certified Check in the amount of 5% of the total bid per General Provision Section 102.5.
15. Bidders shall fill out the following forms, as noted in the bid and attach them to their bid and mail or deliver them prior to the bid closing date and time to the City of Mesquite Purchasing Division, 1515 N. Galloway, Mesquite, Texas 75149:
  - a. Bid Form (Proposal)
  - b. Disadvantaged Business Enterprises (DBE) Information
  - c. Non-Collusion Statement
  - d. Conflict of Interest Questionnaire
  - e. Bid Bond
  - f. Qualification Statement of Bidder. If additional space is needed, please use attachments.
  - g. References
  - h. Bidder's List of Proposed Equipment
  - i. Bidder's List of Proposed Sub-contractors
  - j. Subcontractors's List of Proposed Equipment
  - k. Best Value Scoring Matrix
16. This project is being evaluated utilizing a "**Best Value**" method. Bid will be awarded using the Selection Criteria detailed in the invitation to bid documents.

**END OF SECTION**

## **STANDARDS OF CONDUCT**

The City of Mesquite conducts business with the public, business partners, vendors and contractors under a set of rules to ensure that all City officials and employees discharge their duties in a manner designed to promote public trust and confidence in our city. This code of ethics, titled Standards of Conduct, is taken from the Mesquite City Code, Chapter 2, Article IV, Sec 2-123.

The City wants you to be aware of the rules that its employees are required to follow while performing their services to you. A violation of state or federal statutes may occur if these rules are broken. It is hoped that by outlining these rules for you, your experience in dealing with the City of Mesquite will be both rewarding and satisfactory.

### **Acceptance of Gifts or Gratuities**

Accepting gifts or gratuities by employees in consideration for the performance of their duties, or as an appreciation for their performance, is strictly prohibited.

- Please do not offer employees any gift, loans or any other thing of value.
- Employees may not receive any fee or compensation for their services from any sources other than the City, so please don't offer.
- Please do not offer to buy meals for employees.
- Employees may accept coffee, tea, soft drinks, snacks, etc. when attending meetings in your office.
- Letters to supervisors for exceptional service by employees are always welcome.

### **Conflicts of Interest**

Employees are prohibited from engaging in any outside activities that conflict with, or have the appearance of conflicting with, the duties assigned to them in the employment of the City.

- Please do not ask employees for any special favor or consideration that is not available to every other citizen.
- Please do not ask an employee to disclose any information that is not available to every other citizen through normal public information channels.
- Please do not offer to compensate the employee by offering to hire, or do business with any business entity of the employee or family member
- Do not ask employees to represent you or your company or make any recommendations on your behalf other than those that are a part of their official duties with the City.
- Please do not ask employees to endorse the products or services of your company.
- Please do not ask employees to hand out or post advertising materials.

### **Solicitation by City Employees**

Employees may not solicit gifts, loans, or any other items of value from people doing City business that will be used by them personally.

- If you are asked to pay a fee for services that you believe is improper or illegal, please contact the City's ethic's officer at **972-329-8723**. (Payments should only be made to designated cashiers or clerks.)
- Employees are prohibited from taking retaliatory action against you for failing to comply with any request unless the request is within the scope of the employee's official duties for the City.

### **Use of City Equipment, Facilities and Resources**

Use of City equipment, facilities and resources is authorized only for City purposes and for those activities permitted by City ordinance and policy.

- Please do not ask employees to use City equipment to run errands or perform tasks for your benefit.
- Employees may not perform tasks, nor conduct any business not related to their official duties while on City time.

### **Your Rights and Expectations**

When dealing with employees of the City of Mesquite you have the right to honest, fair and impartial treatment. You may expect prompt, courteous and professional service from our employees who are expected to understand and practice good customer service skills. Employees are tasked to uphold the public trust through the ethical performance of their duties. We understand that the enforcement of regulatory guidelines and codes may sometimes be a cause for concern; however, you may rest assured that we are responsible to all of the citizens of Mesquite and our goal is to serve them to the best of our ability.

**Should you have any concerns or questions concerning this information or the conduct of any of our employees please contact the City's ethics officer at 972-329-8723.** All calls to the City's ethics officer are confidential and your name (or any other identifying information) will not be disclosed.

Cliff Keheley  
City Manager



## **PROPOSAL**

To: The Honorable Mayor and City Council Members  
Purchasing Office - Municipal Center  
City of Mesquite  
1515 N. Galloway Avenue  
Mesquite, Texas, 75149

Pursuant to the Advertisement for Bid, Proposal, Contract, Bond(s), General Provisions, Special Provision(s), and Requirements and the Plans and Technical Specifications, the undersigned Bidder hereby proposes to do all the work and furnish all necessary superintendence, labor, machinery, equipment, tools and materials, and to complete all the work upon which he bids, as provided by the Specifications, and binds himself, on acceptance of the proposal, to execute a contract and bonds, according to the City of Mesquite forms, for performing and completing the said work within the required time, and furnish all guarantees, for the following prices, and the undersigned certifies that the bid prices contained in this proposal have been carefully checked and are submitted as correct and final, to wit:

### **Hardscape and Landscape Improvements to Freedom Park**

**CITY CONTRACT NO. 2016-055**

# HARDSCAPE AND LANDSCAPE IMPROVEMENTS TO FREEDOM PARK

## CITY CONTRACT NO. 2016-055

### BID FORM

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with CITY in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.
2. Bidder accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for one hundred and twenty days (120) after the Bid opening date, or for such longer period of time that Bidder may agree to in writing upon request of CITY.
3. In submitting this Bid, Bidder represents, as set forth in the Agreement, that:
  - A. Bidder has examined and carefully studied the Bidding Documents and the other related data identified in the Bidding Documents.
  - B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, and performance of the Work.
  - C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
  - D. Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site.
  - E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
  - F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the prices bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
  - G. Bidder is aware of the general nature of work to be performed by CITY and others at the Site that relates to the Work as indicated in the Bidding Documents.
  - H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

- I. Bidder has given CITY written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by CITY is acceptable to Bidder.
  - J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
4. Bidder further represents 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 agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over CITY.
  5. Bidder will complete the Work in accordance with the Contract Documents for the following prices:

**HARDSCAPE AND LANDSCAPE IMPROVEMENTS TO FREEDOM PARK**  
**City Contract No. 2016-055**  
**MESQUITE, TEXAS**

ITEM NO	BID QTY	UNITS	ITEM DESCRIPTION	UNIT PRICE	AMOUNT
<b>I. BASE BID</b>					
1	1	L.S.	Mobilization, Bonds, Insurance (Max 5% of Contract)	\$	\$
2	1	L.S.	Traffic Control and Barricading	\$	\$
3	1	L.S.	Construction Staking	\$	\$
4	1	L.S.	Excavation Unclassified (±40 C.Y.)	\$	\$
5	23	S.Y.	Sawcut, Remove and Dispose of Existing Concrete Sidewalk	\$	\$
6	1	L.S.	Reroute Existing 6" PVC Drain Line	\$	\$
7	135	S.Y.	4" Thick 4000 psi Reinforced Concrete Sidewalk, Complete in Place (RE: A / L2.1)	\$	\$
8	58	S.Y.	4" Thick Colored Concrete, Enhanced Paving Type A (RE: Paving Legend / L1.1)	\$	\$
9	26	S.Y.	4" Thick Colored Concrete, Enhanced Paving Type B (RE: Paving Legend / L1.1)	\$	\$
10	1	L.S.	World Trade Center Beam including Transporting Beam to Site, Storing Beam in a Secure Location, Installation & Fabrication of Post, Installation of Concrete Footing, and Installation of Beam on Posts (RE: L2.2 & L2.3)	\$	\$
11	42	L.F.	Concrete Curb around World Trade Center Beam (RE: A & B / L2.2 & A / L2.3)	\$	\$
12	1	C.Y.	Tejas Black' Crushed Stone under World Trade Center Beam including filter fabric (RE: A / L2.2)	\$	\$
13	2	Each	Time Line Graphic Panel, including shipping and installation (RE: A / L2.3 & L2.4)	\$	\$
14	3	Each	Flagpole Sleeves (RE: B / L2.1)	\$	\$
15	1	LS	Monument Sign, including metal letters, decorative panel & frame, concrete pedestal with vertical reveals, footing, pier, drainage, and gravel (RE: L2.7)	\$	\$
16	1	LS	Donor Sign, including metal letters, metal bar, donor recognition plaques, decorative panel & frame, concrete pedestal, footing, pier, drainage, and gravel (RE: L2.6)	\$	\$
17	2	Each	Memorial Signage Pin-Mounted Letters and Bar @ Entry into 9/11 Plaza (RE: D / L2.5)	\$	\$
18	2	Each	Memorial Plaque @ Entry into 9/11 Plaza (RE: D / L2.5)	\$	\$
19	6	L.F.	Concrete Seat Wall, 2'-0" Ht., including footing (RE: D / L2.5)	\$	\$
20	123	L.F.	Concrete Seat Wall, 1'-6" Ht, including vertical reveal & footing (RE: A / L2.5)	\$	\$
21	1	L.S.	General Electrical Service (RE: L1.3)	\$	\$
22	6	Each	Lighted Bollard (RE: Lighting Legend / L1.3)	\$	\$
23	2	Each	Monument Sign Uplight (RE: Lighting Legend / L1.3)	\$	\$
24	2	Each	World Trade Center Beam Uplight (RE: Lighting Legend / L1.3)	\$	\$
25	493	Each	Purple Winter Creeper / 1 gallon (RE: Planting Legend / L3.1)	\$	\$
26	1,100	S.F.	Bed Preparation & Topmulch	\$	\$
27	90	L.F.	Steel Edging (RE: (D & E / L3.1)	\$	\$
28	278	S.Y.	Solid Sod Bermudagrass on All Disturbed Areas	\$	\$
29	1	L.S.	Install New & Repair Irrigation System (100% Operational)	\$	\$

30	7	Each	Tree protection, including providing, installing, and maintaining, (RE: B / L3.1)	\$	\$
31	1	LS	Interim Maintenance (Landscape)	\$	\$

**TOTAL BASE BID (Items 1 to 31)** \$ \_\_\_\_\_

1. Materials incorporated into the Project: \$ \_\_\_\_\_

2. All other charges: \$ \_\_\_\_\_

**NOTE:** Materials and all other charges incorporated into the **HARDSCAPE AND LANDSCAPE IMPROVEMENTS TO FREEDOM PARK** must equal base bid amount.

**Pre-bid Inspection**

The undersigned declares that he has personally inspected the site where the work is to be performed and that he has informed himself of all:

- (1) surface and subsurface conditions, constraints, and facilities which may in any way affect the work, in terms of cost, time, and/or constructability;
- (2) quantities, types, and nature(s) of materials to be incorporated into the work;
- (3) types and specialties of equipment, tools, labor, and superintendence required to perform the work;
- (4) other matters which in any way will affect the work and/or the performance of the work;
- (5) project plans, specifications and other project documents.

**Commencement and Execution**

It shall be the sole responsibility of the Bidder to calculate the total number of calendar days necessary to complete in full the work. Bidder’s calculations to establish contract times shall include but not be limited to the following considerations:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>A. Foul weather days</li> <li>B. Weekends</li> <li>C. Holidays</li> <li>D. Access conditions</li> <li>E. Storage conditions</li> <li>F. Traffic control, phasing, and sequencing</li> <li>G. Construction production</li> </ul> | <ul style="list-style-type: none"> <li>H. Coordination with utility franchises</li> <li>I. Potential utility conflicts with proposed work</li> <li>J. Reporting of utility conflicts</li> <li>K. Inspection coordination</li> <li>L. Reworking of failures</li> <li>M. Material delivery condition</li> <li>N. Subsurface soils and ground water conditions</li> </ul> |
|--|--|

The undersigned bidder agrees to commence the work on or before the date so stated in the written notice to proceed and to diligently perform all of the work and to substantially complete the work **within (no more than 90 days):**

\_\_\_\_\_ / \_\_\_\_\_ calendar days.  
(written) (figure)

Time shall commence on the first day of move-in, but in no case later than the date so stated in the written notice to proceed.

The Time of Construction as given above shall include all work related to this project. Included in the above Time and Construction shall be the necessary utility work involved with the franchise utility companies (i.e. Natural Gas, Telecommunications, Cable Television, Electrical Power, etc.).

The right is reserved by the City as is advantageous to the City, to reject any and all bids, award a contract based upon submitted bids, or to re-bid the contract and to waive any and all formalities. Bidder understands and agrees that the unit prices provided above shall be used for all additions and deletions from the accepted option.

Bidder submits as guarantee that he will execute and issue the required contracts, bonds, insurance, and other required agreements and documents, as set forth under the contract, and general and special provisions of agreement, cashier's check or bid bond payable in full without conditions and upon demand to the City of Mesquite in the amount of:

\_\_\_\_\_ (\$ \_\_\_\_\_),

representing 5% of the Bidder's total base bid price.

Bidder understands and agrees that, should he fail to execute and issue the contract, bonds, insurance, other agreements, and other documents as set forth under the general and special provisions of agreement for that certain contract known as the **Hardscape and Landscape Improvements to Freedom Park and CITY CONTRACT No. 2016-055** the City will cash or demand payment under the bid bond for payment of agreed upon liquidated damages. Bidder understands and agrees that, for bidding purpose only, liquidated damages shall be 5% of the Bidder's bid proposal, and that upon execution of the Contract, liquidated damages shall be as stated in the General Provisions.

**Addenda**

Contractor acknowledges receipt and incorporation into the bid of addendums as listed below:

Addendum No. 1 – Acknowledgement of Receipt: \_\_\_\_\_ *(initial)*

Addendum No. 2 – Acknowledgement of Receipt: \_\_\_\_\_ *(initial)*

Addendum No. 3 – Acknowledgement of Receipt: \_\_\_\_\_ *(initial)*

Addendum No. 4 – Acknowledgement of Receipt: \_\_\_\_\_ *(initial)*

**Proposal Approval:**

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

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

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

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

\_\_\_\_\_  
Company Address

\_\_\_\_\_  
Telephone

\_\_\_\_\_  
City State Zip Code

**(If Bidder is a Corporation Seal Proposal with Corporate Seal)**

SEAL

**DISADVANTAGED BUSINESS ENTERPRISE (DBE) INFORMATION**

***Disadvantaged Business Enterprises (DBEs)*** are encouraged to participate in City of Mesquite's bid. The Purchasing Office will provide additional clarification on specifications, assistance with Bid Proposal Forms and further explanation of bidding procedures to those DBEs who request it.

Representatives from DBE companies should identify themselves as such and submit a copy of the Certification.

The City of Mesquite recognizes the certifications of both the State of Texas General Services Commission HUB Program and the North Central Texas Regional Certification Agency. All companies seeking information concerning DBE certification are urged to contact

State of Texas HUB Program  
General Services Commission  
PO Box 13047  
Austin, TX 78711-3047  
512-463-5872

**OR**

North Central Texas  
***Regional Certification Agency***  
624 Six Flags Drive, Suite 216  
Arlington, TX 76011  
817-640-0606

If your company is already certified, attach a copy of your certification to this form and return with your bid.

---

FIRM NAME SUBMITTING THE BID

---

REPRESENTATIVE

---

TITLE OF AUTHORIZED REPRESENTATIVE

---

ADDRESS

---

CITY, STATE, ZIP

---

TELEPHONE NUMBER

---

FACSIMILE NUMBER

***Indicate all that apply:***

- Minority-Owned Business Enterprise
- Women-Owned Business Enterprise
- Disadvantaged Business Enterprise



**Non-Exclusion Affidavit - System for Award Management (SAM)**

Federal, state, and local government agencies, not-profits, and other organizations that use federal money to fund all or part of any program or project are required to follow specific requirements regarding the use of such federal funds. One of these requirements is that no contract, subcontract, grant, financial assistance, or other forms of assistance provided using federal funds may be awarded to individuals or entities that have been suspended, debarred, or otherwise excluded from participation in federally funded programs.

The U.S. federal government maintains a Web site known as the "System for Award Management" (SAM) at [www.sam.gov](http://www.sam.gov). One of the purposes of the SAM Web site is to provide a comprehensive list of all individuals, firms, and other entities that have been suspended, debarred, or otherwise excluded from participation in federally funded contracts, subcontracts, grants, etc. SAM provides a simple means of helping government, non-profit agencies, and other organizations ensure that they do not award federally-funded grants, contracts, subcontracts, or other financial or non-financial benefits to any individual, firm, or other entity that has been excluded by any agency from participation in such federally funded activities.

I, \_\_\_\_\_ (*Contractor Representative*), hereby certify that neither I nor \_\_\_\_\_ (*Name of the company or organization I represent*) nor any subcontractors that I or said company may employ to work on any federally funded activity have been suspended, debarred, or otherwise excluded by any federal agency from participation in any federally funded activity. I further acknowledge my understanding that, before entering into a contract with me or with the company or organization I represent, City of Mesquite staff will perform a search on [www.sam.gov](http://www.sam.gov) to verify whether I, the organization I represent, or any subcontractors I may employ to work on any federally funded activity, have been excluded from participation in any federally funded activity.

\_\_\_\_\_  
Signature of Contractor Representative

\_\_\_\_\_  
Date

**Notary**

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

\_\_\_\_\_

Notary Public in and for \_\_\_\_\_ County, \_\_\_\_\_ (Insert State Name)

**NON-COLLUSION STATEMENT**

The undersigned affirms that they are duly authorized to execute this contract, that this company, corporation, firm, partnership or individual has not prepared this bid in collusion with any other bidder and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this bid.

Name of Company \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

Fax \_\_\_\_\_

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

Bidder (Print Name) \_\_\_\_\_

Position with Company \_\_\_\_\_

Signature of  
Company Official  
Authorizing This Bid \_\_\_\_\_

Company Official  
(Printed Name) \_\_\_\_\_

Official Position \_\_\_\_\_

SUBSCRIBED AND SWORN TO BEFORE ME, this \_\_\_\_\_ day of \_\_\_\_\_, 201\_\_.

\_\_\_\_\_  
**(Notary Public in and for the State of Texas)**

\_\_\_\_\_  
**(Printed Name of Notary)**

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

**CONTRACTING WITH THE CITY OF MESQUITE**  
Updated: January 8, 2016

**Conflict of Interest Questionnaire  
And Disclosure of Interested Parties (Form 1295)**

YOU WILL BE REQUIRED TO COMPLY WITH THE FOLLOWING:

Chapter 176 of the Texas Local Government Code is an ethics law that was initially enacted by the Texas Legislature with HB 914 in 2005 that requires disclosure of employment and business relationships local government officers may have with contractors, consultants and vendors who conduct business with local government entities. The law applies to any written contract for the sale or purchase of real property, goods or services. Further information regarding Texas Conflict of Interest laws and the **Conflict of Interest Questionnaire** (Form CIQ) can be found at the Texas Ethics Commission web site at the following web address:

[https://www.ethics.state.tx.us/filinginfo/conflict\\_forms.htm](https://www.ethics.state.tx.us/filinginfo/conflict_forms.htm)

PLEASE COMPLETE THE ATTACHED FORM CIQ AND SUBMIT WITH YOUR RESPONSE.

Section 2252.908 of the Texas Government Code was enacted in 2015, by the Texas Legislature pursuant to HB 1295, which provides that a governmental entity may not enter into certain contracts with a business entity on or after January 1, 2016, unless the business entity submits a disclosure of interested parties (Form 1295) to the governmental entity at the time the business entity submits the signed contract to the governmental entity. Further information regarding the disclosure of interested parties law and Form 1295 can be found at the Texas Ethics Commission web site at the following web address:

[https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm)

PLEASE DO NOT COMPLETE FORM 1295 UNTIL YOU HAVE BEEN NOTIFIED OF CONTRACT AWARD AND REQUESTED TO ELECTRONICALLY FILE FORM 1295 WITH THE TEXAS ETHICS COMMISSION.

# CONFLICT OF INTEREST QUESTIONNAIRE

# FORM CIQ

For vendor doing business with local governmental entity

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

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

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

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

## OFFICE USE ONLY

Date Received

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

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

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

\_\_\_\_\_  
Name of Officer

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

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

Yes       No

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

Yes       No

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

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

**7**

\_\_\_\_\_  
Signature of vendor doing business with the governmental entity

\_\_\_\_\_  
Date

## **CONFLICT OF INTEREST QUESTIONNAIRE**

### **For vendor doing business with local governmental entity**

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

**Local Government Code § 176.001(1-a):** "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

**Local Government Code § 176.003(a)(2)(A) and (B):**

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

\*\*\*

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed;

or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

**Local Government Code § 176.006(a) and (a-1)**

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

# CERTIFICATE OF INTERESTED PARTIES

# FORM 1295

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

### OFFICE USE ONLY

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

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

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

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

**5** Check only if there is NO Interested Party.

**6 AFFIDAVIT** I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

\_\_\_\_\_  
 Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said \_\_\_\_\_, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, to certify which, witness my hand and seal of office.

\_\_\_\_\_  
 Signature of officer administering oath      Printed name of officer administering oath      Title of officer administering oath

**ADD ADDITIONAL PAGES AS NECESSARY**

**BID BOND**

Bond No.: \_\_\_\_\_  
(by Surety)

STATE OF TEXAS §  
  §  
COUNTY OF DALLAS §

**KNOW ALL MEN BY THESE PRESENTS:**

**THAT** \_\_\_\_\_, of the City of \_\_\_\_\_,  
\_\_\_\_\_ County, State of Texas (hereinafter referred to as "Principal"), and  
\_\_\_\_\_, authorized under the laws of the State of Texas to act as  
Surety on bonds for principals (hereinafter referred to as "Surety") are held and firmly bound unto the  
City of Mesquite (hereinafter referred to as "City") in the penal sum of \$\_\_\_\_\_ (an  
amount equal to 5% of the approximate total amount of the bid or if the bid is based upon alternates  
and/or addenda, at least 5% of the greatest amount bid by the bidder or Principal herein as evidenced  
in the Bid Proposal) for the payment whereof, the said Principal and Surety bind themselves, and their  
heirs, administrators, executors, successors and assigns, jointly and severally, by these presents;

**WHEREAS** the Principal has submitted on or about this date, a bid proposal offering to perform  
the following: **HARDSCAPE AND LANDSCAPE IMPROVEMENTS TO FREEDOM PARK AND CITY  
CONTRACT NO. 2016-055** in accordance with the specifications and terms and conditions related  
thereto, to which reference is hereby made;

**NOW, THEREFORE**, the condition of this obligation is such that if the said Principal's offer as  
stated in the bid proposal is accepted by the City, and the said Principal executes and returns to the  
City the number of original counterparts of the contract required by the City, on the forms provided by  
the City, for the materials, equipment and/or services described herein and also executes and returns  
the same number of Performance, Payment and Maintenance Bonds, if required, on the forms provided  
by the City, within the time provided in the specifications, then this obligation is null and void, otherwise,  
it is to remain in full force and effect;

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument on this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

**PRINCIPAL:**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Typed or Printed Name

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

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

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

\_\_\_\_\_

**SURETY:**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Typed or Printed Name

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

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

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

\_\_\_\_\_

**SURETY'S DALLAS COUNTY REGISTERED AGENT FOR SERVICE (REQUIRED):**

\_\_\_\_\_  
Type or Printed Name

\_\_\_\_\_  
Street Address (P.O. Box is not acceptable)

\_\_\_\_\_  
City, State, and Zip Code

\_\_\_\_\_  
Dallas County Telephone No.

APPROVED AS TO FORM:

CITY OF MESQUITE

\_\_\_\_\_  
City Attorney or Designee

ATTEST:

\_\_\_\_\_  
City Secretary



**QUALIFICATION STATEMENT OF BIDDER**

**Engineering Division  
City of Mesquite  
1515 N. Galloway Avenue  
Mesquite, Texas 75149**

Bidder: \_\_\_\_\_

***Circle One:*** Sole Proprietor    Partnership    Corporation    Joint Venture

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

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

City: \_\_\_\_\_ City: \_\_\_\_\_

Phone: \_\_\_\_\_ Phone: \_\_\_\_\_

Principal Place of Business:

Principal Place of Business:

\_\_\_\_\_  
County & State

\_\_\_\_\_  
County & State

If the Bidder is a corporation, fill out the following:

State and County of Incorporation: \_\_\_\_\_

Location of Principal Office: \_\_\_\_\_

Contact Person(s) at Office: \_\_\_\_\_ Phone: \_\_\_\_\_

List Officers of the Corporation and person(s) authorized to execute Contracts on Behalf of the Corporation:

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

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

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

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

How many years has your organization been in business as a General Contractor? \_\_\_\_\_

Greatest number of contracts in excess of \$50,000 under construction at one time in company's history: \_\_\_\_\_

Greatest number of contracts in excess of \$100,000 under construction at one time in company's history: \_\_\_\_\_

Total approximate value of incomplete work outstanding: \$ \_\_\_\_\_

List major projects of the type of work qualifying for or similar work completed in the last three years, give the following information for each project:

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Contract Price: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Contract Price: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Contract Price: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Contract Price: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Contract Price: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Contract Price: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Contract Price: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Contract Price: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Contract Price: \_\_\_\_\_

**(If Necessary - List Additional Projects by Using Attachments)**

List **incomplete** projects, including the following information for each incomplete project listed:

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Value of Incomplete Work: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Value of Incomplete Work: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Value of Incomplete Work: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Value of Incomplete Work: \_\_\_\_\_

**Project:** \_\_\_\_\_

Owner/Engineer: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Value of Incomplete Work: \_\_\_\_\_

**(If Necessary - List Additional Projects by Using Attachments)**

If company is under new management, please list names of staff and qualification and/or experience of said persons. (Please use attachments).

Have you or any present partner(s) or officer(s) failed to complete a contract? \_\_\_\_\_  
If so, name of owner and/or surety:

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

List any unsatisfied demands upon you as to your accounts payable, please use attachments.

**Bank Reference:**

Bank: \_\_\_\_\_ City: \_\_\_\_\_

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

Contact Officer: \_\_\_\_\_

**Other Credit References:**

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

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

City: \_\_\_\_\_ City: \_\_\_\_\_

Phone: \_\_\_\_\_ Phone: \_\_\_\_\_

**Municipal Reference:**

City: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Title: \_\_\_\_\_

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



**BIDDER'S LIST OF PROPOSED SUB-CONTRACTORS**

**1. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Title: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

---

**2. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Title: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

---

**3. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Title: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

---

**4. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Title: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

---

**5. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Title: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

---

**6. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_

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

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

---

**7. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_

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

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

---

**8. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_

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

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

---

**9. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_

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

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

---

**10. Sub-Contractor / Material Supplier:**

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

Type of Work to Be Performed: \_\_\_\_\_

Contact Person: \_\_\_\_\_

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

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

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# HARDSCAPE AND LANDSCAPE IMPROVEMENTS TO FREEDOM PARK, CONTRACT NO. 2016-055; BEST VALUE SCORING MATRIX

EACH BIDDER SHALL CIRCLE THE ANSWERS TO THE FIVE QUESTIONS ASKED IN ITEM NO. TWO (2A THROUGH 2E) IN THE BOLD PRINT. SUBMIT THE COMPLETED FORM WITH THE BID. FAILURE TO SUBMIT THE COMPLETED FORM WITH THE BID MAY BE DEEMED AS AN INCOMPLETE BID.

**SELECTION CRITERIA:**

	POINTS		WEIGHT		SCORE
<b>1. CONTRACT PRICE</b>	<b>15</b>	<b>X</b>	<b>2</b>	<b>=</b>	<b>30</b>
<p>THE BIDDER WITH THE LOWEST BID PRICE WILL RECEIVE THE MAXIMUM NUMBER OF POINTS, WHICH IS 15 POINTS. THE BIDDER WITH THE NEXT LOWEST PRICE WILL RECEIVE A POINT SCORE THAT IS BASED ON DIVIDING THEIR PRICE INTO THE LOWEST BID PRICE AND MULTIPLYING THE RESULTING PERCENTAGE BY THE TOTAL POINTS; EXAMPLE USING \$100,000 AS THE LOW BID AND \$110,000 AS SECOND LOW BID: CALCULATED AS FOLLOWS: <math>\\$100,000/\\$110,000 \times 15 \times 2 = 27</math>. NOTE: THE CONTRACT PRICE SCORE IS DOUBLE WEIGHTED (MULTIPLIED BY 2).</p>					
<b>2. QUALITY OF THE VENDOR'S GOODS OR SERVICES</b>	<b>15</b>	<b>X</b>	<b>1</b>	<b>=</b>	<b>15</b>
<p>THE EVALUATION IS BASED ON THE CITY'S EXPERIENCE WITH THE VENDOR AND THE STAFF'S RESEARCH OF THE VENDOR'S GOODS AND/OR SERVICES. ITEMS OF CONCERN ARE: THE QUALITY OF THE WORKMANSHIP OF CONSTRUCTED IMPROVEMENTS AND THE SERVICE AFTER THE SALE OF THE PRODUCT AND/OR AFTER THE PROJECT COMPLETION. THIS IS DETERMINED BY THE BIDDER'S ANSWERS, CHECKING THE SUBMITTED REFERENCE, BACKGROUND CHECKS, ETC.</p>					
<p>A. DOES THE BIDDER COMMIT TO RETURNING PHONE CALLS REGARDING ON-SITE CONSTRUCTION PROBLEMS WITHIN ONE HOUR OF THE CALL? <b>YES OR NO.</b></p>					
<p>B. DOES THE BIDDER COMMIT TO AN ON-SITE OBSERVATION WITHIN FOUR (4) HOURS TO REVIEW THE CONSTRUCTION CONCERN IF APPLICABLE AND IF REQUESTED BY THE OWNER'S REPRESENTATIVE? <b>YES OR NO.</b></p>					
<p>C. DOES THE BIDDER COMMIT TO REPLACEMENT OR REPAIR OF THE IMPROVEMENTS NOT MEETING SPECIFICATIONS WITHIN FIVE (5) WORKING DAYS OF THE INITIAL NOTICE? <b>YES OR NO.</b></p>					
<p>D. DOES THE BIDDER COMMIT TO RE-STARTING THE WARRANTY PERIOD OF THE REPLACEMENT OR REPAIRED IMPROVEMENT FOR THE FULL WARRANTY PERIOD BEGINNING AT THE TIME OF THE REPLACEMENT OR OF THE REPAIR? <b>YES OR NO.</b></p>					
<p>E. DOES THE BIDDER COMMIT TO AN ENGLISH-SPEAKING FOREMAN BEING ON THE JOB SITE THROUGHOUT EACH HOUR OF CONSTRUCTION? <b>YES OR NO.</b></p>					
<b>3. BIDDER'S HISTORY OF MAINTAINING A CLEAN AND SAFE JOB SITE</b>	<b>10</b>	<b>X</b>	<b>1</b>	<b>=</b>	<b>10</b>
<p>AN EVALUATION WILL BE MADE BASED ON ANY PAST EXPERIENCES WITH THE CITY AND FROM THE CALLS MADE TO REFERENCES.</p>					
<b>4. BIDDER'S PROPOSED CONSTRUCTION EQUIPMENT</b>	<b>10</b>	<b>X</b>	<b>1</b>	<b>=</b>	<b>10</b>
<p>CITY STAFF NEEDS TO KNOW THAT THE BIDDERS OWN OR CAN OBTAIN THE PROPER EQUIPMENT TO SUCCESSFULLY COMPLETE THE PROJECT. The Bidders are required to use no less than the equipment listed in their proposals in the event they are awarded a contract. Bidders proposing improper equipment will score lower. The Bidder must list the model, make,</p>					

year, and whether the equipment is owned, leased, rented or borrowed. This information shall be submitted at bid time.					
<b>5. BIDDER'S SUBMITTAL OF REFERENCES</b>	<b>15</b>	<b>X</b>	<b>1</b>	<b>=</b>	<b>15</b>
EACH BIDDER IS ENCOURAGED TO SUBMIT AT LEAST 10 REFERENCES OF COMPLETED PROJECTS OF SIMILAR SCOPE AND OF SIMILAR COST. THESE PROJECTS SHALL HAVE BEEN COMPLETED WITHIN THE PAST THREE (3) YEARS. CONTACT NAME, PHONE NUMBERS, AND PROJECT ADDRESSES OF THE COMPLETED PROJECTS ARE REQUIRED. IT IS NOT MANDATORY THAT A BIDDER SUBMITS ALL 10 REFERENCES; HOWEVER THE BIDDERS THAT SUBMIT 10 CONFIRMABLE REFERENCES WILL SCORE HIGHER ON THIS PARTICULAR SELECTION CRITERIA. IF NONE OF THE BIDDERS ARE CAPABLE OF SUBMITTING ALL 10 REFERENCES, THEN BIDDERS WITH THE BEST CONFIRMABLE REFERENCES WILL SCORE HIGHER. ALL REFERENCE SHALL BE SUBMITTED AT BID TIME.					
<b>6. BIDDER'S SUBCONTRACTORS / SUBCONTRACTOR'S CONSTRUCTION EQUIPMENT</b>	<b>5</b>	<b>X</b>	<b>1</b>	<b>=</b>	<b>5</b>
CITY STAFF WILL EVALUATE A COMBINATION OF THE SUBCONTRACTOR'S EXPERIENCE AND THEIR PROPOSED EQUIPMENT. IT IS IMPORTANT THAT THE GENERAL CONTRACTOR WORK WITH SUBCONTRACTOR'S WHO ARE EITHER CERTIFIED OR VERY EXPERIENCED IN THE NATURE OF THIS TYPE OF WORK. THE BIDDER MUST SUBMIT WITH THEIR BID A LIST OF SUBCONTRACTOR'S NAMES AND THEIR PROPOSED EQUIPMENT, LISTING THE MAKE, MODEL, YEAR, AND WHETHER THE EQUIPMENT IS OWNED, LEASED, RENTED, OR BORROWED. COMPLETE THE FORM IN THE BID BOOKLET. THIS INFORMATION IS REQUIRED AT BID TIME.					
<b>7. PRE-BID CONFERENCE ATTENDANCE</b>	<b>5</b>	<b>X</b>	<b>1</b>	<b>=</b>	<b>5</b>
THE BIDDERS IN ATTENDANCE WHO ARRIVE ON TIME AND STAY UNTIL THE END OF THE CONFERENCE WILL RECEIVE A FULL SCORE. The Bidders who arrive late or leave early will receive three (3) points. The Bidders who do not attend will receive a zero (0) score. Signing the attendance sheet at the Pre-bid Conference is the responsibility of the Bidder.					
<b>8. BIDDER'S REQUESTED TIME TO COMPLETE THE PROJECT</b>	<b>10</b>	<b>X</b>	<b>1</b>	<b>=</b>	<b>10</b>
TIME IS OF THE ESSENCE TO COMPLETE THIS PROJECT. THE BIDDER WITH THE LOWEST NUMBER OF CALENDAR DAYS TO COMPLETE THE PROJECT WILL RECEIVE THE MAXIMUM NUMBER OF POINTS, WHICH IS TEN (10) POINTS. MID-RANGE AND HIGH-RANGE NUMBER OF CALENDAR DAYS WILL BE SCORED LOWER ACCORDING TO THE NUMBER OF DAYS.					

**TOTAL POSSIBLE SCORE = 100**

## **CONTRACT AND BOND FORMS**

### **NOTICE TO BIDDERS**

The following blank spaces in the contract and bonds **are not to be filled in** by the Bidder at the time of submitting his proposal.

The contract and bond forms are submitted at this time to familiarize the Bidder with the form of contract and bonds that the successful Bidder will be required to execute.

## CONTRACT CHECKLIST

City contracts must be checked to ensure they are ready for review and signature.

CHECK	CONTRACT ITEM:
	Are all blanks filled in, except for the signatures of the Mayor (or City Manager), City Secretary and City Attorney?
	The date the Contract is "made and entered into" should be the meeting date the bid was awarded by City Council (for contracts over \$50,000), or the date of City Manager approval (for contracts under \$50,000). Is the date of the contract correct?
	units x unit price = amount
	individual amounts = total base bid
	total bid = amount awarded by Council
	Company name is consistent throughout all contractual documents
	If the contractor is a corporation, the President or Vice-President of the corporation should sign the Contract. The Secretary of the corporation must then attest the signature and seal the Contract unless the contract form used provides for an acknowledgment by a notary.
	Contract total matches the awarded amount by Council
	Signed by authorized person for the company
	Printed name matches signed name
	The name of the person signing the Contract on behalf of the contractor and the City must be typed on the appropriate lines as well as their respective titles.
	If the Contract is revised by the striking-out or inserting of new language, both parties should initial the change.
	<b>PERFORMANCE AND PAYMENT BONDS</b>
	<b>Performance Bond</b> = 100% of Contract Amount (City Form) Includes a 2-year warranty period after City Acceptance for materials and workmanship.
	Check that the company name is identical to name listed in contract
	Check for same contract date (reference in top paragraphs)
	The name of the surety on the bond must appear the same on each page of the bond.
	Check for issuance date (date of contract or after)
	Check for same signature & title throughout bond.
	Check for typed name and title of the person signing bond and for legible signature.
	Check for agent in Dallas County.
	The items listed as work to be done must exactly match the improvements listed on the Contract.
	The surety's seal (which is the seal of the bond company) must appear under the surety's signature (not a notary's seal). All corporate sureties have seals. The seal may be a legible facsimile seal, unless the instrument states otherwise.
	<b>Payment Bond</b> = 100% of contract amount (City form)
	Check that the company name is identical to name listed in contract
	Check for same contract date (reference in top paragraphs)
	The name of the surety on the bond must appear the same on each page of the bond.
	Check for issuance date (date of contract or after)
	Check for same signature & title throughout bond
	Check for typed name and title of the person signing bond and for legible signature.
	Check for agent in Dallas County
	The items listed as work to be done must exactly match the improvements listed on the Contract.
	The surety's seal (which is the seal of the bond company) must appear under the surety's signature (not a notary's seal). All corporate sureties have seals. The seal may be a legible facsimile seal, unless the instrument states otherwise.
	<b>INSURANCE-GENERAL</b>
	Certificate of Insurance (ACORD form)
	Certificate of Insurance Supplemental Form

CHECK	CONTRACT ITEM:
	Check that the company name is identical to name listed in contract
	Check the expiration date on policy to ensure it is current.
	Check for City of Mesquite listed as additional insured under General and Auto Liability Policies.
	Check for a waiver of subrogation in favor of the City of Mesquite under General and workers Compensation/Employers Liability.
	Workers Compensation \$100,000 per occurrence
	<b>INSURANCE-CONSTRUCTION</b>
	Commercial Liability \$500,000 per person/\$1,000,000 per occurrence
	Contractual Liability property damage \$500,000 per occurrence with general aggregate of \$1,000,000
	Automobile combined single limit \$500,000
	<b>OTHER</b>
	Filled out Certificate of Interested Parties - Form 1295
	Fill out and Submit Conflict of Interest Questionnaire (CIQ)
	IRS W9 Form Submitted for Setting Up Vendor Account and Processing Payment
Checked by: _____	
Date: _____	

**CONTRACT**

STATE OF TEXAS       §  
                                  §       **KNOW ALL MEN BY THESE PRESENTS:**  
COUNTY OF DALLAS   §

THIS CONTRACT is made and entered into on \_\_\_\_\_ by and between the CITY OF MESQUITE, TEXAS, of the County of Dallas and State of Texas, acting through Cliff Keheley, City Manager, hereinafter termed the CITY, and \_\_\_\_\_, of the City of **Contractor City**, County of **Contractor County** and State of Texas, hereinafter termed the CONTRACTOR.

WITNESSETH: That for and in consideration of the mutual covenants hereinafter set forth, the CITY and CONTRACTOR agree as follows:

**I. DESCRIPTION OF WORK**

The CONTRACTOR shall perform all of the work as specified in the contract documents such work generally described as:

**HARDSCAPE AND LANDSCAPE IMPROVEMENTS TO FREEDOM PARK**

Plans and Specifications prepared by:

**David C. Baldwin Inc.**

All work shall be performed at the CONTRACTOR’S own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, bonds and other accessories and services necessary to complete the work, in accordance with the contract documents.

**II. CONTRACT DOCUMENTS**

The contract documents shall consist of the following:

1. this written Construction Contract;
2. all addenda issued prior to award of contract;
3. the bid specifications including the advertisement for bid, instruction to bidders, bidder's bid form, plans, and drawings (if any);
4. the City of Mesquite General Design Standards;
5. the Standard Specifications for Public Works Construction (North Central Texas Fourth Edition October 2004), Division 100, as amended and supplemented by the City of Mesquite by Addendum (hereinafter referred to as the "General Provisions");
6. a Performance Bond in the sum of ONE HUNDRED PERCENT (100%) of the total contract price, which Bond shall be in a form acceptable to the City, shall guarantee the work in accordance with the plans and specifications for a period of two (2) years after acceptance by the City, and shall provide for repair or replacement of all defects due to faulty material and/or workmanship that appear within a period of two (2) years from the date of acceptance by the City;
7. A Payment Bond in the sum of ONE HUNDRED PERCENT (100%) of the total contract price; and
8. the Contractor’s bid/proposal and any other documents identified as pertaining to this contract, all of which have been identified by the CITY and the CONTRACTOR.

These contract documents constitute the entire agreement between the CITY and CONTRACTOR, and all are as fully a part of this contract as if attached to or repeated herein. The contract documents are complementary and what is called for by one shall be as binding as if called for by all. In the event of an inconsistency in any of the provisions of the contract documents, the inconsistency shall be resolved

by giving precedence to the contract documents in the order in which they are listed above. The contract documents may be altered, amended or modified only as provided in the general or special provisions.

### III. TIME OF COMMENCEMENT, COMPLETION AND LIQUIDATED DAMAGES

The work to be performed under this contract shall be commenced by the CONTRACTOR upon final execution of this contract and notice from the CITY to proceed. All work to be performed under this contract shall be substantially completed within \_\_\_\_\_ calendar days of the date of commencement of the work, subject to extensions of time provided in accordance with the contract documents. Time is of the essence in this contract and it is understood by the CONTRACTOR and CITY that actual damages caused by the failure of the CONTRACTOR to complete the work within the stated time are impractical or extremely difficult to fix or ascertain, and that per diem deduction from the contract price shall be retained by the CITY as payment by the CONTRACTOR of liquidated damages, and not as penalty for such failure. Such liquidated damages to be assessed and retained are set forth in the General Provisions.

### IV. CONTRACT PRICE

The CITY shall pay the CONTRACTOR for the performance of the work, subject to additions and deductions by change order or as otherwise provided in the provisions of the contract, in current funds the contract sum, which has been bid as a separated contract in compliance with the Texas Tax Code, as follows:

Material charges incorporated into the project:		\$ _____
Labor, equipment and other materials charges:	+	\$ _____
Total sum:		(\$ _____)

### V. CONTRACT ADMINISTRATION

This contract shall be administered on behalf of the CITY by \_\_\_\_\_ (referred to herein as "City Representative") and the CONTRACTOR shall fully comply with any and all instructions from said City Representative. With execution and delivery of the Contract, the CONTRACTOR shall furnish and file with the CITY in the amounts herein required, performance and payment bonds in accordance with the provisions of V.T.C.A. Government Code, Chapter 2253 if this is a public work contract in excess of fifty thousand dollars (\$50,000.00).

### VI. LABOR CLASSIFICATION AND MINIMUM WAGE SCALE

The CONTRACTOR is required to follow all provisions of Chapter 2258 of the Texas Government Code in the hiring and payment of all skilled and unskilled labor used on this contract. The CONTRACTOR must pay the prevailing wage rates as shown on the attached Wage Decision.

### VII. DISCLOSURE OF CONFLICTS OF INTEREST AND COMPLIANCE WITH OTHER APPLICABLE LAWS

The CONTRACTOR shall at all times observe and comply with all Federal, State and local laws, ordinances and regulations including all amendments and revisions thereto, which in any manner affect the CONTRACTOR or the services and/or items to be provided, specifically and not limited to any ethics laws. In particular, the CONTRACTOR is put on notice that the CITY will require the CONTRACTOR to comply with Chapter 176 of the Texas Local Government Code by completing the attached Conflict of Interest questionnaire (FORM CIQ) and returning the completed FORM CIQ to the CITY. Additionally, CONTRACTOR must comply with Section 2252.908 of the Texas Government Code, which was enacted in 2015 by the Texas Legislature pursuant to HB 1295, providing that a governmental entity may not enter into certain contracts with a business entity on or after January 1, 2016, unless the business entity submits a disclosure of interested parties (FORM1295) to the governmental entity at the time the business entity submits the signed contract to the governmental entity. Further information regarding the disclosure of interested parties law and instructions on filing FORM1295 can be found at the Texas Ethics Commission web site at the following web address:

[https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm)



**VIII. INSURANCE**

The CONTRACTOR agrees to provide and to maintain the types and amounts of insurance set forth in the General Provisions attached hereto, and to include the CITY as an additional insured in all policies providing coverage for the term of this contract.

**IX. CHOICE OF LAW, VENUE AND CONTRACT INTEPRETATION**

The parties agree that the laws of the State of Texas shall apply to this contract, and that it is performable in Dallas County, Texas. Exclusive venue shall lie in Dallas County, Texas. Although this contract is drafted by the CITY, should any part be in dispute, the parties agree this contract shall not be construed more favorably for either Party.

**X. SEVERABILITY**

If any part of this CONTRACT shall be stricken for any reason whatsoever or found to be invalid or unenforceable, that part will be severed and the remainder of this CONTRACT will continue in full force and effect.

**XI. SURVIVAL**

Any liabilities or obligations of a Party for acts or omissions prior to the cancellation or termination of this CONTRACT, and any other provisions of this CONTRACT which, by their terms, are contemplated to survive (or to be performed after) termination of this CONTRACT, shall survive cancellation or termination thereof.

**XII. AUTHORITY TO SIGN**

The undersigned officers and/or agents of the parties hereto are the properly authorized officials and have the necessary authority to execute this contract on behalf of the parties hereto.

IN WITNESS WHEREOF, the CITY AND CONTRACTOR have executed this contract in the year and day first written above.

**CITY OF MESQUITE  
(CITY)**

\_\_\_\_\_  
**(CONTRACTOR)**

By: \_\_\_\_\_  
Cliff Keheley  
City Manager

BY: \_\_\_\_\_  
(signature)  
TYPED NAME: \_\_\_\_\_

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

ATTEST:

ATTEST:

\_\_\_\_\_  
City Secretary

\_\_\_\_\_

APPROVED AS TO FORM:

\_\_\_\_\_  
City Attorney or Designee

**PERFORMANCE BOND**

STATE OF TEXAS       §  
                                  §       **KNOW ALL MEN BY THESE PRESENTS:**  
COUNTY OF DALLAS   §

**THAT** \_\_\_\_\_, of the City of \_\_\_\_\_, \_\_\_\_\_ County, State of Texas (hereinafter referred to as "Principal"), and \_\_\_\_\_ (hereinafter referred to as "Surety"), authorized under the laws of the State of Texas to act as Surety on bonds for principals are held and firmly bound unto the **City of Mesquite** (hereinafter referred to as "City") in the penal sum of \$\_\_\_\_\_ (not less than 100% of the approximate total amount of the Contract as evidenced in the Proposal) for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

**WHEREAS** the Principal has entered into a certain written contract with the City, dated the \_\_\_\_\_ day of \_\_\_\_\_, 2016, for the **HARDSCAPE AND LANDSCAPE IMPROVEMENTS TO FREEDOM PARK AND CITY CONTRACT NO. 2016-055** to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein;

**NOW, THEREFORE**, the condition of this obligation is such that if the said Principal fully and faithfully executes the work and performance of the Contract in accordance with the Plans, Specifications and Contract Documents, including any extensions thereof, and according to the true intent and meaning of said Contract and the Plans and Specifications hereto annexed, then this obligation shall be void; otherwise, to remain in full force and effect.

**PROVIDED, HOWEVER**, that this Bond is executed pursuant to the provisions of V.T.C.A. Government Code Chapter 2253, Public Work Performance and Payment bonds, as amended, and Article 53.201 of the Property Code, and all liabilities on this Bond shall be determined in accordance with the provisions of said articles to the same extent as if they were fully copied at length herein.

Surety, for value received, stipulates and agrees that the Bond shall automatically be increased by the amount of any change order or supplemental agreement which increases the contract price with or without notice to the Surety and that no change, extension of time, alteration or addition to the terms of the Contract, or to the work performed thereunder, or the Plans, Specifications or Drawings accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder.

Surety must be approved by the Texas State Board of Insurance under Article 7.19-1 of the Insurance Code and authorized under the laws of Texas to act a surety on bonds for principals.

Surety agrees that the bond provides for the repairs and/or replacement of all defects due to faulty materials and workmanship that appear within a period of **two (2) years** from the date of completion and acceptance of the improvement by the City.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument on this the \_\_\_\_ day of \_\_\_\_\_, 2016.

**PRINCIPAL:**

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

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

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

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

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

(P.O. Box is not acceptable)

\_\_\_\_\_  
City, State, Zip Code

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

Dallas Telephone Number

**SURETY:**

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

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

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

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

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

(P.O. Box is not acceptable)

\_\_\_\_\_  
City, State, Zip Code

**SURETY'S DALLAS COUNTY REGISTERED AGENT FOR SERVICE (REQUIRED):**

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

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

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

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

(P.O. Box is not acceptable)

\_\_\_\_\_  
City, State, Zip Code

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

Dallas County Telephone Number

**(Attach dated Power of Attorney for Surety)**

ATTEST:

\_\_\_\_\_  
City Secretary

APPROVED AS TO FORM:

\_\_\_\_\_  
City Attorney or Designee

**PAYMENT BOND**

STATE OF TEXAS           §  
  §       **KNOW ALL MEN BY THESE PRESENTS:**  
COUNTY OF DALLAS     §

**THAT** \_\_\_\_\_, of the City of \_\_\_\_\_, \_\_\_\_\_ County, State of Texas, (hereinafter referred to as Principal), and \_\_\_\_\_ (hereinafter referred to as "Surety"), authorized under the laws of the State of Texas to act as Surety on bonds for principals are held and firmly bound unto the City of Mesquite (hereinafter referred to as "City") in the penal sum of \$\_\_\_\_\_ (an amount not less than 100% of the approximate total amount of the Contract) for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

**WHEREAS** the Principal has entered into a certain written contract with the City, dated the \_\_\_\_\_ day of \_\_\_\_\_, 2016, for the **HARDSCAPE AND LANDSCAPE IMPROVEMENTS TO FREEDOM PARK AND CITY CONTRACT NO. 2016-055** to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein;

**NOW, THEREFORE**, the condition of this obligation is such that the bond guarantees the full and proper protection of all claimants supplying labor and material in the prosecution of the work provided for in said Contract and for the use of each claimant, and that conversely should the Principal faithfully perform said Contract and in all respects duly and faithfully observe and perform all and singular the covenants, conditions and agreements in and by said Contract agreed to by the Principal, and according to the true intent and meaning of said Contract, and the claims and specifications hereto annexed, then this obligation shall be void; otherwise, to remain in full force and effect.

**PROVIDED, HOWEVER**, that this Bond is executed pursuant to the provisions of V.T.C.A. Government Code Chapter 2253, Public Work Performance and Payment bonds, as amended, and Article 53.201 of the Property Code, and all liabilities on this Bond shall be determined in accordance with the provisions of said articles to the same extent as if they were fully copied at length herein.

Surety, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work performed thereunder, or the Plans, Specifications or Drawings accompanying same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder.

Surety must be approved by the Texas State Board of Insurance under Article 7.19-1 of the Insurance Code and authorized under the laws of Texas to act a surety on bonds for principals.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument on this the \_\_\_\_ day of \_\_\_\_\_, 2016.

**PRINCIPAL:**

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

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

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

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

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

(P.O. Box is not acceptable)

\_\_\_\_\_  
City, State, Zip Code

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

Dallas Telephone Number

**SURETY:**

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

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

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

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

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

(P.O. Box is not acceptable)

\_\_\_\_\_  
City, State, Zip Code

**SURETY'S DALLAS COUNTY REGISTERED AGENT FOR SERVICE (REQUIRED):**

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

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

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

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

(P.O. Box is not acceptable)

\_\_\_\_\_  
City, State, Zip Code

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

Dallas County Telephone Number

**(Attach dated Power of Attorney for Surety)**

ATTEST:

\_\_\_\_\_  
City Secretary

APPROVED AS TO FORM:

\_\_\_\_\_  
City Attorney or Designee



## SECTION GP

### CONTRACT GENERAL PROVISIONS

For this Contract the City of Mesquite has adopted the *North Central Texas Council of Governments Public Works Construction Standards, Fourth Edition (October 2004), Division 100 General Provisions* with modifications by addendum. The modifications to the above referenced Division 100 General Provisions are contained in the below City of Mesquite Addendum.

**CITY OF MESQUITE**

**ADDENDUM**

**TO**

**NORTH CENTRAL TEXAS**

**STANDARD SPECIFICATIONS**

**FOR**

**PUBLIC WORKS CONSTRUCTION**

This addendum to the ***North Central Texas Standard Specifications for Public Works Construction, Division 100 General Provisions, Fourth Edition, dated October 2004*** sets forth exceptions or requirements of the City of Mesquite and thereby takes precedence over any conditions or requirements of the ***North Central Texas Standard Specifications for Public Works Construction, Division 100 General Provisions*** with which it is in conflict.

The comments are itemized by the ***North Central Texas Standard Specifications for Public Works Construction, Division 100 General Provisions*** section reference number followed by specific comments.



## 101.1 DEFINITIONS

Add the following definitions:

**Advertisement:** All of the legal publications pertaining to the work contemplated or under contract.

**Apparent Low Bidder:** The bidder determined to have the numerically lowest bid as a result of the tabulation of bids by the Owner.

**Award:** The City Council's acceptance of the Contractor's bid for a proposed contract that authorizes the Owner to enter into a contract.

**Bid Bond:** The approved form of proposal guarantee furnished by the Contractor and his surety as security for compliance with all conditions of such proposal guarantee as set forth in the General Provisions.

**Bidder:** Any person, persons, partnership, company, firm, association or corporation or combination thereof, acting directly or through a duly authorized representative submitting a proposal for the work contemplated.

**Calendar Day:** A calendar day is defined as any day of the week or year, no days being excepted.

**City:** The City of Mesquite, Texas, a municipal corporation, acting by and through (a) its governing body, (b) its Mayor or (c) its City Manager, each of whom is required by Charter to perform specific duties. Responsibility for final enforcement of contracts involving the City of Mesquite is by Charter vested in the City Manager.

**Claim:** Compensation for any alleged damage by reason of the acts or omissions of the Owner.

**Consulting Engineer:** The person, firm or entity hired as an independent consultant by the Owner to design the Project and represent the Owner in the administration of the Contract in whatever capacity the Owner designates; the Owner may, at sole option, designate the Consulting Engineer to be the Engineer for purposes of administration of the Contract. The Consulting Engineer shall be understood to be the Consulting Engineer of the Owner, and nothing contained in the Contract Documents shall be construed to make the Consulting Engineer an employee of the Owner, nor shall they be construed to create any contractual or agency relationship between the Consulting Engineer and the Contractor. The term includes the officers, employees, associates, agents or sub-consultants of the Consulting Engineer, if any.

**Contractor's Qualification Information:** qualification forms completed by a Bidder reflecting a Bidder's financial data and experience.

**Effective Start Date:** The date indicated in the Notice to Proceed as the date of commencement of Work which is the date from which the start of Contract Time is measured.

**Field Order:** A written order issued by the Owner's Representative which orders minor changes or clarifications in the Work which do not involve a change in the Contract Time or Contract Price.

**General Conditions:** The special clauses of the contract setting forth conditions or requirements supplementing the standard or general specifications and taking precedence over any conditions or requirements.

**General Design Standards:** The General Design Standards developed, adopted and published by the City of Mesquite - Engineering Division.

**Owner:** The City of Mesquite, Texas.

**Owner's Inspector:** The Public Works Construction Inspector of the City of Mesquite or the person designated by the Owner's Representative to inspect the work for the City, more than one inspector may be assigned to a project.

**Owner's Representative:** The City Engineer of the City of Mesquite or the person designated by the City Engineer to represent the City, or such other person as authorized by the City in the contract documents.

**Product:** The term "product" includes materials, systems, and equipment.

**Proposal:** The written statement or statements duly filed with the Purchasing Agent, whether in the form of a sealed bid, proposal, quotation or other form, of the person, persons, partnership, company, firm, association or corporation proposing to do the work contemplated.

**Proposal Guarantee:** The security designated in the advertisement and proposal, to be furnished by each bidder as a guarantee of good faith to enter into a contract with the Owner and comply with all conditions provided for such Proposal Guarantee in the General Provisions (reference Section 102.5).

**Provide:** The term "provide" means to furnish and install.

**Request for Information (RFI):** A written request from the Contractor to the Owner's Representative for plan or specification interpretation or clarification.

**Shop Drawings or Submittals:** All drawings, diagrams, illustrations schedules, and other data which are specifically prepared by or for the Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, manufacturer's data, diagrams, and other information submitted by the Contractor to the Owner's Representative for approval (reference Section 105.3).

**Standard Details:** Standard details developed, adopted and published by the City of Mesquite Engineering Division or the standard details developed by other agencies or engineers that are included in the project plans or specifications.

**Substantially Complete:** In the opinion of the Engineer, that the Work has been made suitable for use or occupancy or is serving its full intended purpose, but may require minor miscellaneous work or adjustment as evidenced by issuance of a Certification of Substantial Completion by the Owner's Representative.

**Working Hours:** Work shall be done only during the regular and commonly accepted and described working hours between 7:00 a.m. and 6:00 p.m. No work shall be done nights, Sundays or regular holidays unless written permission is given by the Owner's Representative.

**Official City Holidays are:**

New Year's Day Holiday  
Martin Luther King Jr. Day  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Thanksgiving Friday  
Christmas Day Holiday

**Written Notice:** Written notice shall be deemed to have been duly served if 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 if delivered at or sent by registered mail to the last business address known to him who gives the notice.

## 102.1 PROPOSAL FORM

**Add:** Proposal Forms may be obtained as provided in the advertisement for bids.

### **Add to the end of the Section the Following Subsections:**

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

**102.1.2 Pay Items.** Items not listed in the bid proposal shall be considered subsidiary to the construction and no additional compensation will be given for them.

## 102.3. EXAMINATION OF PLANS, SPECIFICATIONS AND SITE OF THE WORK

### **Add to End of Section the Following Subsections:**

**102.3.1. Addenda.** Bidders desiring further information, or interpretation of the plans and specifications, must make request for such information in writing to the Owner's Representative five (5) working days prior to the date of the bid opening. Answers to such requests will be given in writing to all bidders by Addendum and such Addendum shall be made a part of the Contract Documents. No other explanation or interpretation will be considered official or binding. Should a bidder find discrepancies in the plans, specifications or quantities, or should he be in doubt as to their meaning, he shall at once notify the Owner's Representative in order that a written Addendum may be sent to all bidders. Any Addenda issued prior to twenty-four (24) hours before the opening of bids will be delivered by facsimile or email to all plan holders on record with the City of Mesquite. The proposal as submitted by the Bidder will be so constructed as to include any Addendum issued by the Owner's Representative prior to twenty-four (24) hours before the opening of bids.

The Bidder must acknowledge in the proposal bid forms that all addendums have been received.

**102.3.2. Pre-Bid Inspection.** Bidder shall inspect the site prior to bidding and prior to move in. Bidder's inspection shall include but not be limited to observation and verification of existing grades, topographic conditions, surface and subsurface soil conditions and surface and subsurface water drainage conditions, observation and verification of any existing utility, appurtenance, or structure as it may relate to the contract. This shall include but not be limited to:

- Water and sewer appurtenances.
- Storm sewer structures and appurtenances.
- Concrete structures and appurtenances.
- Petroleum pipeline systems and appurtenances.
- Natural Gas pipeline systems and appurtenances.
- Telecommunications systems and appurtenances.
- Electrical systems and appurtenances.
- Television cable systems and appurtenances.
- Irrigation systems and appurtenances.

**102.3.3. Geotechnical Data.** Soil Borings, soil profiles, ground water elevations, and underground utilities shown on the plans have been obtained for use in preparation of the plans. The Owner makes no representation or warranty to the accuracy of this geotechnical data.

**102.3.4. Quantity Verification.** Bidders shall verify all quantities included in the bid proposal prior to submitting bid. Should any major quantity discrepancy between stated bid quantities and Bidder's

estimate be found, Bidder shall notify the Owner's Representative in writing, prior to submitting bid, and obtain a clarification and/or correction to the stated bid quantity. By submitting a bid, Bidder represents that estimates were performed and no major quantity discrepancies were found.

**102.3.5. Subsidiary Cost:** It is the intent of the Contract Documents, Technical Specifications, Supplemental Specifications, and plans to describe the construction and subsidiary activities and materials necessary to furnish and install a complete in place project, ready for its intended use, accepted by the Owner's Representative. Those materials and work necessary to furnish and install a complete in place project, conforming to the plans and specifications, that are not specifically identified in the bid proposal, technical specifications, or the supplemental technical specifications as pay items shall be considered as subsidiary to the contract as a whole, and as such shall not be submitted for individual payment by the Contractor. The cost of those subsidiary items shall be reflected in the prices stated in the bid proposal. It shall be the responsibility of the Contractor to review the bid proposal, plans, technical specifications, and supplemental technical specifications and site conditions to determine those materials and work which are not specifically identified but which shall be necessary to furnish and install a complete project in place.

#### **102.4. PREPARATION OF PROPOSAL**

**Change:** in the second sentence "both in words and numerals" to "in numerals"

**Add after the first sentence:** The bidder shall submit Bid Proposals on Bid Forms in the contract document or from computer generated forms supplied by the Owner. Modifications, revisions and creations of a new computer generated form not furnished by the Owner shall be considered an irregular proposal and may disqualify the bidder. Unit prices shown on the Bid Proposals shall state the prices for which he proposes to do the work contemplated or furnish the material required.

#### **102.5 PROPOSAL GUARANTY**

**Add to the end of the section:** An acceptable Surety per the terms of GP Section 103.3 SURETY BONDS shall execute the bidder's surety bond, together with the bidder, as Principal. In addition, the Bidder and its agents shall have no financial interest in the Surety.

#### **102.7. WITHDRAWING PROPOSALS**

**Change:** In the last sentence, change "90 days" to "120 days".

**Add:** After the 120-day period, if agreed to in writing between Contractor and Owner, the bid will stay in effect, without change, for a period agreed to between the Contractor and Owner.

#### **102.8 OPENING PROPOSALS**

**Delete the last sentence of this section.**

#### **102.9. CONSIDERATION OF PROPOSAL**

**Add:** When required by the bid documents, within 48-hours of the bid opening, the apparent low bidder must submit to the Owner, the Bidder's Qualification Information on the forms provided in the bid documents providing evidence that the bidder is capable of properly executing the work.

#### **102.10. IRREGULAR PROPOSALS**

**Add:** After the words "irregular if" add ", in the sole opinion of the Owner,".

#### **102.12. DISQUALIFICATION OF BIDDERS**

**Add:**

- (9) The bidder being party to any litigation against the Owner;
- (10) The bidder being in arrears on any existing contract or other financial obligation or debt.
- (11) Lack of experience, competency, ability, capacity of the bidder to perform the contract or provide the service required as revealed by the Bidder's Qualification Information.
- (12) Lack of a current financial report as required in the Bidder's Qualification Information submission requirements.

- (13) The quality, availability and adaptability of the supplies, materials, equipment or contractual services, to the particular use required.
- (14) The number and scope of conditions attached to the bid proposal.
- (15) Whether the bidder can perform the contract or provide the service promptly, or within the time required, without delay or interference.
- (16) The character, responsibility, integrity, reputation, experience and safety record of the bidder.
- (17) The previous and existing compliance by the bidder with laws relating to the contract or service.
- (18) Any previous or existing noncompliance by the bidder to perform the contract or provide the service.
- (19) The ability of the bidder to provide future maintenance, repair parts, and service for the subject contract.
- (20) Rejection of bid when a bid is submitted in which there is a material failure to comply with the specification requirements
- (21) Evidence that contractor, subcontractor have been suspended, debarred, or otherwise excluded from participation in federally funded programs.

### **103.2. AWARD OF CONTRACT**

**Change:** In the first sentence, change “90 days” to “120 days”.

**Add:** The right is reserved, as the interest of the Owner may require, to reject any and all bids and waive any informality of bids received.

#### **103.3.1.1. Performance Bond.**

**Change:** In the last sentence, change “period of one year” to “period of **two years**”.

#### **103.3.1.4. Bond Amounts Based on Contract Amounts**

**Delete entire section.**

#### **103.3.3. Sureties.**

**Delete second to last sentence and Replace with:** The surety shall designate an agent in Dallas County, Texas who is acceptable to the Owner to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of such suretyship. Legal venue for enforcement of the bonds shall lie exclusively in Dallas County, Texas.

**103.4 INSURANCE**

**Delete entire subsection 103.4.1. Contractor’s Insurance, including subsections and Replace with:**

**103.4.1 Contractor’s Insurance.** The Contractor and his subcontractor(s) shall not commence work on any contract in the City of Mesquite until he has obtained, for himself and all subcontractors, all the insurance required under this paragraph, and such insurance has been approved by the Owner.

The Contractor and his subcontractor(s) agrees to provide and to maintain the following types and amounts of insurance, which may be satisfied by any combination of primary, excess or umbrella liability insurance, for the term of this Contract:

**Amounts and Types of Insurance:**

	<b>Type</b>	<b>Amount</b>
1	Workers Compensation/Employer's Liability	Statutory \$100,000 per occurrence
2	Commercial (Public) Liability, including, but not limited to: A. Premises/Operations B. Independent Contractors C. Personal Injury D. Products/Completed Operations E. Contractual Liability (insuring above indemnity provisions) F. Explosion or Cave-in	<b><u>Bodily Injury:</u></b> \$500,00 per person, \$1,000,000 per occurrence  and  <b><u>Property Damage:</u></b> \$500,000 per occurrence with general aggregate of \$1,000,000
3	Automobile Policy	Combined Single Limit - \$500,000.00

The required limits may be satisfied by any combination of Primary, Excess or Umbrella liability coverage. The preceding amounts notwithstanding, Owner reserves the right to decrease or increase the minimum required insurance either as provided in the contract documents or after thirty (30) days notice is sent to the Contractor’s address as shown on Contractor’s Proposal. The Contractor may pass through to the Owner all costs for obtaining the increase in the insurance coverage.

The Contractor understands that it is its sole responsibility to provide Certificates of each policy before any work is started and that failure to timely comply with the stated policy endorsements and special conditions hereinafter specified shall be a cause for termination of this Contract. Prior to the effective date of cancellation of any coverage, the Contractor must deliver to the Owner a replacement Certificate or proof of reinstatement. In addition to the Certificates, all Policies shall be subject to examination and approval by the City Attorney's office for their adequacy as to form, content, form of protection and the providing company.

Insurance required by this Contract for the Owner as additional insured shall be primary insurance and not contributing with any other insurance available to the Owner, under any third party liability policy.

**Delete entire subsection 103.4.2. Owner’s Protective Liability Insurance and Replace with:**

**103.4.2 Worker's Compensation Insurance.** The Owner shall require worker’s compensation insurance coverage as defined in Section 401.011(44) of the Texas Labor Code from any contractor before entering into a building or construction contract to prove in writing that the Contractor and all subcontractors shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements set forth in

Section 406.096 of the Texas Labor Code, for all persons providing services on the project, for the duration of the project.

### **103.6 NOTICE TO PROCEED AND COMMENCEMENT OF WORK**

**Add:** Prior to the start of work, the Owner may arrange a Pre-Construction Conference with the Contractor and appropriate Owner staff. The Pre-Construction Conference shall be scheduled no later than 10 days after the Contract is fully executed. The Notice to Proceed (NTP) shall state the date upon which the Contract time (the Effective Start date) shall start. The Effective Start date will be within 10 days after the Pre-Construction Conference for the Project is held unless requested otherwise in writing by the Owner's Representative.

#### **Add The Following Section:**

### **103.8. COST BREAKDOWN (SCHEDULE OF VALUES FOR LUMP SUM BIDS OR BID ITEMS)**

The Contractor shall prepare and submit for approval to the Owner's Representative at the preconstruction meeting a breakdown of lump sum items, identified by the Owner, for the various parts and classes of work to be performed under the Contract.

### **105.1.1 Priority of Contract Documents.**

#### **Delete entire subsection and Replace with:**

The bid documents, contract, bonds, bid form, general provisions, special provisions, technical specifications, general specifications, plans, details, appendixes and all supplementary information and referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work.

In case of discrepancy or conflict:

- written out or calculated dimensions shall govern over scaled dimensions;
- large-scale details shall govern over general or smaller scale details;
- project specific details shall govern over general or standard details;
- Special Provisions shall govern over General Provisions;
- project specific technical specifications shall govern over standard specifications;
- City of Mesquite General Design Standards shall govern over ***North Central Texas Standard Specifications for Public Works Construction, Fourth Edition, dated October 2004;***
- City of Mesquite General Design Standards shall govern over Texas Department of Transportation (TXDOT) Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, 2004 Edition.

### **105.1.3. Contract Drawings and Specifications.**

**Add at the end of the first paragraph:** "The only plans authorized for use are stamped:

**RELEASED FOR CONSTRUCTION  
CITY OF MESQUITE  
ENGINEERING DIVISION  
(DATE)  
THESE PLANS SHALL  
BE ON THE JOB SITE AT ALL TIMES**

### **105.2.2. Special Warranty.**

**Change:** In the first sentence, change "one year" to "two years".

### **105.3. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

**Delete:** The last sentence in the last paragraph.

### **105.4. CONSTRUCTION STAKES**

**Delete:** Entire first paragraph of section.

**Add:** The Contractor is responsible for furnishing at Contractor's expense all construction staking



necessary to establish line and grade. ). The Consulting Engineer will provide one-time location of survey control points for the Contractor's surveyor. Prior to construction the Contractor shall field verify elevations and locations of tie-in points for existing utilities. If discrepancies are discovered between field conditions and plan elevations the Contractor shall notify the owner immediately of the discrepancies. All construction staking is subject to checking and verification by the Owner's Representative. The hiring of a Registered Land Surveyor shall comply with Article 2254.004 of the Texas Governmental Code (Professional Services Procurement Act).

#### **105.6. SUPERVISION BY CONTRACTOR**

**Add:** The Contractor shall at all times have on the site of the work a superintendent or general foreman on site if any work is being done or any materials are being delivered to the project location. The Contractor superintendent and general foreman shall be fluent in speaking, reading and writing English.

#### **105.7.1 Authority of the Engineer**

**Add:** The Owner's Representative has the authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract.

#### **105.7.2. Owner's Representative's Final Determination**

**Add:** Should the Contractor object to any order by any subordinate Owner's Representative, the Contractor may, within six days make written appeal to the Owner's Representative for his decision.

#### **105.9 INSPECTION**

**Add:** The Owner's Inspector shall not have the power to waive the obligations of this Contract for the furnishing by the Contractor of good material, and of his performing good work as herein described, and in full accordance with the plans and specifications. No failure or omission of the Owner's Inspector to condemn any defective work or material shall release the Contractor from the obligation to at once remove and properly replace the same at any time prior to Owner's final acceptance upon the discovery of said defective work or material.

#### **105.9.1. Removal of Defective and Unauthorized Work.**

**Add:** If the Owner's Representative prefers to accept Work which is defective and/or not in accordance with the requirements of the Contract Documents, the Owner's Representative may accept Work instead of requiring its removal and correction, prior to recommendation of final payment. Work found to be defective and accepted by the Owner shall be, at the discretion of the Owner's Representative and without recourse by the Contractor, subject to partial or non-payment. Contractor shall bear all direct, indirect, and consequential costs attributable to the Owner's evaluation of any determination to accept such defective work (such costs to be approved by the Owner's Representative as to reasonableness, and to include, but not be limited to, fees and charges of engineers, inspectors, architects, attorneys, laboratories and other professionals). If any such acceptance occurs prior to the Owner's Representative's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the Owner shall be entitled to an appropriate decrease in the Contract Price. If the acceptance occurs after such recommendation, an appropriate amount will be paid by the Contractor to the Owner.

#### **105.9.3. Inspection Overtime**

**Delete the second sentence in the second paragraph and Replace with the following:** "The Inspector's normal working hours are 7:30 a.m. to 11:30 a.m. and 12:30 p.m. to 4:30 p.m., Monday through Friday with the exclusion of Official City Holidays. **The Contractor will reimburse the Owner for all inspection overtime outside the Inspector's normal working hours.** To arrange for inspection outside Inspector's normal working hours a verbal request for overtime inspection must be communicated to the Owner's Inspector two working days in advance. Work on Sundays and Holidays is prohibited except in the case of emergency and authorized, in writing, by the Owner's Representative. Work between the hours of 6:00 P.M. and 7:00 A.M. must be approved by the Owner's Representative. Overtime inspection shall be charged portal to portal. There is a two-hour minimum charge for inspection on weekends or Official City Holidays. The Contractor will be charged a 2-hour

minimum overtime charge if the Contractor schedules inspection on weekends or Official City Holidays but then cancels work without notice to the Public Works Construction Inspector before the inspector shows up to the project.

**Delete:** The last two paragraphs.

**Add:** Inspection overtime will be reimbursed to the Owner by the Contractor at the rate of time-and-one-half plus workman's compensation, F.I.C.A. and other normal City benefits and pertaining rates. The Contractor will be billed monthly by the City for overtime charges. The City will not give final payment or give final acceptance of a project until inspector overtime charges are paid.

#### **106.4. OFF-SITE STORAGE**

**Delete entire section and Replace with:**

The costs incurred in storage of materials or equipment away from the project site will not be made by the Owner. All costs incurred shall be the full responsibility of the Contractor and included in the Contractor's bid.

#### **106.5 SAMPLES AND TESTS OF MATERIALS**

**Delete the first paragraph and Replace with:**

Where, called for in the specifications or in the opinion of the Owner tests and retests of materials or completed work are necessary, such tests will be made **at the expense of the Contractor** unless otherwise specified.

**Add at the end of the last paragraph:**

The Contractor shall designate and pay a recognized testing laboratory to perform all testing, if any, for this project. Such designation is subject to the approval of the Owner's Representative. The hiring of the testing laboratory shall comply with Article 2254.004 of the Texas Governmental Code (Professional Services Procurement Act).

The Testing Laboratory must furnish the inspector with one field copy of the test results. A typed paper copy must be mailed to the Owner's Representative identified at the Pre-Construction Conference. The Owner's Representative may approve the submission of final test reports to the Owner by electronic means.

Collection of potable water samples for bacterial sampling will be accomplished by the Contractor. The Contractor must prepare the sample point and assist the City Public Works Construction Inspector in collecting the sample. All work and materials used for the sampling point and taking the samples must conform to the latest version of the American Water Works Association. Delivery of the potable water sample to the testing laboratory and testing of the potable water sample will be at the Owner's expense.

#### **107.2 INDEMNIFICATION**

**Add the following subsections:**

**107.2.1 Contractor's Responsibility.** Contractor further agrees that it shall at all times exercise reasonable precautions on behalf of, and be solely responsible for, the safety of its officers, agents, employees, subcontractors, licensees, invitees, and other persons, as well as their property, while in the vicinity where the improvements are being made. It is expressly understood and agreed that City shall not be liable or responsible for the negligence of the Contractor, including but not limited to its officers, agents, employees, subcontractors, licensees, invitees, and other persons.

**107.2.2 Premise Defects.** Further, City assumes no responsibility or liability for harm, injury, or any damaging events which are directly or indirectly attributable to premise defects, real or alleged, in improvements constructed by Contractor which may now exist or which may hereafter arise upon the premises, responsibility for any and all such defects being expressly assumed by Contractor. Contractor understands and agrees that this indemnity provision shall apply to any and all claims, suits,

demands, and/or actions based upon or arising from any such premise defects or conditions, including but not limited to any such claim asserted by or on behalf of Contractor, including but not limited to its officers, agents, employees, subcontractors, licensees, invitees, and other persons.

**107.2.3 Notice of Claim.** It is further agreed with respect to the above indemnity that City and Contractor will provide the other prompt and timely notice of any event covered which in any way, directly or indirectly, consequently or otherwise, affects or might affect the Contractor or City, and City shall have the right to compromise and defend the same to the extent of its own interests.

### **107.3 OWNER'S OFFICERS EMPLOYEES OR AGENTS**

**Add the following subsection:**

#### **107.3.3 Specific Ethics Provisions**

Contractor shall at all times observe and comply with all Federal, State and local laws, ordinances and regulations relating to ethics provisions, including all amendments and revisions thereto, which in any manner affect Contractor or the services and/or items to be provided. In particular, Contractor is put on notice that Owner will require compliance with Chapter 176 of the Texas Local Government Code (hereinafter referred to as the "Act") requiring any person who contracts or seeks to contract with the Owner to disclose potential conflicts of interest as defined in the Act in accordance with the provisions of the Act. Failure to comply with provisions of the Act, may result in: i) the forfeiture by Contractor of all benefits of the Contract; ii) the retainage by Owner of all services performed by Contractor and iii) the recovery by Owner of all consideration, or the value of all consideration, paid to Contractor pursuant to any awarded contract. Additionally, CONTRACTOR must comply with Section 2252.908 of the Texas Government Code, which was enacted in 2015 by the Texas Legislature pursuant to HB 1295, providing that a governmental entity may not enter into certain contracts with a business entity on or after January 1, 2016, unless the business entity submits a disclosure of interested parties (FORM1295) to the governmental entity at the time the business entity submits the signed contract to the governmental entity. Further information regarding the disclosure of interested parties law and instructions on filing FORM1295 can be found at the Texas Ethics Commission web site at the following web address:

[https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm)

### **107.12 LABOR AND MATERIALS**

**Add the following subsection:**

#### **107.12.1. LABOR CLASSIFICATION AND MINIMUM WAGE SCALE**

In compliance with State Law, the Contractor is required to pay all workers, including employees of subcontractors, for the construction of any public work project not less than the general prevailing rate of per diem wages in the locality for work of a similar character as determined by the City. The City has adopted the prevailing wage rates as determined by the U.S. Department of Labor in accordance with the Federal Davis Bacon Act for this Contract as provided by law.

Attention is called to the fact that the inclusion of a minimum scale of wages to be paid to employees engaged in the work under this Contract does not release the Contractor from compliance with any Federal or State Wage Law that may be applicable to the project. The Contractor shall abide by Federal and State Wage and Hour Laws and must not pay less than the wages legally prescribed as set forth herein. In order to verify compliance with Federal or State wage laws and regulations, the Contractor may be required to submit a weekly certified payroll of all workers on the project listing name, social security number, labor classification, wage rates, hours worked and compensation paid.

Under the provisions of the Texas Government Code, Title 10, Subchapter F, Section 2258.023, the Contractor shall forfeit as a penalty to the City on whose behalf the Contract is made or awarded, Sixty Dollars (\$60.00) for each laborer, workman or mechanic employed, for each calendar day or portion thereof that such laborer, workman or mechanic is paid less than the said stipulated rates for any work under the Contract, by him or by any sub-contractor under him.

Such wage determinations must be for projects in Dallas County, Texas dated no more than 3 years prior to the date this Contract was advertised for bid.

In addition, the Contractor is required to obtain skilled and unskilled labor used on the work, when qualified, fit and available, first from residents within the City of Mesquite, Texas, and second from residents of Dallas County, if practical and available. However, the Contractor may bring his superintendent, foreman, sub-foreman, machine operators and sufficient key men to round his organization.

### **107.13 EQUAL EMPLOYMENT OPPORTUNITY**

#### **107.13.5 Reports**

**Add at the end of the first sentence:** "if required by the Owner".

**Add the following subsections:**

**107.13.6. Protection of Resident Workers:** The Owner actively supports the immigration and Nationality Act (INA) which includes provisions addressing employment eligibility, employment verification, and nondiscrimination. Under the INA, employers may hire only persons who may legally work in the United States (i.e., citizens and nationals of the U.S.) and aliens authorized to work in the U.S. The employer must verify the identity and employment eligibility of anyone to be hired, which includes completing the Employment Eligibility Verification Form (I-9). The Contractor shall establish appropriate procedures and controls so no services or products under the Contract Documents will be performed or manufactured by any worker who is not legally eligible to perform such services or employment.

#### **107.13.7. Handicapped Discrimination Regulations:**

The handicapped discrimination regulations mandate equal opportunity and require that outside organizations such as labor unions and contractors who provide services to the local governments must not discriminate against qualified handicapped persons in employment decisions.

#### **107.13.8. Non-Compliance with Equal Employment Opportunity Provisions**

In the event of the Contractor's non-compliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

### **107.14 STATE AND LOCAL SALES AND USE TAXES**

**Add:** If the Contractor performs under a separated contract as defined by Rule 3.291 by obtaining the necessary permit or permits from the State Comptroller's office allowing the purchase of materials for incorporation in this project without having to pay the Limited Sales and Use Tax at the time of purchase, the Contractor shall identify separately from all other charges the total agreed contract price for materials incorporated into the project. Total materials shall include only materials physically incorporated into the project.

If the Contractor operates under a "separated contract," the Purchasing Division will furnish the Contractor with an exemption certificate for the applicable materials. In order to comply with the requirements of Rule 3.291, as mentioned above, Bidder shall obtain a sales tax permit. It shall be necessary that the Bidder issue resale certificates to suppliers.

Sales tax application for a sales tax permit and information regarding resale certificates may be obtained by writing to:

Comptroller of Public Accounts  
Capitol Station  
Austin, Texas 78774

The Contractor may also receive information or request sales tax permit applications by calling the State Comptroller's local Mesquite office at **(214) 289-3400**.

Subcontractors are eligible for sales tax exemption if the subcontract is made in such a manner that the charge for materials is separated from all other charges. The procedure described above will effect a satisfactory separation. When subcontracts are handled in this manner, the Contractor shall issue a resale certificate to the subcontractor, in turn, must issue a resale certificate to his supplier.

#### **107.16 COMPLIANCE WITH LAWS**

**Add:** The Contractor shall indemnify and save harmless the Owner against any claims arising from the violation of any such law, ordinances and regulations.

##### **107.16.1 Storm Water Permit.**

**Delete entire paragraph and Replace with:**

**If the project disturbs more than one-acre of land** the Contractor shall obtain a Storm Water Discharge permit required for construction of this project under regulations contained in the Texas Commission on Environmental Quality (TCEQ) Texas Pollution Discharge Elimination System (TPDES) General Permit TXR150000. The Contractor shall implement a storm water pollution prevention plan (SWP3); post the appropriate Construction Site Notice (CSN), and if the disturbed land area is 5-acres or more complete and submit a Notice of Intent (NOI) to the TCEQ, including the \$350 by mail or \$250 by electronic payment, NOI fee. For permitting information and requirements, contact the Texas Commission on Environmental Quality (TCEQ) and the City of Mesquite.

If a permit is required, the Contractor shall provide measures to control soil erosion, sediment, and water pollution created by construction operations for the duration of the Contract per the approved construction documents and as directed by the Owner's Representative.

#### **107.18 PUBLIC CONVENIENCE AND SAFETY**

**Add the following subsections:**

**107.18.1. Temporary Water and Sanitary Sewer Service.** When existing water or sanitary sewer mains or services have to be taken up or removed, the Contractor shall, at his own cost and expense, provide and maintain temporary outlets and connections for all private or public water, sanitary sewer and drain connections. The Contractor shall also take care of all sewage and drainage which will be received from these sanitary sewers and drains; and for this purpose he shall provide and maintain, at his own expense, adequate pumping facilities and temporary outlets or diversions. The Contractor, at his own expense, shall construct such piping, troughs, or other structures necessary, and be prepared at all times to dispose of sanitary sewer and drainage received from these temporary connections until such time as the permanent connections are built and in service. The existing water, sanitary sewer and drain connections shall be kept in service and maintained under the Contract, except where specified or ordered to be abandoned by the Owner's Representative. All water, sewage or drainage shall be disposed of in a satisfactory manner so that no nuisance is created, and so that the work under construction will be adequately protected.

**107.18.2. Explosives.** Explosives shall not be used in the prosecution of this project.

##### **107.19.2. Protection of Persons and Property**

**Add:** At the end of the first sentence in the last paragraph "and City of Mesquite Work Zone Traffic Control Guidelines Manual".

**Add:** At the end of the section "In order to document site conditions and assist in resolving claims for construction damage the Contractor shall take digital pictures and/or digital video recordings of the site before construction. In addition the Contractor shall during the course of construction periodically record site conditions using digital pictures and/or digital video recordings. The Contractor shall make these recordings at least monthly or more frequently if the Owner's Inspector so orders. Copies of all digital photographs and/or video recordings shall be burned to DVD or other digital media acceptable to the

Owner and provided to the Owner's Inspector."

**Add to end of section the following subsection:**

**107.19.2.1. Access to Property.** The Contractor shall schedule the work such that inconvenience to the public and adjoining property owner's shall be at a minimum. Access to all businesses shall be provided at all times during business hours.

The Contractor will schedule work through residential areas in a manner that would expedite construction operations and will restore drive approach access at the end of each working day during execution of the project (except during paving operations of the specific residential drive approach). The Contractors shall maintain temporary drive approaches to the satisfaction of the Owner's Representative. Private drives to residences shall not be closed for more than 10 days at any one time during paving operations.

The Contractor will notify the Owner's Representative Office one (1) week prior to any street or driveway closure.

**107.19.3.6. Payment for Trench Safety and Special Shoring.**

**Delete the first sentence and Replace with:** "Payment for trench safety shall be by the lineal feet of trench regardless of depth."

**107.23.4. Utility Coordination and Protection**

**Delete the first sentence and Replace with:**

"No franchise utility relocations have taken place in preparation for the project, and the location of existing utilities may not be shown on the plans. It is the Contractor's responsibility to notify utility companies to arrange for exact locations at least 48 hours prior to beginning construction. The Contractor is fully responsible to coordinate necessary utility relocation with the utility companies and will make all efforts to coordinate necessary relocation of utilities with the utility owner. The Owner shall not be held responsible by the contractor for any delays created by a franchise utility company relocating their facilities. The time of construction given for the project includes all necessary utility work involved with franchise utility companies. The Owner will make an effort to assist the Contractor in coordinating relocations before and during the project."

**Delete: Table 107.23.4.(a) Utility Coordination**

**Replace with:**

Franchised Utilities (*Electric, Phone, Cable & Gas*)

Texas One Call Dial 811 or by internet at: <http://tickets.texas811.org/tickets/submit>

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City of Mesquite  
**(City Owned Water, Sanitary Sewer & Storm Sewer)**

**Engineering Records Room for Obtaining Record Drawings for Existing City Utilities**  
Email: [engineering.records@cityofmesquite.com](mailto:engineering.records@cityofmesquite.com)  
or 972-329-8536

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City of Mesquite  
**(Field Locates for City Owned Water and Sanitary Sewer)**

972-216-6278 or 972-216-6973 or 972-216-8797

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City of Mesquite  
**(Traffic Signal and City owned Optic Fiber)**

**Traffic Signal Conduit & Loop Detectors Location:**  
Fill out - **TRAFFIC SIGNAL & FREEWAY LIGHTING UTILITY LOCATE FORM:**  
[http://www.cityofmesquite.com/engineering/documents/Locate\\_Frm.doc](http://www.cityofmesquite.com/engineering/documents/Locate_Frm.doc)

**Add to the end of the section the following subsections:**

**107.23.5. Arrangement and Charge for Water Furnished by the City.** Where Contractor desires to use City water in connection with any construction work, he shall make arrangements with the Mesquite Water Accounting Division for so doing. Where meters are used, the charge for water will be at the regular established rate; where no meters are used, the charge will be as prescribed by ordinance; or, where no ordinance applies, payment shall be made on estimates made by the Mesquite Engineering Division.

**107.23.6. Use of Fire Hydrants.** No person shall open, turn off, interfere with, attach any pipe or hose to, or connect anything with any fire hydrant, stop valve or stopcock, or tap any water main belonging to the City, unless duly authorized to do so by the Mesquite Utilities Division.

**107.23.7. Operation of Existing Valves.** The Contractor is not permitted to operate any valve in the existing City of Mesquite water system. The valves must be operated by City of Mesquite Utility Division employees only.

**107.26 RESTORATION OF PROPERTY**

**Add:** The Contractor shall exercise special care to minimize damage to trees, plants, shrubs and irrigation systems along the route of the work. The Contractor shall notify adjacent property owners before beginning construction operations adjacent to their property of trees, plants and shrubs which lie inside the right-of-way or easements lines and within the normal limits of work. The property owner's shall be allowed to remove and protect their property, and all trees, plants and shrubs not so protected by the adjacent property owners shall be removed and disposed of by the Contractor, as directed by the Owner's Representative.

**Add the following section:**

**107.27 ANTI-KICKBACK ACT**

For any project funded by a Federal grant, the Contractor shall comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) or supplemented by Department of Labor regulations (29 CFR, Part 3). This Act provides that each contractor or sub grantee shall be prohibited from inducing, by any means, any person employed in the construction, completion or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The grantee shall report all suspected or reported violations to the grantor agency.

**108.1 PROGRESS SCHEDULE**

**Add:** A monthly payment schedule is not required unless requested by the Owner.

**109.1 PAYMENT FOR LABOR AND MATERIAL; NO LIENS**

**Add:** The Contractor is not required to furnish payrolls and records unless this submittal is required as a Special Provision to the Contract. The Contractor is still required to comply with the minimum wage rates published by the Owner.

**109.2 PAYMENT FOR MATERIALS**

**Add:** The Owner will not pay for Material on Hand unless specified in a Special Provision of the Contract.

**109.2.1. Materials On-Hand. – Delete entire subsection.**

**109.2.2. Materials Stored Off-Site. – Delete entire subsection.**

**109.5 MONTHLY ESTIMATE, PARTIAL PAYMENTS, RETAINAGE, FINAL ACCEPTANCE AND FINAL PAYMENT.**

**Delete the first sentence of the first paragraph and Replace with:** "If the last number of a contract number is odd, between the 25<sup>th</sup> day and the last day of each month, the Owner shall make an approximate estimate of the value of work done during the period under the specifications. If the last

number of a contract is even, between the 10<sup>th</sup> day and the 15<sup>th</sup> day of the month, the Owner shall make an approximate estimate of the value of work done during the period under the specifications.

The City Public Works Construction Inspector shall meet with a representative of the Contractor on the job site to measure and otherwise determine the quantity of each bid item completed since the last estimate period. In case an agreement cannot be reached, the quantities determined by the City Public Works Construction Inspector shall be used. Payment or partial payment of any item does not constitute final acceptance of the work. The City Public Works Construction Inspector shall prepare a draft monthly estimate for processing by the Owner for payment. The City Public Works Construction Inspector will forward a copy of this estimate to the Contractor along with any calculations or sketches used in calculating quantities. The Contractor is not required to submit an invoice or billing for monthly work completed.”

**In the first paragraph, second sentence, delete the words:** “the 15<sup>th</sup> day of the month next following” and **Replace with:** “within 30 days”.

**Delete the third sentence in the first paragraph and Replace with:** “Payment for material on hand will not be paid unless so specified in a Special Provision to this Contract.”

**Delete the entire second paragraph of this subsection and Replace with:**

Owner shall not be liable for interest on any late or delayed payment caused by any claim, dispute, discrepancy in the quantities, any failure to provide supporting documentation or other information required of the Contractor by the Owner or as a condition to payment under the Contract, or due to any payment the Owner has a right to withhold under the Contract.

#### **109.5.4. Final Payment.**

**Add at the end of the first paragraph:** (4) Marked up set of plans showing all changes, revisions and alterations to the original plans.

#### **109.6 WIRE TRANSFERS**

**Delete Entire Section 109.6 and Replace with:** “The City of Mesquite has chosen the Paymode-X™ service through Bank of America to make electronic payments to contractors, vendors and suppliers.

The City of Mesquite recognizes the importance of expediting the payment process to Contractors vendors and suppliers. Our Accounts Payable department utilizes Paymode-X to replace paper checks with electronic payments. We strongly encouraging our vendors and suppliers to enroll in Paymode-X so that future payments are made electronically. Contract the assigned Owner’s Inspector to receive further information on how to process online enrollment to the Paymode-X electronic payment system.”



## **SPECIAL PROVISIONS**

These Special Provisions are to be used in conjunction with the ***North Central Texas Council of Governments Public Works Construction Standards, Fourth Edition (October 2004), Division 100 General Provisions, as amended***. Should any discrepancies arise, the governing order shall be: Special Provisions, Plans, Technical Specifications, and General Provisions.

**THE FOLLOWING SPECIAL PROVISIONS HEREBY MODIFY THE *North Central Texas Council of Governments Public Works Construction Standards, Fourth Edition (October 2004), Division 100 General Provisions***. Where reference is made in these specifications to specifications compiled by others, such reference is made for expediency and standardization, and such specifications referred to are hereby made a part of these specifications.

### **SP-1 PROJECT DESCRIPTION:**

This project is to *provide hardscape and landscape improvements to construct Freedom Park. Elements include, but are not limited to, lighting, concrete flat work, sidewalks, seat wall, monument sign, donor sign, landscaping, irrigation and structural elements to support beam from New York World Trade Center.*

### **SP-2 PRE-BID MEETING:**

A pre-bid meeting will be held at 2:00pm, February 9, 2016, at the Engineering Division Conference Room, 1515 N. Galloway Avenue, Mesquite, Texas.

The pre-bid meeting will be held to permit prospective bidders the opportunity to ask questions of the design staff regarding the project, plans and specifications.

### **SP-3 LIQUIDATED DAMAGES:**

Liquidated damages are per the provisions of GP 108.8.

### **SP-4 SUBMITTALS:**

The Contractor shall provide submittals of the following items to the Owner's Representative at the pre-construction conference:

1. List of Subcontractors and Material Suppliers (including Material's Testing Laboratory and Surveyor for construction staking).
2. Submittals for all materials to be incorporated into the project. A submittal is not required for an item if it is an item is listed on the City of Mesquite Approved Materials list by brand name and model number.
3. Concrete batch designs and paving equipment.
4. Project Schedule.
5. Listing of all testing required by the specifications and plans with frequency requirements.
6. Contractor Contact List with listing of personnel for 24 hour – 7 days a week contact.
7. Other Items as requested by the Owner's Representative or required by contract documents, specifications or plans.

### **SP-5 DROUGHT RESTRICTIONS**

The Contractor shall be required to ensure compliance with the current stage of the City drought contingency plan at the start of this contract and continue to monitor/modify the water restrictions if the stages are updated during the course of this contract.

### **SP-6 PROTECTION OF CONSTRUCTION AREAS**

The entire new construction area shall be protected with temporary fence or flagging maintained in good condition until all the work is complete and shall be considered subsidiary to the other bid items.

**SP-7 ADA & TAS Requirements:**

All work (including sidewalks, ramps, and drive approaches) must be in compliance with current ADA (Americans with Disabilities Act) & TAS (Texas Accessibility Standards) requirements.

**SP-8 GENERAL TRAFFIC**

This work shall be done in accordance with the City of Mesquite Work Zone Traffic Control Guidelines and in accordance with the current Texas Manual of Uniform Traffic Control Devices.

## **TECHNICAL SPECIFICATIONS**

### **T.S-1 MOBILIZATION, BONDS, INSURANCE (MAX 5% OF CONTRACT) - BID ITEM NO. 1**

#### **DESCRIPTION:**

This item shall consist of the mobilization of personnel, equipment, temporary construction fencing, and supplies at the project site in preparation for beginning work on other contract items.

#### **MATERIALS:**

None specified.

#### **CONSTRUCTION METHODS:**

Mobilization shall include, but is not limited to, Payment and Performance Bonds, required insurance, the movement of equipment, temporary construction fencing, personnel, material, supplies, etc., to the project site, and other facilities necessary.

#### **MEASUREMENT:**

Measurement shall be made on a 'lump sum' basis.

#### **PAYMENT:**

Payment shall be full compensation for all materials, equipment, labor and other incidentals necessary to complete the work as specified. **The total payment for mobilization shall not exceed 5% of the bid** and shall be payable after the Contractor has moved on-site and begins work on each alley.

### **T.S-2 TRAFFIC CONTROL & BARRICADING - BID ITEM NO. 2**

#### **DESCRIPTION:**

This item shall govern for barricading & traffic control in accordance with these specifications and as shown on the plans. This item includes the design, application, installation and implementation of traffic control.

#### **MATERIALS:**

All barricades, fences, lights, danger signals, and other precautionary devices and measures shall conform to the City of Mesquite Work Zone Traffic Control Guidelines and Part VI of the Texas Manual on Uniform Traffic Control Devices.

#### **CONSTRUCTION METHODS:**

All work shall conform to the City of Mesquite Work Zone Traffic Control Guidelines and Part VI of the Texas Manual on Uniform Traffic Control Devices.

The Contractor shall provide a traffic control plan at least 48 hours prior to any work in a City street. The City Engineer may require the traffic control plan to be designed and sealed by an engineer licensed in the State of Texas. The Contractor shall plan his work in accordance with the traffic control plan, and/or as indicated in the plans. Any revisions must receive the City's approval prior to beginning work. As deemed necessary, the City Representative may require the Contractor to provide and maintain additional traffic control devices at any time.

Prior to beginning work the Contractor shall designate, in writing, a competent person who will be responsible and available on the project site or in the immediate area to insure compliance with the traffic control plan.

The Contractor will not remove any regulatory signs, instructional signs, street name signs or other signs which have been erected by the City. If removal or relocation of traffic signs, traffic control equipment or other traffic control appurtenances is deemed necessary, the Contractor shall contact the City of Mesquite Traffic Engineering Division at (972) 216-4104.

One lane in each direction is to be kept open at all times on existing streets, except as necessary for short-term, temporary vicinity construction operations which would warrant adequate signs, barricades and flagmen as required by the current Texas Manual on Uniform Traffic Control Devices. Unless approved in writing, access to adjacent properties, driveways, alleys and intersecting streets shall be maintained at all times.

If paving operations result in a vertical longitudinal face greater than 1" in depth between lanes or at shoulders, Contractor shall erect either sign CW8-11 (UNEVEN LANES) or sign CW8-9a (SHOULDER DROP OFF) in advance of the area in accordance with the Texas Manual on Uniform Traffic Control Devices.

If the Contractor's proposed plan of operation for handling traffic does not provide for safe, comfortable movement, the Contractor shall immediately change his operations to correct the unsatisfactory conditions. The Contractor will be held responsible for all damage to the work due to the failure of barricades, signs, lights, danger signals, watchmen, and

other devices to protect it, and whenever evidence of such damage is found, the City Representative may order the Contractor to immediately remove and replace the damaged portion at his cost and expense.

The Contractor's responsibility for maintenance of all traffic control devices shall not cease until the project is accepted by the City.

**MEASUREMENT:**

Measurement shall be made on a lump sum basis.

**PAYMENT:**

Payment shall be full compensation for all materials, equipment, labor and other incidentals necessary to complete the work as specified.

**T.S-3 CONSTRUCTION STAKING - BID ITEM NO. 3**

**DESCRIPTION:**

This item shall be for construction staking of the project.

**MEASUREMENT:**

This item will be measured by 'lump sum'.

**PAYMENT:**

Payment shall be full compensation for construction staking and shall include incidentals necessary to complete the work as specified.

**T.S-4 EXCAVATION UNCLASSIFIED - BID ITEM NO. 4**

**DESCRIPTION:**

This item is for general excavation, filling, grading, fine grading and compaction of the site.

**MATERIALS:**

None specified.

**CONSTRUCTION METHODS:**

Unclassified excavation shall include the preparing of right-of-way by trimming trees or bushes as needed, to provide adequate access and to prevent damage to private property. Contractor shall remove and dispose of all miscellaneous debris from the site as directed by the Owner. Excavation must be hauled off. Dumping of rubble and dirt will not be allowed on City streets. Also included is the grading, shaping, filling, compacting and proof rolling of the subgrade to 95% Standard Proctor to insure a suitable subgrade for the placement of concrete. This item shall also include any fill necessary to bring grade up to final grade.

All fill or borrow on the site shall be placed in 8-inch compacted lifts and compacted to a minimum of 95% of maximum dry density as determined by the Standard Proctor Test (ASTM D-698). The moisture content of the material shall range from 0.0% to +6.0% of optimum moisture.

Compaction of the subgrade under all paving shall be 95% or more of the maximum density as established by Standard Proctor Density (ASTM D-698) with a moisture range of 0.0% to +6.0% of optimum. Compaction and finishing shall be done in such a manner as to produce a smooth, dense surface free of compaction planes, cracks, ridges, or loose material. If any reshaping of the surface is necessary, it shall be lightly scarified. Final compaction shall then be continued until uniform and adequate density is obtained.

The contractor will take proctors and densities of the subgrade at Contractor's expense and subsidiary to this item. Densities will be taken on the project at a frequency of one passing density per 25 square yards of area to be paved. Proctors will be taken for each change in soil type but no less than one proctor. The City inspector will determine the location of all densities. Failures will be retested at the Contractor's expense.

This item shall also include backfilling around the paving once the forms, debris and waste concrete are removed from the site. Any topsoil that is remaining from the backfill operations may be used to fill any low areas on the site to achieve good drainage. Damage to existing fences and other private property will be repaired to the same or better condition.

**MEASUREMENT:**

This item shall be measured by 'lump sum' basis.

PAYMENT:

Payment shall be full compensation to complete the work as specified. All subgrade work, excluding material for subgrade repair, will be subsidiary to this item.

**T.S-5 SAWCUT, REMOVE & DISPOSE EXISTING CONCRETE SIDEWALK - BID ITEM NO. 5**

DESCRIPTION:

This item shall govern for the sawcutting (full depth), removal and disposal of existing concrete sidewalk at the locations shown on the plans and as directed by the Owner.

MATERIALS:

None specified

CONSTRUCTION METHODS:

Contractor shall provide machinery, tools, and equipment necessary for proper execution of the work in the time frame allowed. Owner shall approve such equipment as to type and condition prior to the Contractor beginning construction operations on which the equipment is to be used. The equipment must be kept in full and good working order.

Sidewalks shall be removed to the nearest existing grooved joint. All concrete removal shall be saw-cut along a neat and uniform line at the designated removal limits. Contractor shall ensure the removal methods do not chip or damage surrounding sidewalk or curb. If any existing concrete beyond the removal limits is damaged or destroyed, it shall be replaced at the Contractor's entire expense. Removed concrete sidewalk shall be disposed of off-site by the Contractor.

MEASUREMENT:

This item shall be measured by the square yard of sidewalk removed and disposed of, as measured in place.

PAYMENT:

Payment shall be full compensation to complete the work as specified and includes removal and disposal of existing sidewalk, all manipulation, labor, tools, equipment and incidentals necessary to complete the work.

**T.S-6 REROUTE EXISTING 6" PVC DRAIN LINE - BID ITEM NO. 6**

DESCRIPTION:

This item shall govern for the relocation of an existing 6" pvc drain line as shown on the plans. Contractor to field verify location and depth of existing line. The location of new route will be field located as directed by the Landscape Architect and Owner.

MATERIALS:

None specified

MEASUREMENT:

This item shall be measured by the 'lump sum' basis. "

PAYMENT:

Payment shall be full compensation to complete the work as specified and includes removal of existing pvc drain line and installation of new 6" pvc, including all fittings and appurtenances; and all manipulation, labor, tools, equipment and incidentals necessary to complete the work.

**T.S-7 4" THICK 4000 PSI REINFORCED CONCRETE SIDEWALK - BID ITEM NO. 7**

DESCRIPTION:

This item shall govern for the construction of concrete sidewalk.

MATERIALS:

Concrete shall have a 28 day minimum compressive strength of 4000 psi, containing 6 sacks per cubic yard minimum, with 1" to 3" slump for machine pours and 3" to 5" slump for hand pours. All materials and requirements for concrete shall conform to the requirements of the current NCTCOG Item "Portland Cement Concrete Pavement" with the exception that fly ash may be substituted for up to 20% of the cement content requirement at 1 to 1.25 cement to fly ash substitution rate. Concrete temperature cannot exceed 100 degrees F at time of placement and cannot be placed unless the ambient temperature is 35 degrees and rising.

Reinforcing shall conform to ASTM A 615 and be a minimum grade of 60 per ASTM A 370. Reinforcement may be rejected for failure to meet the following: reinforcement exceeding the allowable variations; reinforcement with a coating of dirt, loose scale, paint, oil, or other foreign substance which would prevent the bonding of the concrete and reinforcement; reinforcement not bent in accordance with the standard details; or twisted bars. Reinforcement shall be stored above the ground surface upon skids, platforms, or other supports, and shall be protected from mechanical injury and surface deterioration caused by exposure to the conditions producing rust.

Sidewalk reinforcing shall include No. 4 deformed bars on 12" centers (both ways) and No. 4 smooth dowel bars on 12" centers at expansion joint locations. When sidewalk is adjacent to the curb, Contractor shall put an additional 12" long No. 4 deformed bars at 12" centers and epoxy in place.

Curing compound, FS TT-C-800, TYPE I, 30% Solids [clear], is to be applied, per manufacturer's recommendations, to all exposed concrete surfaces (including back-of-curbs) immediately after completion of finishing operations, per ASTM C-309, Type 2, NCTCOG Section 303.2.13.1.1. The compound shall be delivered to the jobsite in the manufacturer's original containers only, which shall be clearly labeled.

Expansion joint materials shall consist of pre-molded asphalt board tested in accordance with ASTM D 545 Test Methods for Preformed Expansion Joint Fillers for Concrete Construction (Non-extruding and Resilient Types).

#### CONSTRUCTION METHODS:

Contractor shall provide machinery, tools, and equipment necessary for proper execution of the work in the time frame allowed. Owner shall approve such equipment as to type and condition prior to the Contractor beginning construction operations on which the equipment is to be used. The equipment must be kept in full and good working order.

Cross slope for sidewalks shall be a maximum 2% in the direction of the curb or street. All equipment and tools which are used for material handling and performing all parts of the work must be kept in full and good working order and meet the approval of the Owner.

Sidewalks shall be removed and replaced to the nearest existing grooved joint. All concrete removal shall be saw-cut along a neat and uniform line at the designated removal limits. Contractor shall ensure the removal methods do not chip or damage surrounding sidewalk or curb. If any existing concrete beyond the removal limits is damaged or destroyed, it shall be replaced at the Contractor's entire expense. Removed concrete sidewalk shall be disposed of off-site by the Contractor.

The contractor shall do all necessary filling, leveling, and fine grading required to bring the subgrade to the exact grades needed for repair. **Sand may not be used as fill or level-up material under any pavement.** Approved fill and level-up material is crushed concrete Flexible Base per TXDOT Item No. 247, Grade 1, Type D. The subgrade shall be compacted using City approved small sheep's foot rollers, or vibratory plate compactors or other mechanical compaction equipment approved by the City. The subgrade and all level-up material must be compacted to 95% standard proctor density with a moisture content of 0% to plus 6% of optimum moisture. Moisture level must be maintained by wetting, until placing of concrete. All fill shall have densities taken at the interval and locations determined by the City Public Works Construction Inspector.

Use wood or metal forms that are straight, free of warp, and of a depth equal to the thickness of the finished work. Forms shall be of a section satisfactory to the Owner, securely staked to the line and grade, and maintained in a true position during the depositing of concrete.

All steel reinforcement shall be accurately placed as shown on the standard details and held in place during progress of concreting so as to not be moved out of true position. When placed in the work, the reinforcement shall be free from any foreign material. All reinforcement necessary for a section of concrete shall be placed and approved by the Owner before any concrete is poured in the section.

Concrete sidewalks shall have a minimum thickness of 4". When sidewalk is adjacent to the curb, Contractor shall construct a thickened edge as shown on the standard details. Concrete shall be deposited so as to maintain a horizontal surface and shall be thoroughly and continuously worked into all spaces and around the reinforcement so as to form a dense void less mass. The coarse aggregate shall be worked away from contact with the forms so as to form a smooth, hard exposed concrete surface. All concrete must be mechanically vibrated. No obstructions (fire hydrants, power poles, guy wires, etc.) shall be allowed in or over sidewalk paving. Contractor shall maintain a minimum of 3' sidewalk width in locations where such obstruction cannot be relocated or avoided.

Concrete sidewalks shall be finished to a true, even surface. They shall be troweled and then brushed transversely to obtain a medium-broom finish. The outer edges and joints shall then be rounded with suitable tools to a 1/4" radius.

Expansion joints shall be placed in the sidewalk at the intervals shown on the standard details with a maximum spacing of 120' and at all radii points. Joints shall be formed using expansion joint material of the pre-formed, non-extruded type and shaped to the section and with 2' long No. 4 smooth dowel bars at 12" centers with a cap on one end as specified. Expansion joints shall also be placed at all intersections, sidewalks with concrete driveways, other sidewalks, and other old, adjacent concrete work and property lines. All expansion joints shall be 1/2" in thickness. Sidewalks shall be grooved at 5' intervals on a 5' wide sidewalk and at 4' intervals on a 4' wide sidewalk with an approved grooving tool. Grooves shall be 1" deep. When sidewalk is against the curb, expansion joints and tooled grooves shall match those in the curb.

Contractor shall install a temporary fence around work until complete including backfill and sodding.

After the construction work has been completed, the Contractor shall remove all debris, trash, excess materials, forms, stakes, etc. from the premises. The site shall be left with a neat appearance. All excavation shall be backfilled, and all excess excavated materials shall be disposed of.

**MEASUREMENT:**

This item shall be measured by the square yard completed and accepted.

**PAYMENT:**

Payment shall be full compensation for preparing the subgrade; furnishing and placing all materials required; for reinforcing steel and expansion joint material; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-8 4" THICK COLORED CONCRETE - BID ITEM NO. 8 & 9**

**DESCRIPTION:**

This item shall govern for the construction of colored concrete.

Sidewalk with colored concrete shall be constructed per Technical Specification 6, except for the curing compound. The concrete shall be colored and sealed per Specification 2516.

**MEASUREMENT:**

This item shall be measured by the square yard completed and accepted.

**PAYMENT:**

Payment shall be full compensation for sample preparation, preparing the subgrade; furnishing and placing all materials required; for reinforcing steel and expansion joint material; coloring, sealing and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-9 WORLD TRADE CENTER BEAM- BID ITEM NO. 10**

**DESCRIPTION:**

This item shall govern for the installation of the World Trade Center Beam on post. This bid item includes the procurement of the beam, transportation to the site, storing in the beam in a secure location, coordinating the orientation of the beam on the post with the landscape architect and city, and the installation of the beam on the post. The fabrication and installation of the posts and installation of the post footings are included in this bid item.

**MEASUREMENT:**

This item shall be measured by the 'lump sum' basis.

**PAYMENT:**

Payment shall be full compensation for transportation of the World Trade Center, shop drawings, preparing the subgrade; furnishing and placing all materials required; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-10 CONCRETE CURB AROUND WORLD TRADE CENTER BEAM - BID ITEM NO. 11**

**DESCRIPTION:**

This item shall govern for the construction of a Concrete Curb and shall be installed in accordance with Specifications Section 03100-CONCRETE FORMWORK, 03200-CONCRETE REINFORCING, & 03300-CAST-IN-PLACE CONCRETE.

Concrete shall have a 28 day minimum compressive strength of 3000 psi, with 3" to 5" slump. All materials and requirements for concrete shall conform to the requirements of the current NCTCOG Item "Portland Cement Concrete

Pavement" with the exception that fly ash may be substituted for up to 20% of the cement content requirement at 1 to 1.25 cement to fly ash substitution rate. Concrete temperature cannot exceed 100 degrees F at time of placement and cannot be placed unless the ambient temperature is 35 degrees and rising.

Reinforcing shall conform to ASTM A 615 and be a minimum grade of 60 per ASTM A 370. Reinforcement may be rejected for failure to meet the following: reinforcement exceeding the allowable variations; reinforcement with a coating of dirt, loose scale, paint, oil, or other foreign substance which would prevent the bonding of the concrete and reinforcement; reinforcement not bent in accordance with the standard details; or twisted bars. Reinforcement shall be stored above the ground surface upon skids, platforms, or other supports, and shall be protected from mechanical injury and surface deterioration caused by exposure to the conditions producing rust.

Reinforcing shall include (2) No. 5 bars continuous, top & bottom, and No. 3 stirrups on 12" centers at expansion joint locations.

Location of construction joints shall be subject to approval of the Landscape Architect. Reinforcing steel shall be continuous through the joints. Construction joints in beams shall have additional reinforcing to that scheduled for the member. Quantity of additional reinforcing shall be 0.5% of the cross-sectional area of the concrete member and shall extend 40 bar diameters on each side of the joint.

#### CONSTRUCTION METHODS:

Contractor shall provide machinery, tools, and equipment necessary for proper execution of the work in the time frame allowed. Owner shall approve such equipment as to type and condition prior to the Contractor beginning construction operations on which the equipment is to be used. The equipment must be kept in full and good working order.

All equipment and tools which are used for material handling and performing all parts of the work must be kept in full and good working order and meet the approval of the Owner.

Use wood or metal forms that are straight, free of warp, and of a depth equal to the thickness of the finished work. Forms shall be of a section satisfactory to the Owner, securely staked to the line and grade, and maintained in a true position during the depositing of concrete.

All steel reinforcement shall be accurately placed as shown on the details and held in place during progress of concreting so as to not be moved out of true position. When placed in the work, the reinforcement shall be free from any foreign material. All reinforcement necessary for a section of concrete shall be placed and approved by the Owner before any concrete is poured in the section.

Concrete shall be finished to a true, even surface. They shall be troweled and then light sandblasted finish. The exterior and interior edges and joints shall then be rounded with suitable tools to a 1/2" radius.

Expansion joints shall be placed at the intervals shown on the details.

Contractor shall install a temporary fence around work until complete including backfill and sodding.

After the construction work has been completed, the Contractor shall remove all debris, trash, excess materials, forms, stakes, etc. from the premises. The site shall be left with a neat appearance. All excavation shall be backfilled, and all excess excavated materials shall be disposed of.

#### MEASUREMENT:

This item shall be measured by the linear foot completed and accepted.

#### PAYMENT:

Payment shall be full compensation for sample preparation, preparing the subgrade; furnishing and placing all materials required; for reinforcing steel and expansion joint material; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

#### **T.S-11 TEJAS BLACK CRUSHED STONE - BID ITEM NO. 12**

##### DESCRIPTION:

This item shall govern for the procurement, transportation, and placement of 'Tejas Black' Crushed Stone under the World Trade Center Beam within the confines of the concrete curb. This bid item also includes the installation of the Filter Fabric. This item shall conform to the Special Specification for Item 02900 - LANDSCAPING.



**MEASUREMENT:**

This item shall be measured by the cubic yard completed.

**PAYMENT:**

Payment shall be full compensation for furnishing and placing all materials required; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-12 TIME LINE GRAPHIC PANEL - BID ITEM NO. 13**

**DESCRIPTION:**

This item shall govern for time line graphic panel and shall be completed in accordance with Specification 10425 "Panel Signs" and per plans. The text and graphic shown on the plans are for graphic purposes only and will be finalized during the shop drawing process.

**MEASUREMENT:**

This item shall be measured per each completed.

**PAYMENT:**

Payment shall be full compensation for shipping and installation; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-13 FLAGPOLE SLEEVES - BID ITEM NO. 14**

**DESCRIPTION:**

This item shall govern for installation of flagpole sleeves and tamper-proof caps.

**MEASUREMENT:**

This item shall be measured per each completed.

**PAYMENT:**

Payment shall be full compensation for flagpole sleeve, concrete cap, subgrade preparation, tamper proof cap and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-14 - MONUMENT AND DONOR SIGN BID ITEMS NO. 15 & 16**

**DESCRIPTION:**

Providing and installing monument & donor sign, as indicated on plans.

This bid item includes the concrete footing & piers, concrete pedestal with light sandblasted finish with reveals (monument sign only), decorative metal panel with metal frames, metal letters, donor recognition plaques (donor sign only), drainage pipes, and 'Tejas Black' Gravel.

**MEASUREMENT:**

This item shall be measured by the 'lump sum' basis for each sign.

**PAYMENT:**

Payment shall be full compensation to furnish and install signs, preparing the subgrade; furnishing and placing all materials required; for reinforcing steel and expansion joint material; installation and reinforcement of footings and piers; furnish and install gravel; furnish and install drainage pipes; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-15 - MEMORIAL SIGNAGE PIN-MOUNTED LETTERS BID ITEM NO. 17**

**DESCRIPTION:**

Providing and installing pin-mounted memorial signage as indicated on plans.

**CONSTRUCTION METHODS:**

As specified on the drawings. Stainless steel text & bars are pin-mounted flush to vertical face of 2'-0" ht. concrete seat wall. Flush mounts have the metal studs, on the back of the letters and bars are, set in adhesive cement. There is no space between the metal letter and the mounting surface. Provide shop drawings for approval prior to fabrication.

**MEASUREMENT:**

This item shall be measured per each completed.

PAYMENT:

Payment shall be full compensation for letters, furnishing and placing all materials required; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-16 - MEMORIAL PLAQUE BID ITEM NO. 18**

DESCRIPTION:

Providing and installing memorial plaque on horizontal face of 2'-0" ht. seat wall as indicated on plans.

CONSTRUCTION METHODS:

As specified on the drawings. Flush-mounted to top of concrete seat wall with vandal resistant hardware. Flush mounts have the metal studs, on the back of the plaque, set in adhesive cement. There is no space between the metal letter and the mounting surface Provide shop drawings for approval prior to fabrication.

MEASUREMENT:

This item shall be measured per each completed.

PAYMENT:

Payment shall be full compensation to furnish and install plaques; furnishing and placing all materials required; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-17 - CONCRETE SEAT WALL (2'-0" HT. & 1'-6" HT.) BID ITEMS NO. 19 & 20**

DESCRIPTION:

Providing and installing concrete seat wall, as indicated on plans.

This bid item includes the concrete seat wall with light sandblasted finish with vertical reveals and concrete spread footing .

MEASUREMENT:

This item shall be measured by the linear footage completed and accepted.

PAYMENT:

Payment shall be full compensation for preparing the subgrade; furnishing and placing all materials required; for reinforcing steel and expansion joint material; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-18 – GENERAL ELECTRICAL SERVICE BID ITEMS NO. 21**

DESCRIPTION:

Providing and installing electrical service to proposed fixtures, as indicated on plans.

This bid item includes coordination with the City of Mesquite regarding connecting to existing electric lines, installing electrical conduits and running electrical wiring to all proposed fixtures.

MEASUREMENT:

This item shall be measured by the 'lump sum' basis.

PAYMENT:

Payment shall be full compensation for installation of conduit, trenching and backfilling subgrade; furnishing and placing all materials required; connection to existing power source; providing electrical service to proposed fixtures and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-19 – LIGHTED BOLLARD, MONUMENT SIGN UPLIGHT, & WORLD TRADE CENTER BEAM UPLIGHT BID ITEMS NO. 22, 23, & 24**

DESCRIPTION:

Providing and installing fixtures, as indicated on plans.

This bid item includes concrete casings and footings.

MEASUREMENT:

This item shall be measured per each completed.

PAYMENT:

Payment shall be full compensation to furnish and install light fixtures; preparing the subgrade; concrete casings and footings; furnishing and placing all materials required; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-20 PURPLE WINTER CREEPER AS LISTED ON BID FORM - BID ITEMS NO. 25**

DESCRIPTION:

Providing and installing Purple Winter Creeper (Groundcover) type and size, as indicated on plans. This item shall conform to the Special Specification for Item 02900 - LANDSCAPING.

MEASUREMENT:

This item shall be measured per plant.

PAYMENT:

Payment shall be full compensation for material and installation; watering; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-21 BED PREPARATION AND TOP MULCH AS LISTED ON BID FORM - BID ITEMS NO. 26**

DESCRIPTION:

Providing and installing Bed Preparation and Top Mulch, as indicated on plans. This item shall conform to the Special Specification for Item 02900 - LANDSCAPING.

MEASUREMENT:

This item shall be measured per square foot of landscape bed area.

PAYMENT:

Payment shall be full compensation for material and installation; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-22 STEEL EDGING AS LISTED ON BID FORM - BID ITEMS NO. 27**

DESCRIPTION:

Providing and installing Steel Edging, as indicated on plans. This item shall conform to the Special Specification for Item 02900 - LANDSCAPING.

MEASUREMENT:

This item shall be measured by the linear footage completed and accepted.

PAYMENT:

Payment shall be full compensation for material and installation; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-23 SOLID SOD BERMUDAGRASS - BID ITEMS NO. 28**

DESCRIPTION:

Providing and installing solid sod 'Celebration' Bermudagrass turf on all disturbed areas. This item shall conform to the special specifications No. 02920 - SODDING.

MEASUREMENT:

This item shall be measured per square yard sodded and accepted.

PAYMENT:

Payment shall be full compensation for material and installation; watering; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-24 NEW IRRIGATION AND REPAIR TO EXISTING IRRIGATION SYSTEM - BID ITEMS NO 29**

DESCRIPTION:

Provide a complete and operable landscape irrigation system. This item shall conform to the special specifications No. 02810 - IRRIGATION SYSTEM.

**MEASUREMENT AND PAYMENT:**

Measurement and payment shall be lump sum for a complete and operable irrigation system. Payment shall be full compensation to furnish and install all materials required to provide a complete and operable landscape irrigation system; repair any damage to existing system; tie new system into existing system; installation of additional irrigation heads and devices as shown on plans; and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-25 TREE PROTECTION - BID ITEM NO. 30**

**DESCRIPTION:**

Provide, install, and maintain Tree protection for existing trees where noted and detailed on drawings.

**MEASUREMENT:**

This item shall be measured per tree protected.

**PAYMENT:**

Payment shall be full compensation for protection of trees; maintenance of tree protection throughout construction and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

**T.S-26 INTERIM MAINTENANCE (LANDSCAPE)- BID ITEM NO. 31**

**DESCRIPTION:**

Provide interim maintenance for all new landscape beds and new sodding until substantial completion.

**MEASUREMENT:**

This item shall be measured by 'lump sum' basis.

**PAYMENT:**

Payment shall be full compensation for maintenance of the new landscape beds and new sodding throughout construction and for all manipulation, labor, tools, equipment and incidentals necessary to complete the work, all in accordance with the plans and these specifications.

## **SECTION 02514 – NON-VEHICULAR CONCRETE PAVING AND SIDEWALKS**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

- A. Concrete sidewalks
- B. Piers and Footings
- C. Reinforcements

#### **1.2 REFERENCES**

- A. ANSI/ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- B. ASTM A615 - Deformed and Plain Billet-Steel for Concrete Reinforcement.
- C. ASTM C33 - Concrete Aggregates.
- D. ASTM C94 - Ready Mixed Concrete.
- E. ASTM C150 - Portland Cement.
- F. ASTM C260 - Air-Entraining Admixtures for Concrete.
- G. FS TT-C-800 - Curing Compound, Concrete, for New and Existing Surfaces.
- H. All construction to meet minimum standard for municipal publicly accessible pedestrian sidewalks and access ways.

#### **1.3 QUALITY ASSURANCE**

- A. Perform work in accordance with ACI 301.
- B. Obtain materials from same source throughout.

### **PART 2 - PRODUCTS**

#### **2.1 CONCRETE MATERIALS**

- A. Cement: ASTM C150 Normal-Type I or Air Entraining-Type IA or Portland Type, gray color.
- B. Fine and Coarse Aggregates: ASTM C33.
- C. Water: Clean and not detrimental to concrete.

#### **2.2 FORM MATERIALS**

- A. Conform to ACI 301.
- B. Wood forms, profiled to suit conditions.
- C. Joint Filler: ANSI/ASTM D1751, premolded; 3/4" thick.

#### **2.3 REINFORCEMENT**

- A. Reinforcing Steel: ASTM A615; 60 ksi yield grade; deformed billet steel bars, uncoated finish.
- B. Tie Wire: Annealed steel, minimum 16 gauge size.

- C. Dowels: ASTM A615; 40 or 60 ksi yield grade, plain steel, uncoated finish.

## **2.4 ACCESSORIES**

- A. Curing Compound: FS TT-C-800, Type 1, 30 percent solids.

## **2.5 ADMIXTURES**

- A. Air Entrainment: ASTM C260.
- B. Chemical Admixtures other than those required by ASTM C260 will not be allowed.

## **2.6 CONCRETE MIX**

- A. Mix concrete in accordance with ASTM C94 and Section 03300.
- B. Provide concrete with a 28-day compressive strength corresponding to the following schedule:

Concrete Sidewalks and Paving - 4000 psi, 6 sack

## **PART 3 - EXECUTION**

### **3.1 INSPECTION**

- A. Verify stabilized subgrade has properly cured and is ready to support paving and imposed loads.
- B. Verify gradients and elevations of subgrade are correct.
- C. Beginning of installation means acceptance of existing conditions.

### **3.2 PREPARATION**

- A. Moisten base to minimize absorption of water from fresh concrete.
- B. Maintain moisture and compaction until pour is accomplished.
- C. Notify Landscape Architect minimum 24 hours prior to commencement of concreting operations.

### **3.3 FORMING**

- A. Place and secure forms to correct location, dimension, and profile.
- B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- C. Place joint fillers vertical in position, in straight lines. Secure to formwork during concrete placement.

### **3.4 REINFORCEMENT**

- A. Place reinforcing chairs for steel at mid-height of all slabs-on-grade.
- B. Interrupt deformed bars at expansion joints. Place dowels as detailed.

### **3.5 FORMED JOINTS**

- A. Doweled expansion joints shall be installed at a maximum of 120'-0" o.c. and/or as detailed on the plans.
- B. Place joint filler between paving components and building or other appurtenances. Recess top of filler 1" for backer rod and joint sealant. Use Dow Corning 888 or accepted substitute.

### **3.6 PLACING CONCRETE**

- A. Place concrete in accordance with ACI 301.
- B. Hot Weather Placement: ACI 301.
- C. Cold Weather Placement: ACI 301.
- D. Ensure reinforcement, inserts, embedded parts, and formed joints are not disturbed during concrete placement. Pouring shall be accomplished with the concrete delivery truck located outside the limits of the current pour.
- E. Construction joints shall be placed at locations coinciding with contraction or expansion joints. Do not break or interrupt successive pours such that cold joints occur.

### **3.7 FINISHING**

- A. Sidewalks and Paving: Medium-to-fine broom finish with radiused and trowel joint edges. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
- B. Place curing compound on exposed concrete surfaces within 30 minutes after finishing. Apply in accordance with manufacturer's instruction.

### **3.8 FIELD QUALITY CONTROL**

- A. Shallow ponding determined by the Landscape Architect to be excessive shall be removed and replaced at the Contractor's expense.

### **3.9 PROTECTION**

- A. Immediately after placement, protect concrete from premature drying, excessive hot or cold temperatures, and mechanical injury.

**END ITEM 02514**

## **ITEM 2516 - COLORED CONCRETE**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

The work in this section shall be designated as Colored Concrete on the plans. The work shall include all labor, material, equipment, and transportation required to complete the installation of the enhanced concrete.

#### **1.2 DEFINITIONS**

A. COLORED CONCRETE: A cast-in-place slab, having the surface colored.

#### **1.3 RELATED WORK**

- A. Preparation work, including sub-grade preparation, finish grading, setting of forms and screeds, and furnishing and installation of reinforcements.
- B. Provide and apply all Color Hardener.
- C. Provide and apply all Sealant
- D. Caulk all expansion joints.

#### **1.4 QUALITY ASSURANCE**

- A. All work shall be installed by a Contractor/Subcontractor who shall provide a foreman or supervisor who has completed at least three installations of high quality.
- B. Provide a jobsite sample (minimum 3' x 3') to be approved by Landscape Architect (David C. Baldwin Inc.) prior to start of construction. Provide additional samples as required until a final selection is made.

### **PART 2 - PRODUCTS**

**2.1** All materials shall conform with the respective requirements of the standard concrete specifications with the following exceptions:

- A. Cement. Portland cement shall be Type I. The same brand and source shall be used throughout.
- B. Coarse Aggregate. The coarse aggregate shall consist of durable particles of natural or crushed gravel and shall conform to ASTM C-33.
- C. Fine Aggregate. Fine aggregate shall consist of clean, hard, durable and noncoated particles of natural or manufactured sand or a combination thereof, with or without a mineral filler.
- D. Color Hardener. Texas Bomanite (Contact Scott Balch, Phone: 972-484-8465) or approved equal is to be used. Refer to Paving Legend for Color Selection Specification.
- E. Acrylic Sealer. Sealer shall meet the requirements of ASTM C-309. Sealer shall have a matte finish (not glossy finish) when dry.

### **PART 3 - EXECUTION**

- A. Concrete and specifications shall meet or exceed requirements for pedestrian paving as required by the City of Mesquite.



- B. The concrete mix shall be placed and screeded to the proper grade and wood floated to a uniform surface in the normal manner.
- C. Colored hardener shall be applied evenly to the plastic surface by the dry-shake method using a minimum of 60 pounds per 100 square feet. It shall be applied in two shakes (2/3's on the first coat followed by 1/3 on the final), wood floated after each and troweled only after the final floating.

**END ITEM 2516**

# SECTION 02441

## IRRIGATION SYSTEM

**NOTE: THESE SPECIFICATIONS ARE FOR USE ON  
CITY OF MESQUITE PROJECTS ONLY**

### **PART 1 GENERAL**

#### 1.01 DESCRIPTION

Provide an underground irrigation system as shown and specified. The work includes:

- A. Automatic irrigation system, including piping, fittings, sprinkler heads, and accessories.
- B. Valves, and fittings.
- C. Meters provided and installed by the contractor
- D. Controller, sensors, control wire, phone modem, flow meter, and phone line.
- E. Testing.
- F. Excavating and backfilling irrigation system work.

#### 1.02 QUALITY ASSURANCE AND APPLICABLE STANDARDS

- A. Installer's qualifications:
  1. Minimum of 5 years experience installing irrigation systems of comparable size.
  2. Contractor shall employ a licensed Texas Irrigator.
  3. Contractor shall also employ a licensed Texas Irrigation installer or licensed Texas Irrigator as a continuous on-site representative to the Contractor.
- B. Materials, equipment, and methods of installation shall comply with the following codes and standards:
  1. The City of Mesquite Ordinances and Building Codes.
  2. National Electrical Code.
  3. American Society for Testing and Materials, (ASTM).
  4. National Sanitation Foundation, (NSF).
  5. Texas Commission on Environmental Quality rules and regulations.
- C. Excavating, backfilling, and compacting operations:
- D. Obtain Park Planner's acceptance of installed and tested irrigation system prior to installing backfill materials. Notification must precede requested inspection by 24 hours.

#### 1.03 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions for each of the system components to be installed.
- B. "As-Built" Drawings: Contractor shall submit a set of reproducible "As-Built" drawings on a Mylar base or a vector based electronic file (AutoCAD 2006 or compatible format) upon completion of the project. The Park Planner will provide a base sheet for temporary use by contractor. "As-Built" drawings shall give dimensions to objects from two permanent objects. Dimensions shall be 300' or less unless approved by the Park Planner. Permanent objects are considered non-perishable and not likely to be moved i.e., buildings, street curbs, fire hydrants, tennis/basketball court corners, concrete footings or slabs around facilities, street signs, etc. (plant material is perishable). If permanent objects are not close enough to take measurements from, consult with the Park Planner. Objects to be dimensioned include but are not limited to: electric valves, routing of wiring, mainline, double check valve assembly, any deviations from the plan (including any and all lateral lines). Prior to taking measurements, consult with the Park Planner as to what other objects, if any, are to be dimensioned. Identify field changes and Change Order changes by dimension and detail.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver irrigation system components in manufacturer's original undamaged and unopened containers with labels intact and legible.
- B. Deliver plastic piping in bundles, packaged to provide adequate protection of pipe ends, either threaded or plain.
- C. Store and handle materials to prevent damage and deterioration. Do not store P.V.C. pipe in direct sunlight for more than 48 hours.
- D. Remove uninstalled components and construction debris each day from site. No storage will be permitted.

#### 1.05 PROJECT CONDITIONS

- A. Known underground and surface utility lines are indicated on the drawings. Contractor shall request utility locating services provided by utility companies.
- B. Water Service - The Contractor shall connect the proposed system into existing stub-out as indicated on the plans.
- C. Protect existing trees, plants, lawns, and other features designated to remain as part of the final landscape work. Restore turf and planting area to original condition after trenching, backfilling, and cleaning.
- D. Promptly repair damage to adjacent facilities caused by irrigation system work operations. Cost of repairs shall be contractor's expense.
- E. Promptly notify the Park Planner of unexpected sub-surface conditions.
- F. Irrigation system layout is diagrammatic. Exact locations of piping, sprinkler heads, valves, and other components shall be established by contractor in the field at time of installation. Obtain Park Planner's approval of head layout prior to installation.
- G. Space sprinkler components as per manufacturer's recommendations.
- H. Minor adjustments in system layout will be permitted to clear existing fixed obstructions. The Park Planner shall approve final system layout.
- I. A pre-construction inspection will be conducted by Park Planner with the Contractor to observe original site conditions.
- J. Electric power supply shall be furnished by the City to a location indicated on the plans. A ten-amp breaker box will be provided to irrigation contractor at park sign. Contractor shall be responsible for directly wiring the automatic controllers into 120 V power supply. NOTE: NO plug in devices will be accepted.

1.06 WARRANTY AND GUARANTEE

- A. Materials and workmanship shall be fully guaranteed for one (1) year following Owner's final acceptance of project at 100% completion. Manufacturer's warranty shall extend beyond 1 year if applicable.
- B. Backfilling of all excavation shall be guaranteed for the one (1) year guarantee period.
- C. Provide a one (1) year warranty against material, installation and operation defects. Repairs, adjustments and replacement of defective irrigation system materials, including materials that have been installed on the work during the warranty period shall be at Contractor's expense.

**PART 2 PRODUCTS**

2.01 ACCEPTABLE MANUFACTURERS

- A. Parts List: Materials provided and installed by irrigation contractor

DESCRIPTION	MANUFACTURER / MODEL NO.
Controller	Weathermatic Smartline: SL4800 (12 station base model) 12 Station Module: SLM12 (up to 3 needed depending on station quantity) Aircard: SL-AIRCARD1
Flow meter	Data Industrial #IR220p-? (Match size to mainline) w/ all necessary wiring and accessories for proper operation
Electric Valve	Weathermatic 11000 series (size as noted on drawings)
Wire Splice Kit	King One Step socket seal
Freeze Sensor	Weathermatic Wireless Weather Station: SLW15 (this one product is satisfies both sensors)
Rain Sensor	Weathermatic Wireless Weather Station: SLW15 (this one product is satisfies both sensors)
Pop-up Spray Head (turf & bed areas)	Rainbird 1800 SAM/PRS w/ MPR nozzles (arc & radius as shown on the plans)
Small Rotary Head (turf areas)	Rainbird 5004 + PRS 3/4" inlet
Large Rotary Head (turf areas)	Rainbird 7005, 1" inlet (50' – 70' radius)
Large Rotary Head (turf areas)	Rainbird 8005, 1" inlet (70' – 80' radius)
Rotary Head (clay infield)	Rainbird 6504 HS Falcon, stainless steel, 3/4" inlet (arc & radius as shown on the plans)
Low pressure rotor, 40 operating PSI	Rainbird 6504 Falcon, (20' – 70' radius)
Golf / large turf rotors 80'+ radius	Toro 690 Golf Course Rotor / Rainbird Eagle 700 & 900
Tree / shrub bubbler	Rainbird RWS - M – BG02 Root Watering System
Quick Coupler Valve	Weathermatic V-100

Ball Valve (at remote Valve, Q.C.V.)	Spears Schedule 80 PVC (size to match valve)
Valve Box, and lid, 12" x 17" (for remote valve, and Q.C.V.)	DFW Plastics D-1200
Valve Box Extension	DFW Plastics D-600
Wire splice box	DFW Plastics 10" round
Concrete Valve Box	Brooks #65 concrete box with 2 piece cast iron cover
Reduced Pressure Zone Assembly (RPZ)	Febco Model 860 or Watts Regulator Series 009 (sized for optimum system performance)
RPZ device enclosure	HB-1 (1" RPZ) HB-2 (2" RPZ)
Main Line PVC	Class 200 PVC
Lateral PVC	Class 200 PVC
Swing Joint Assembly, 1" size	Lasco G-132-212
Drip (4' and narrower)	Netafim
Sleeves	Schedule 40 PVC 4" or 6" (size as noted on drawings)

B. Manufacturers:

TORO  
523 Camp Wisdom Rd.  
Duncanville, TX 75116  
972-709-3528

Weathermatic, Inc.  
Telsco Industries  
Bill Savelle 214.243.6697 cell  
P. O. Box 180205  
Dallas, TX 75218-0205  
972-278-6131, office

Glen-Hilton Products, Inc.  
P. O. Box 31614  
Richmond, VA 23294  
804-765-1101

Rainbird Corporation  
Kirk Biddle  
972-217-5961

2.02 MATERIALS

- A. Provide only new materials, without flaws or defects and of the highest quality of their specified class and kind.
- B. Comply with pipe sizes indicated. No substitution of smaller pipes will be permitted. Remove damaged and defective pipe.
- C. Provide pipe continuously and permanently marked with manufacturer's name or trademark, size schedule and type of pipe, working pressure at 73 degrees F. and National Sanitation Foundation (NSF) approval.
- D. Plastic pipe, fittings, and connections:
  1. Polyvinyl chloride pipe: ASTM D2241, rigid, unplasticized PVC, extruded from virgin parent material. Provide pipe homogeneous throughout and free from visible cracks, holes, foreign materials, blisters, wrinkles, and dents. SDR21, Class 200.
  2. PVC pipe fittings: ASTM D2241 schedule 40 PVC molded fittings suitable for solvent weld, slip joint ring tight seal, or screwed connections. Fittings made of other materials are not permitted. PVC Pipe Fittings - All PVC fittings shall be Type I, medium weight Schedule 40, as manufactured by LASCO Manufacturing Company, or approved equal. Provide 24" minimum dimensions between fittings (exception: threaded couplings).
- E. Size slip fitting socket taper to permit a dry unsoftened pipe end to be inserted no more than halfway into the socket. Saddle and cross fittings are not permitted.
- F. Schedule 80 PVC pipe may be threaded.
- G. Use male adapters for plastic to metal connections. Tighten male adapters by hand plus one turn with a strap wrench.
- H. Copper pipe, fittings, and connections of RPZ device: Refer to Water Utilities specifications. Contact Ron Self, City Backflow Inspector, for details at 972-216-6973.
  1. Water piping, fittings and connectors: ASTM B88 Type "L" hard tempered copper tubing. Fittings shall be 150 pound working water pressure standard, solder end type, constructed of wrought copper, bronze, or brass.
  2. Joints made with tin-lead solder, approximately 50/50 composition. Thoroughly polish joints and use proper flux to provide sound joints.
- I. Associated equipment:
  1. Electric control: Type UF 12/2 gauge or 14/3 gauge insulation. UL listed approved for direct under ground burial when used in National Electrical Code Class II Circuit,
  2. Wire color code: Provide control or "hot" wires red in color. Provide common or "ground" wires white in color.

3. Ground Rod and Wire for Controller
  - a. Ground shall be 6 gauge uncoated copper bus wire.
  - b. Ground rod shall be a copper coated steel rod or as per local code. Length and diameter shall be as per local code.
  - c. Refer to manufacturer's requirements for wire sizing to valves, and sensors.
- J. Valve box to enclose electric valves shall be a 12" rectangular valve box with a snap in lid. Valve box to be installed with 6" extension (as needed), and supported with bricks around the entire base of the box
- K. Automatic sprinkler controllers shall be capable of operating the number of stations specified. Power source shall be standard 120V AC, 60 Hz., @1.0A for 5 valves. Output for operation of companion solenoid-operated valves shall be 24/28V AC, 2.5A (60/70VA). All conduits shall be ridged type for controller wire and electrical to breaker box. The controller shall be of solid-state construction. The operation of the controller shall be a fully automatic, incorporating the following features: pump start/master valve relay with flow sensing, telephone modem, internal surge protection for AC input and valve outputs, & program information memory during power outages. A computer chip bypass switch for the rain sensor shall be installed inside the controller housing.

## 2.03 ACCESSORIES

- A. Drainage fill: 1/2" washed pea gravel.
- B. Fill: Clean soil free of stones larger than 1" diameter, foreign matter, organic material, and debris.
- C. Suitable excavated materials removed to accommodate the irrigation system work may be used as fill material subject to the Park Planner's review and acceptance.
- D. Concrete Thrust block: 3000 psi, 5 sack concrete mix.

## **PART 3 EXECUTION**

### 3.01 INSPECTION

- A. Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected.
- B. The contractor shall verify existing and proposed locations of all site utilities (i.e. gas, water, electric, telephone, sanitary and storm sewers etc.) prior to any trenching and laying of pipe. In addition, this contractor shall request for inspection of reduced pressure zone assembly (RPZ) with the Water Utilities Division in connection to City provided meter and exhaust.

### 3.02 PREPARATION

Lay out and stake the location of each pipe run and all sprinkler heads and sprinkler valves. Obtain Park Planner's acceptance of layout prior to excavating.

### 3.03 INSTALLATION

- A. Excavating and backfilling:
  1. Excavation shall include all materials encountered, except materials that cannot be excavated by normal mechanical means.
  2. Excavate trenches of sufficient depth to provide 18" maximum and 12" minimum cover over installed pipe.
  3. Fill to match adjacent grade elevations with approved earth fill material. Place and compact fill in layers not greater than 8" depth. Backfill all voids in soil. Material shall not be placed to cause shifting or compression of pipe and valve boxes.
  4. Provide clean original material fill free of rocks, concrete and debris for backfill.
  5. Provide drainage fill aggregate around each valve and double check assembly.
  6. Irrigation mainline: The mainline shall be installed in a 6" wide (minimum) trench with all electric wire to valves laid directly below mainline (upon inspection the wires should be hidden from sight). Trench shall allow a minimum of 12" of cover. All mains and laterals up to and including 4" shall have a maximum 18" of cover. Mainline shall be flushed before attaching valves. If splices are made in mainline, use gasket repair fittings. Compression fittings are not allowed. Mainline may be backfilled except at joints prior to inspection by the Owner. Mainline shall be tested for leaks under pressure for a 6 to 8 hour period. Joints may be backfilled after Park Planner verifies and approves that no leaks exist.
  7. Thrust block shall be required at all 3" or larger fittings.
  8. Lateral Piping - Shall be installed in a 4" wide (minimum) trench 12" deep. Excavate trenches and install piping and fill during the same working day. Do not leave open trenches or partially filled trenches open overnight. Fill at joints in pipe may remain open.

9. Sleeves installed to accommodate irrigation piping shall be installed with 18" of cover, as measured from finished grade. Costs for providing and installing these sleeves shall be included in the irrigation system bid item.
- B. Plastic pipe:
1. Install plastic pipe in accordance with manufacturer's installation instructions. Provide for thermal expansion and contraction.
  2. Saw cut plastic pipe to ensure a square cut. Remove burrs and shavings at cut ends prior to installation.
  3. Make plastic-to-plastic joints with solvent weld joints or slip seal joints. Use only solvent recommended by the pipe manufacturer. Install plastic pipefittings in accordance with pipe manufacturer's instructions. Solvent primer is required on all joints/fittings. Excess primer and/or solvent dripped on pipe or squeezed from fitting is not permitted and shall be grounds for removal and replacement of the joint.
  4. Make plastic to metal joints with plastic male adapters.
  5. Maintain a minimum of 24" between all glued joints.
  6. Allow joints to set at least 24 hours before pressure is applied to the system.
  7. Maintain pipe interiors free of dirt and debris. Close open ends of pipe by acceptable methods when pipe installation is not in progress.
  8. Inspection of all fittings and coupling will be made by the Park Planner. Backfill of approved soil is not permitted until Park Planner has inspected all fittings, valves, and couplings.
  9. Install in-ground control valves in valve box as indicated. Valve boxes shall be installed in accordance with the manufacturer's installation instructions and with an 8" layer of washed pea gravel under the valve. Each valve box shall be supported by bricks around the entire perimeter of the box. Install valve boxes on a suitable base to provide a level foundation. Set the top of the box 2" below surrounding grade and cover to protect from vandalism.
  10. Seal threaded connections on both sides of the control valves with Teflon tape.
  11. Install freeze and rain sensors as directed by the Park Planner.
- C. Sprinklers, fittings, valves, and accessories:
1. Install fittings, valves, sprinkler heads, risers, and accessories in accordance with manufacturer's instructions, except as otherwise indicated. Maintain a minimum of 24" between all glued fittings. All fittings shall be installed in a horizontal manner. Fittings that join pipe vertically or at angles other than horizontal will be subject to removal. Use of fittings that appears excessive and inappropriate for normal installation and not in compliance with standard industry practice, shall be rejected.
  2. Set sprinkler heads perpendicular to finished grades, except as otherwise indicated.
  3. Set top of quick coupler, gate, and isolation valve boxes flush to finish grade.
  4. Set top of electric valve box at 2" below finish grade.
  5. Provide pop-up spray heads with 1/2" flex cut-off nipples joint assembly.
  6. Install reduced pressure zone (RPZ) backflow device above grade in an insulated aluminum or stainless steel enclosure appropriately sized for the RPZ device. The enclosure shall be securely anchored and vandal resistant. The concrete pad for the enclosure shall be a 3000 PSI 4" concrete slab that extends 6" beyond the enclosure on all sides. Reinforce the concrete pad with #3 rebar @ 12" on-center, both ways.
  7. Install the specified controller in the location shown on the drawings. Install per manufacturer's recommendations.
  8. The contractor shall pull valve wires, program controller by labeling station position for zones and put controller in operation.
- D. Control wiring:
1. Contractor shall run a single wire to each solenoid, for the control and a common neutral wire to all solenoids from the controller. Wire shall be sized and color-coded according to device requirements of manufacturer.
  2. Install enough wire to allow raising the valve bonnet or splice to the surface without disconnecting the wires when repair is required.
  3. Pull each remote control valve wire through rigid conduit in base, which shall then be connected to controller.
  4. Make wire connections to remote control electric valves and splices of wire in 10" valve boxes. All wire splices must be properly insulated and waterproofed. Splices shall be made with a King One-Step in accordance with manufacturer's recommendations. Provide 2" of soil cover to protect from vandalism. Show location of any and all splices on the "As-Built" drawings
- E. Sensors: Install rain, freeze and flow sensors as noted on the plans (or as directed by the Park Planner) with control wire enclosed in 1/2" rigid conduit (above grade).

- F. RPZ device/enclosure shall be installed according the construction details shown on the plans and the heater shall be wired directly to the breaker box/disconnect. A licensed electrician shall perform all electrical connections.
- G. Flushing, testing, and adjustment:
  - 1. After sprinkler piping and main are installed and before sprinkler heads are installed, open control valves and flush out the system with full head of water until pipes are clear of debris.
  - 2. Perform system testing upon completion of each section. Make necessary repairs and re-test repaired sections as required. Trench and pipe must be dry at inspection. System must be under operating pressure for 24 hours prior to observation of every joint and coupling, by the Park Planner. Backfill is permitted after inspection and approval by Park Planner.
  - 3. Adjust sprinklers after installation for proper and adequate distribution of the water over the coverage pattern. Adjust for the proper arc of coverage.
  - 4. Tighten nozzles on spray type sprinklers after installation. Adjust sprinkler-adjusting screw on lateral line or circuit as required for proper radius. Interchange nozzle patterns as directed by the Park Planner, to give best arc of coverage.
  - 5. Adjust all electric remote control valve flow control stems for system balance.
  - 6. Adjust all rain and temperature sensors as directed by the Park Planner. Test as required to obtain satisfactory operating conditions. Demonstrate correct operation of sensors to the Park Planner.
  - 7. Test and demonstrate the controller by operating appropriate day, hour, and station selection features as required to automatically start and shut down irrigation cycles to accommodate plant requirements and weather conditions.
- G. Spare Parts: Provide to the City of Mesquite additional parts as per noted on plan, including installation and operations manuals to all products.

#### 3.04 DISPOSAL OF WASTE MATERIAL

- A. Stockpile, haul from site, and legally dispose of waste materials, including unsuitable excavated materials, rock, trash, and debris. Debris must be removed at the end of work time each day.
- B. Maintain pavement and curb clear, clean, and free of debris and soil. Pavement and curb shall remain clear, clean and free of debris.

#### 3.05 SUBSTANTIAL COMPLETION:

An inspection of the irrigation system will be made by the Park Planner upon request for Application of Substantial Completion by the Contractor. The irrigation system must be sufficiently complete so that all plant material can be sustained by the system and all valve boxes are properly installed. All electric valves shall have 2" of fill over the top of the box. Contractor shall deliver complete "As-Built" drawings (section 1.03B) to Park Planner for review and comment prior to application of final payment.

#### 3.06 CLEANING:

Perform daily cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris, and equipment. Repair damage resulting from irrigation system installation. Restore site to the original condition prior to damage caused by construction activities.

#### 3.07 FINAL COMPLETION:

The Park Planner, upon written request, will make an inspection of the irrigation system for Final Completion by the Contractor. Provide notification of at least two (2) working days before requested inspection date. Contractor shall submit on forms approved by the Park Planner, a Waiver of Release of Lien, Affidavit of Payment of Debts and Claim, and a fully executed "Consent of Surety for Payment".

**END OF SECTION 02441**

## **ITEM 2900 - LANDSCAPING**

### **PART 1 - GENERAL**

#### **1.1 GENERAL CONDITIONS**

The requirements of the "General Conditions of the Agreement" shall apply to all work of this Section with the same force and effect as though repeated in full herein.

#### **1.2 WORK INCLUDED**

Furnish all labor, material, equipment and services necessary to provide all landscape planting, and related items complete in place, as shown on the Drawings and specified, herein. Work Specified in this Section: Fine grading steel edging, soil preparation, gravel groundcover, planting, clean-up, and all other miscellaneous items related to landscaping as shown on the drawings.

#### **1.3 QUALITY ASSURANCE**

##### **A. Standards:**

1. Standardized Plant Names, 1942 Edition, American Joint Committee on Horticulture Nomenclature.
2. American Standards for Nursery Stock, Latest Edition, American Association of Nurserymen.

##### **B. Source Quality Control:**

1. Submit documentation to Park Planner within ten (10) days after award of Contract that all plant material to be supplied by Contractor is available. Any and all substitutions due to unavailability must be requested in writing prior to confirmation of ordering. All materials shall be subject to inspection by Park Planner at any time after confirmation of ordering.
2. Plants to be supplied by Contractor shall be subject to inspection and approval of Park Planner at place of growth or upon delivery for conformity to Specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Inspection and tagging of plant material by the Park Planner is for design intent only and does not constitute the Park Planner's approval of the plant materials in regards to their health and vigor. The health and vigor of the plant material is the sole responsibility of the Contractor. Submit written request for inspection of plant material at place of growth to Park Planner. Written request shall state the place of growth and quantity of plants to be inspected. Park Planner reserves the right to refuse inspection at this time if, in their judgment, a sufficient quantity of plants is not available for inspection.
3. The Contractor shall submit specifications of any item being used on site upon the request of the Park Planner.

#### **1.4 PRODUCT DELIVERY, STORAGE AND HANDLING**

##### **A. Delivery:**

1. Deliver packaged materials to site in original unopened containers bearing manufacturer's guaranteed chemical analysis, name, trademark, and conformance to State Law.
2. Deliver all plants with legible identification labels.
  - a. Label trees, evergreens, bundles of containers of like shrubs, or groundcover plants.
  - b. State correct plant name and size indicated on plant list.
  - c. Use durable waterproof labels with water-resistant ink which will remain legible for at least 60 days.
3. Protect plant material during and after delivery to prevent damage to root ball or desiccation of leaves.



- B. Storage:
  - 1. Store plant material in shade and protect from weather.
  - 2. Storage at the site is allowed, however, Contractor accepts full responsibility for damage, theft, or vandalism.
  - 3. Any plant material balled or burlapped, not installed within 24 hours of delivery shall be healed in until such time as it is installed.
  - 4. Maintain and protect plant material not to be planted within four (4) hours in a healthy, vigorous condition.
- C. Handling: The Contractor is cautioned to exercise care in handling, loading, unloading and storing of plant materials. Plant materials that have been damaged in any way will be discarded and if installed, shall be replaced with undamaged materials at the Contractor's expense.

## **1.5 JOB CONDITIONS**

- A. Perform actual planting only when weather and soil conditions are suitable in accordance with locally accepted practice.
- B. Scheduling: Install trees, shrubs, and liner stock plant material before grassing is commenced.
- C. Contractor shall note that rock and/or construction materials from previous site use may be encountered on some areas of the site. Rock or construction material excavation shall be included as part of bid.

## **1.6 QUALIFICATIONS OF WORKMEN**

Provide at least one person who shall be present at all times during execution of this portion of the Work, who shall be thoroughly familiar with the type of materials being installed and the proper materials and methods for their installation, who speaks understandable English, and who shall direct all work performed under this Section.

## **1.7 SAMPLES AND TESTS**

Park Planner reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request by Park Planner. Rejected materials shall be immediately removed from the site at Contractor's expense. Cost of testing of materials not meeting Specifications shall be paid by Contractor.

## **1.8 PLANT GUARANTEE**

- A. All trees, shrubs, vines, and groundcovers will be guaranteed for a twelve (12) month period after Final Acceptance (including trees supplied by Owner). The Contractor will replace all dead or defective materials upon notification (weather permitting) with plants of the same kind and size as those originally planted. Plants, including trees, which have partially died so that shape, size, or symmetry has been damaged, shall be considered subject to replacement, and the opinion of the Park Planner will be final. At the direction of the Park Planner, plants may be replaced at the start of the next planting or digging season, but in such cases, Contractor will remove dead plants within two (2) working days.
- B. All replacement work (including materials, labor and equipment) will be done at no cost to the Owner. Any damage, such as ruts in lawn or bed areas, that occurs when Contractor makes replacements, will be repaired immediately by the Contractor.
- C. The guarantee will not apply where plants die after Final Acceptance because of injury by storms, drowning, drought, hail, freeze, insects, disease, mechanical injury by humans or machines, and theft.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. All materials shall be of standard, approved and first-grade quality and shall be in prime condition when installed and accepted. Any commercially processed or packaged material shall be delivered to the site in the original unopened container bearing the manufacturer's guaranteed analysis. Contractor shall supply Park Planner with a sample of all supplied materials accompanied by analytical data from an approved laboratory source illustrating compliance or bearing the manufacturer's guaranteed analysis.
- B. Product Manufacturer's name(s) and/or model numbers are used herein to set a standard of quality and are not intended to be a restraint of trade or prevent submittals of other manufacturer's products of equal quality.
- C. Soil Amendment:
1. Compost Mix: "A Professional Bedding Soil" as produced by Living Earth Technologies, Inc., 1808 W. Northwest Highway, Dallas, Texas (phone: 214/869-4332) composed of 45% Compost, 45% Composted Pine Bar, and 10% Sandy Loam, or approved equal.
- D. Tree Backfill Fertilizer:
- 13.13.13 analysis bulk fertilizer.
- E. Shrub, Groundcover, and Seasonal Color Fertilizer:
- Provide commercial balanced slow release fertilizer (Asmocote), delivered to the site in bags labeled with the manufacturer's guaranteed analysis. If stored on the site, protect fertilizer from the elements at all times.
- F. Tree, Shrub, and Groundcover Planting Tablets:
- a. Shall be slow-released type with potential acidity of not more than 5% by weight containing the following percentages of nutrients by weight:
    - 20% nitrogen
    - 10% phosphoric acid
    - 5% potash
- G. Plant Material:
1. Plant names indicated comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.
  2. Plant material shall meet and/or exceed grades and standards set forth by the Texas Association of Nurserymen. All plants shall have a normal habit of growth and shall be sound, healthy, vigorous and free of insect infestations, plant diseases, sunscalds, fresh abrasions of the bark, excessive abrasions, or other objectionable disfigurements. Tree trunks shall be sturdy and have well "hardened" systems and vigorous and fibrous root systems which are not root or pot-bound. In the event of disagreement as to condition of root system, the root conditions of the plants furnished by the Contractor in containers will be determined by removal of earth from the roots of not less than two plants or more than two percent of the total number of plants of each species or variety where container-grown plants are from several sources, the roots of not less than two plants of each species or the variety from each source will be inspected. In case the sample plants inspected are found to be defective, the Landscape Architect reserves the right to reject

the entire lot or lots of plants represented by the defective samples. Any plants rendered unsuitable for planting because of this inspection will be considered as samples and will be provided at the expense of the Contractor.

3. The size of the plants will correspond with that normally expected for species and variety of commercially available nursery stock or as specified on Drawings. The minimum acceptable size of all plants measured before pruning with the branches in normal position shall conform to the measurements, if any, specified on the Drawings in the list of plants to be furnished. Plants larger in size than specified may be used with the approval of the Park Planner, but the use of larger plants will make no change in Contract price. If the use of larger plants is approved, the ball of earth, container size, or spread of roots for each plant will be increased proportionately.
4. Provide "specimen" plants with a special height, shape, or character of growth. Tag specimen trees or shrubs at the source of supply. Plants may be inspected by the Park Planner and reviewed at the place of growth, for compliance with specification requirement for quality, size, and variety. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.
5. Field-collected or Nursery Grown Balled and Burlapped Tree Stock (B&B): Dig balled and burlapped plants with natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide 10" of root ball per 1" caliper of trunk (measured 6" above grade level for trees 4" caliper and less and 12" above grade for larger trees). If a tree is of multi-trunk variety, the caliper of the tree is the average caliper of all its trunks. Cracked or mushroomed balls are not acceptable. Selectively remove 1/2 to 2/3 of twig growth.
6. Container-grown Stock (General): Grown in a container for sufficient length of time for the root system to have developed to hold the soil together, firm and whole.
  - a. No plants shall be loose in the container.
  - b. Container stock shall not be pot bound.
7. Container-grown Tree Stock: Grown in a container from seedling stage and complies with Paragraph 2.1 - G-6, Container-grown Stock requirements.
8. Containerized Tree Stock: Grown in a container for not less than one (1) year and complies with Paragraph 2.1 - G-6, Container-grown Stock requirements.
9. Plants planted in rows shall be matched in form, height and overall character.
10. Shrubs and small plants shall meet the requirements for spread and height indicated in the plant list.
  - a. The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.
  - b. Single stemmed or thin plants will not be accepted. Side branches shall be generous, well twigged, and the plant as a whole well bushed to the ground.
  - c. Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries.
11. Pruning: At no time shall trees or plant materials be pruned, trimmed or topped prior to delivery and any alteration of their shape shall be conducted only with the approval and when in the presence of the Park Planner.
12. All plants not conforming to the requirements herein specified, shall be considered defective and such plants, whether in place or not, shall be marked as rejected and immediately removed from the site of the work and replaced with new plants at the Contractor's expense. The plants shall be of the species, variety, size and conditions specified herein or as shown on the Drawings. Under no conditions will there be any

substitutions of plants or sizes listed on the accompanying plans, except with the express consent of the Landscape Architect.

- H. Tree Paint: Morrison Tree Seal, Cabort Tree Paint, or equal.
- I. Water: Furnished by Landscape Contractor; transport as required.
- J. Mulch Topdressing: Shall be double shredded, fine textured, hardwood mulch as provided by Living Earth Technology, 1901 California Crossing, Dallas, Texas (phone: 972/869-4332) or approved equal. Minimum 3" layer spread uniformly.
- K. Steel Edging and Stakes: 3/16 x 4" Ryerson 'Estate' edging, as manufactured by Joseph Ryerson Co., Inc., Houston, Texas (phone 713-675-6111), or approved equal.
- L. Soil Separator (filter fabric): "Trivera Spunbound" as manufactured by Contech Construction Products or approved equal.
- N. Decorative Gravel: 1/2" - 1" 'Tejas Black' Crushed Stone. Install over layer of filter fabric; Depth varies reference plans. Provide sample of crushed stone and filter fabric for Landscape Architect's approval.
- M. Other Materials: All other materials, not specifically described but required for a complete and proper installation, shall be as selected by the Contractor subject to the approval of the Park Planner.

### **PART 3 - EXECUTION**

#### **3.1 INSPECTION**

- A. Obtain Landscape Architect's certification that final grades to +0.10' have been established prior to commencing planting operations. Provide for inclusion of all amendments, settling, etc. Landscape Contractor shall be responsible for shaping all planting areas as indicated on Drawings or as directed by Landscape Architect.
- B. Inspect trees, shrubs and groundcover plant material for injury, insect infestation and trees and shrubs for improper pruning.
- C. Do not begin planting of trees until deficiencies are corrected or plants replaced.

- 3.2 **STEEL EDGING:** Install between all mulched bed areas and turf areas (including native grass areas) as well as other areas as defined on plans. Install with maximum 1 1/2" of edging exposed on turf side of bed. When a steel edging abuts paved surfaces, remove edge of edging at a 45 degree angle.

#### **3.2 PLANTING PREPARATION**

- A. Soil Preparation for Groundcover, Shrub Beds:
  - 1. Excavate existing soil, if necessary, and add to complete shrub, groundcover, and seasonal color beds the following:
    - a. 4" layer of Compost Mix
    - b. 14-14-14 slow release fertilizer (Osmacote) at a rate of 5 lbs. / 100 s.f.
  - 2. Spread materials uniformly and cultivate thoroughly by means of a mechanical tiller. Till to a minimum depth of 8".
- B. Final Grades:
  - 1. Minor modifications to grade may be required to establish the final grade.

2. Finish grading shall ensure proper drainage of the site as determined on Drawings.
  3. All areas shall be graded so that the final grades will be 1" below adjacent paved areas, curbs, valve boxes, edging, clean-outs, drains, manholes, etc., or as indicated on Plans.
  4. At time of planting, the top 6" of all areas to be planted shall be free of stones, stumps, or other deleterious matter 1" in diameter or larger, and shall be free from all wire, plaster, or similar objects that would be a hindrance to planting or maintenance.
- C. Disposal of Excess Soil: Disposal of any unacceptable or excess soil shall be the sole responsibility of the Contractor. Excess soil may be spoiled on-site per direction of Owner.

### 3.3 PLANTING INSTALLATION

- A. General:
1. Actual planting shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally accepted practice, as approved by the Landscape Architect.
  2. Only as many plants as can be planted and watered on that same day shall be distributed in a planting area.
  3. Containers shall be opened and plants shall be removed in such a manner that the ball of earth surrounding the roots is not broken and they shall be planted and watered as herein specified immediately after removal from the containers. Containers shall not be opened prior to placing the plants in the planting area.
- B. Layout of Major Plantings: Locations for plants and outlines of areas to be planted shall be marked on the ground by the Contractor before any plant pits are dug. All such locations shall be approved by the Park Planner. If underground construction or utility line is encountered in the excavation of planting areas, other locations for planting may be selected by the Park Planner. Layout shall be accomplished by flagged grade stakes indicating plant names and specified container size on each stake. It shall be the Contractor's responsibility to confirm with the Park Planner's superintendent and governing agencies the location and depth of all underground utilities, and obstructions.
- C. Excavation:
1. Excavation for planting shall include the stripping and stacking of all acceptable topsoil encountered within the areas to be excavated for trenches, tree holes, plant pits and planting beds.
  2. Excess soil generated from the planting holes and not used as backfill, or in establishing the final grades may be spoiled on-site per direction of Owner.
  3. Protect all areas from excessive compaction when trucking plants or other material to the planting site.
  4. Tree and shrub pits shall be excavated to allow the root ball to set on undisturbed soil and excavated to the following diameters:

<u>Plant Size</u>	<u>Pit Diameter</u>
a. Up to 5 gallon container	14" greater than root ball diameter
b. 5-gallon container and greater (including trees)	24" greater than root ball diameter
  5. All excavated holes shall have vertical sides with roughened surfaces.
  6. All holes for trees and large shrubs shall be tested for water retention prior to tree or shrub installation. After hole is excavated, it is to be filled with water to the top of the excavation.

If, after 24 hours, the hole still holds water, the Contractor shall excavate an additional 6" from the bottom of hole. The Contractor shall then install 6" of native washed gravel covered on the top (and up a minimum of 12" on the sides of the hole) with filter fabric. The Contractor shall also install a capped 3" diameter PVC sump which will extend from near the bottom of the rock layer to 3" above the proposed finish grade so the hole can be evacuated through mechanical means.

D. Planting Trees:

1. Container Removal:
  - a. Remove tree from plastic container or box carefully so container can be re-used.
  - b. Do not injure root ball.
2. Center tree in pit.
3. Face plants with fullest growth into prevailing wind, or away from building façade.
4. Set plant plumb and hold rigidly in position until soil has been tamped firmly around ball.
5. Tree Pit Backfill:
  - a. Tree backfill should be composed of 5 parts existing of soil excavated from the hole to one part Soil Amendment, thoroughly mixed with 5 lbs. per cubic yard tree backfill fertilizer. Tree backfill to be mechanically mixed prior to backfill operations.
6. Set tree in upright position in the center of the hole and compact the backfill mixture around the ball or roots. Thoroughly water each plant after backfilling. After planting trees not in beds, surround the pits with a 3" height berm.
7. Plant Tablets:
  - a. After the water has completely drained from the plant pit, planting tablets shall be placed in the top 3" of the plant pit, four (4) tablets per every foot of rootball diameter per tree.
  - b. Planting tablets shall be set with each plant on the top of the rootball while the plants are still in their containers so the required number of tablets to be used in each hole can be easily verified by the Park Planner.
8. Pruning: Pruning shall be limited to the minimum necessary to remove injured twigs and branches or to limb-up trees as directed by the Park Planner. Pruning may not be done prior to delivery of plants. Cuts over 3/4" in diameter shall be painted with tree paint.
9. Newly planted trees must be anchored the first year to help the tree become established. Some flexibility must be provided to allow the stem and root system to develop strength. For trees up to a 4" caliper diameter, use a minimum of two (2) in-ground tree anchors; 4" - 8" use a minimum of three (3) in-ground tree anchors. Information about in-ground tree anchoring products can be found at the website [www.treestaple.com](http://www.treestaple.com). This product and its website are offered as an example of one type of tree anchoring systems to establish a standard of quality. Similar products with equal specifications will be accepted.

E. Planting Shrubs:

1. Container Removal:
  - a. Cut cans on two sides with an acceptable can cutter. Do not cut cans with spade or ax.
  - b. Do not injure root system.
2. Center plant in pit or trench.
3. Face plants with fullest growth into prevailing wind, or away from building façade.
4. Set plant plumb and hold rigidly in position until soil has been tamped firmly around ball or roots.
5. Fill holes with backfill composed of 50% soil taken from the hole and 50% Soil Amendment, thoroughly mixed.
6. Set plant in upright position in the center of the hole and compact the backfill mixture around the ball or roots. Thoroughly water each plant after backfilling. After shrubs not in beds, surround the pits with a 3" height berm.
7. Plant Tablets:
  - a. After the water has completely drained from plant pit, planting tablets shall be placed in the top 3" of the plant pit as indicated:

One (1) tablet per (1) one-gallon container and (2) two-gallon container

Two (2) tablets per (5) five-gallon container

- b. Planting tablets shall be set with each tablet on the top of the rootball while the plants are still in their containers so the required number of tablets to be used in each hole can be easily verified by the Landscape Architect.

8. Pruning: Pruning shall be limited to the minimum necessary to remove injured twigs and branches. Pruning may not be done prior to delivery of plants.

F. Planting Groundcover:

1. Space the plants evenly as indicated on the Drawings, staggering.
2. After planting is completed, cover the bed uniformly with a minimum 2" layer of mulch topdressing.
3. Thoroughly water entire planting bed.

G. Grass Installation:

1. Sod Grass:

- a. All areas to receive sod must be roto-tilled to a depth of 2" (inches), cleaned of any rocks, bricks, or other debris and fine graded before sod is planted.
- b. Sod must be fresh and free of any weeds. Sod may not sit on palettes for more than 48 hours without being planted. Any sod allowed to sit on palettes for more than 24 hours is subject to rejection by the Landscape Architect, and will be replaced at contractor's expense.
- c. All sod is to be planted in a "running bond" pattern.
- d. All sod planted on the site must be watered and rolled with a grass roller the same day it is planted.

2. Grass seed:

- a. All areas to receive grass seed must be roto-tilled to a depth of 2" (inches), cleaned of any rocks, bricks, or other debris and fine graded before seed is spread.
- b. All seed must be distributed in a uniform fashion as per product manufacturer's or grower's recommendations.
- c. All areas that have been seeded must remain moist for 7 to 10 days from the time of the first watering or until seed has germinated. Seed that is allowed to dry before germination will be subject to replacement at Contractor's expense. It is the Contractor's responsibility to coordinate site watering.

### 3.4 CLEAN-UP

- A. After all planting operations have been completed, remove all trash, excess soil, empty plant containers and rubbish from the property. All scars, ruts or other marks in the ground caused by this work shall be repaired and the ground left in a neat and orderly condition throughout the site. Contractor shall pick up all trash resulting from this work on a daily basis. All trash shall be removed completely from the site.
- B. The Contractor shall leave the site area broom-clean and shall wash down all paved areas within the Contract area, leaving the premises in a clean condition.

### 3.5 MAINTENANCE

- A. Maintain the trees, shrubs and groundcovers, and sod grass until Final Completion and Acceptance of the entire project.
- B. Maintenance shall include pruning, cultivating, weeding, watering, and application of appropriate insecticides and fungicides necessary to maintain plant free of insects and disease.
  1. Re-set settled plants to proper grade and position. Restore planting saucer and adjacent material and remove deal material.

2. Correct defective work as soon as possible after deficiencies become apparent and weather and season permit.
3. Deep-water trees, plants, and groundcover beds within the first 24 hours of initial planting, and not less than twice per week until final acceptance.

**3.6 OBSERVATION SCHEDULE**

- A. When observations are conducted by someone other than the Park Planner, the Contractor shall show evidence in writing of when and by whom these observations were made.
- B. No site visits shall commence without all items noted in previous Observation Reports either completed or remedied unless such compliance has been waived by the Owner and/or Landscape Architect.

**END ITEM 02900**



## **ITEM 02920 - SODDING**

### **PART 1 - GENERAL**

#### **1.1 QUALITY ASSURANCE**

- A. Standards: Federal Specifications (FS) 0-F-241c (1), Fertilizer Mixed, Commercial.
- B. Requirements of Regulatory Agencies: Conform to the requirements of the State Department of Agriculture and City of Mesquite.

#### **1.2 WORK INCLUDED:**

- A. Provide and install solid sod 'Celebration' Bermudagrass as shown on the plans.

#### **1.3 SUBMITTALS:**

- A. Certificates:
  - 1. Growers Certification:
    - a. Grass species, and location of field from which sod is cut.
    - b. Compliance with state and federal quarantine restrictions.
  - 2. Manufacturer's certification of fertilizer and herbicide composition.

#### **1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING:**

- A. Deliver sod on pallets.
- B. Protect root system from exposure to wind or sun.
- C. Protect sod against dehydration, contamination, and heating during transportation and delivery.
- D. Do not deliver more sod than can be installed within 24 hours.
- E. Keep stored sod moist and under shade, or covered with moistened burlap.
- F. Do not pile sod more than 2' deep.
- G. Do not tear, stretch, or drop sod.

#### **1.5 JOB CONDITIONS:**

- A. Begin installation of sod after preceding related work is accepted.
- B. Environmental Requirements:
  - 1. Do not install sod on saturated soil.
- C. Protection: Erect signs and barriers against vehicular traffic.

#### **1.6 GUARANTEE:**

- A. Guarantee sod from period of twelve (12) months after date of Substantial Completion.

- B. Replacement sod under this guarantee shall be guaranteed for twelve (12) months from the date of Final Completion.
- C. Repair damage to other plants during sod replacement at no cost to the Owner.

## **PART 2 - PRODUCTS**

### **2.1 SOD:**

- A. Grass Species: 'Celebration' Bermudagrass (*Cynodon dactylon* 'Celebration') as shown on drawings.
- B. American Sod Producers Association (ASPA) Grade: Nursery grown or approved. Field grown sod is not acceptable.
- C. Furnished in Pads:
  - 1. Size:
    - a. Length: 24 inches plus or minus 5%
    - b. Width: 18 inches plus or minus 5%
    - c. Thickness: 1-1/2 inches excluding top growth and thatch.
  - 2. Not stretched, broken, or torn.
- D. Uniformly Mowed Height When Harvested: 2-1/2 inches.
- E. Thatch: Maximum 1/2 inches uncompressed.
- F. Inspected and found free of diseases, nematodes, pests, and pest larvae, by entomologist of State Department of Agriculture.
- G. Weeds: Free of nut grass or any other objectionable weeds, or vegetation.
- H. Uniform in color, leaf texture, and density.

### **2.2 WATER:**

- A. Free of substances harmful to plant growth.

### **2.3 FERTILIZER:**

- A. FS-O-F-241c (1), Grade A or B.
- B. The Chemical designation shall be 12-8-8, with at least 50 percent of the nitrogen from a nonwater-soluble organic source.

### **2.4 HERBICIDES:**

- A. As recommended by the State Department of Agriculture and approved by Owner.

### **2.5 STAKES:**

- A. Softwood, 3/4 inch diameter, 8 inch length.

## **PART 3 - EXECUTION**

### **3.1 INSPECTION:**

- A. Verify that soil to depth of 2 inches in compacted areas.

- B. Water dry soil to depth of 4"-6" before sodding.

### **3.2 PREPARATION:**

- A. Verify finish grades are to elevations called for.
- B. Smooth area to be sodded to produce an even surface with no peaks or valleys and free of all debris.
- C. Wet surface to a uniform depth of 4"-6" or until upper surface is reasonably wet and compacted.

### **3.3 INSTALLATION:**

- A. Install sod species as indicated on planting plans.
- B. Transplant sod within 48 hours after harvesting.
- C. Begin sodding at bottom of slopes.
- D. Lay first row of sod in straight line with long dimension of pads parallel to slope contours.
- E. Butt side and end joints.
- F. Stagger end joints in adjacent rows.
- G. Do not stretch or overlap sod.
- H. Peg sod on slope ratio of 3 to 1 or greater with minimum of two stakes per square yard, using 6" minimum nursery grade bamboo stakes.
- I. Install a 24" diameter circular 'saucer' around all existing trees planted in areas to receive sod. Ensure that the trunk is in the center of the 'saucer'. Do not cut any roots or in any way injure or cause damage to trees.
- J. Water sod immediately after transplanting.
- K. Roll sod, except on pegged areas, with roller weighing not more than 150 lbs. per foot of roller width. Make two (2) passes or as required to provide a smooth, mowable surface without scalping.
- L. Water sod and soil to depth of 6" within four hours after rolling.

### **3.4 LAWN ESTABLISHMENT:**

- A. Watering:
  - 1. Keep sod moist during first week after planting.
  - 2. After first week, supplement rainfall to produce total of 1/2" per day until rooted.

### **3.5 CLEANUP:**

- A. Immediately clean up spills, soil, and conditioners from paved and finished surface areas. All sidewalks, walkways and paved surfaces to be used for pedestrians shall be washed to remove soil, grass, debris, etc. that resulted from sodding.

- B. Remove debris, pallets and excess materials from project site within 24 hours of completion of sodding operations.

**END ITEM 02920**

## **ITEM 03100 – CONCRETE FORMWORK**

### **PART 1 - GENERAL**

#### **1.1 REFERENCED DOCUMENTS**

The Drawings and General Provisions of the Contract, including the General and Supplementary Conditions and Division 1 Specification Sections, apply to work specified in this Section.

#### **1.2 DESCRIPTION OF WORK**

A. Work Included: Furnished all labor, materials, services, equipment, and appliances required in conjunction with the design, fabrication and erection of formwork for cast-in-place concrete complete, including but not limited to, the following:

1. Wood or metal forms.
2. Shores and reshoring.
3. Installation in formwork of items furnished by other trades.

B. The extent of formwork is indicated by cast-in-place concrete structures shown on the Drawings.

#### **1.3 QUALITY ASSURANCE**

A. The latest edition of all standards referenced in this Section shall apply, unless noted otherwise.

B. Referenced Standards: American Concrete Institute (ACI); "Recommended Practice for Concrete Formwork" (ACI 347).

C. Design of Forms and Falsework: All forms, shores, falsework, bracing, and other temporary supports shall be engineered by the Contractor to support all loads imposed during construction, including; weight of construction temporary imbalance or discontinuity of building components. It is also the Contractor's responsibility to determine when temporary supports and bracing may be safely removed.

D. Allowable Tolerances: Construct formwork to provide completed cast-in-place concrete surfaces complying with tolerances as follows:

1. Variations from plumb in lines and surfaces of walls: One-fourth (1/4) inch in any ten (10) feet of length, but not more than one (1) inch.
2. Variation in footings plan dimensions: Minus one-half (1/2) inch to plus two (2) inches; misplacement or eccentricity: 2% of the footing width in direction of misplacement, but not more than two (2) inches; thickness reduction; minus 5% thickness.
3. Checking Formwork:
  - a. Before concrete placement, check lines and levels of erected formwork. Make corrections and adjustments to insure proper size and location of concrete members and stability of forming systems.
  - b. During concrete placement, check formwork and related supports to insure that forms are not displaced and that completed work will be within specified tolerances.

## 1.4 SUBMITTALS

Product Data: Submit copies of manufacturers' product data and installation instructions for proprietary materials including release agents, manufactured form systems, ties, and accessories.

## 1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

Deliver, store, and handle form materials in conformance with manufacturers' printed instructions. Store materials that are subject to damage by the elements, under cover and off the ground.

## 1.6 JOB CONDITIONS

Coordinate formwork with work of other trades. Give other trades ample lead time for installation of their work.

## PART 2 - PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

1. Formwork and Accessories:
  - a. The Burke Co.
  - b. Gates and Sons
  - c. Hohmann and Barnard, Inc.
  - d. Superior Concrete Accessories, Inc.
  - e. Williams Form Engineering Corp.

### 2.2 FORM MATERIALS

A. Forms of Exposed Finish Concrete:

1. Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood-faced or other panel type materials to provide as cast surfaces. Furnish in largest sizes to minimize number of joints and to conform to a regular joint pattern. Provide form material with sufficient thickness to withstand pressure of placed concrete without bow or deflection beyond allowable tolerances. Joints shall be made tight and strongly backed so that edges of adjoining formwork will remain flush and true. Unsightly joint marks will not be permitted.
2. Wood forms for exposed concrete surfaces indicated to be smooth shall be constructed of Commercial Standard Douglas Fir, moisture-resistant, concrete form plywood, not less than five (5) ply, and at least nine-sixteenths (9/16) inch thick, with one (1) smooth face, or shall be forms with linings of one (1) of the following types:
  - a. Plywood: Commercial Standard Douglas Fir, concrete form, exterior, three (3) ply, not less than one-fourth (1/4) inch thick, having one (1) smooth face.
  - b. Fiberboard: Treated, hard pressed fiberboard having a low degree of water absorptivity, not less than three-sixteenths (3/16) inch thick, with one (1) smooth face.

3. Board-form Finish Concrete (if applicable): Line inside of concrete form plywood with 3/8" thick T-111 plywood (artificial board from finish plywood) with ribbing at 4" on center. Align T-111 plywood to that finish is plumb. Where two pieces of T-111 plywood abut, assure spacing of ribbing at 4" o.c. is maintained.
- B. Form for Unexposed Concrete Surfaces:
1. Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal, or other acceptable material. Use lumber that is dressed on at least two (2) edges and one (1) side for tight fit.
  2. Wood forms for unexposed concrete surfaces shall be built of No. 2 Common Southern Yellow Pine lumber or other material of equal qualifications (subject to the approval of the Architect), or sufficient thickness to sustain the loads imposed thereon, dressed to uniformly smooth contact surfaces, and so constructed as to be readily removable.
- C. Form Ties: Provide factory-fabricated, adjustable length, removable or snap-off metal form ties, designed to prevent deflection, and to prevent spalling concrete surfaces upon removal.
1. Unless otherwise shown, provide ties so that portion remaining within concrete, after removal of exterior parts, are at least one (1) inch from outer concrete surface. Unless otherwise indicated, provide form ties which will leave a hole not larger than one (1) inch diameter in concrete surface.
- D. Form Coating: Provide a commercially formulated release agent that will not bond with, stain, nor adversely affect concrete surfaces; will not impair subsequent treatment of concrete surfaces requiring bond or adhesion, nor impede wetting of surfaces to be cured with water or curing compounds.

## 2.3 DESIGN OR FORMWORK

- A. The design and engineering of the formwork, as well as its construction, shall be the responsibility of the Contractor. All concrete members shall be adequately shored to safely support all loads and lateral pressures outlined in "Recommended Practice for Concrete Formwork" (ACI 347) without distortion, excessive deflection or other damage. All necessary forms, centering, shores and molds shall be built to conform to the shapes, lines and dimensions of the various members of concrete construction, as shown or scheduled on the Drawings. They shall be sufficiently tight and to substantially assembled as to prevent bulging, or the leakage of cement paste. All forms shall be assembled to facilitate their removal without concrete surfaces which will not leave unsightly or objectionable form marks in exposed concrete surfaces. Lumber, once used as forms, shall have all contact surfaces thoroughly cleaned before reuse.
- B. Design, erect, support, brace, and maintain formwork so that it will safely support vertical and lateral loads to ground by formwork system and in-place construction that has attained adequate strength for that purpose.
- C. Design forms and falsework to include assumed values of live load, dead load, weight of moving equipment operated on formwork, ambient temperature, foundation pressures, stresses, lateral stability, and other factors pertinent to safety of structure during construction.
- D. Design formwork to be readily removable without impact, shock, or damage to cast-in-place concrete surfaces and adjacent materials.
- E. Side forms of footings may be omitted and concrete placed directly against excavation only when requested by Contractor in writing and accepted by Architect. When forms are omitted, provide additional concrete required beyond the minimum design profiles and dimensions of the footings as indicated.

## **PART 3 - EXECUTION**

### **3.1 FORM CONSTRUCTION**

- A. General: Construct forms to sizes, shapes, lines, and dimensions shown, and as required to obtain accurate alignment, location, grades, level, and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, reglets, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages, inserts, and other features required. Use selected materials to obtain required finishes.
- B. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete. Kerf wood inserts for forming keyways, reglets, recesses and the like, to prevent swelling and assure ease of removal.
- C. Provide temporary openings in the bottom of all walls and other locations where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Brace temporary closures and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms in as inconspicuous location as possible, consistent with project requirements.
- D. Form intersecting planes to provide true, clean-cut corners, with edge grain of plywood not exposed as form for concrete.
- E. Falsework: Erect falsework and support, brace, and maintain it to safely support vertical, lateral and asymmetrical loads applied, until such loads can be supported by in-place concrete structures.
- F. Provide shores and struts with positive means of adjustment, capable of taking up formwork settlement during concrete placing operations, using wedges or jacks or a combination thereof. Provide trussed supports when adequate foundations for shores and struts cannot be secured.
- G. Forms for Exposed Concrete: Drill forms from contact face to outside, to suit ties used and to prevent leakage of concrete mortar around tie holes. Do not splinter forms by driving ties through improperly prepared holes.
  - 1. Do not use metal cover plates for patching holes or defects in forms.
  - 2. Provide sharp, clean corners at intersecting planes, without visible edges or offsets. Back joints with extra studs or girts to maintain true, square intersections.
  - 3. Use extra studs, walers, and bracing to prevent bowing of forms between studs and to avoid bNv.

**END ITEM 03100**



## **ITEM 03200 – CONCRETE REINFORCEMENT**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

- A. The work included in this section of the Specifications shall consist of furnishing and installing reinforcing steel bars, wire fabric and accessories for cast-in-place concrete.

#### **1.2 RELATED WORK AND SPECIFICATIONS**

- A. Section 03100 - Concrete Formwork.
- B. Section 03300 - Cast-in-Place Concrete.

#### **1.3 REFERENCES**

- A. ACI 301-99 - Structural Concrete for Buildings.
- B. ACI 350/350R-06 – Code Requirements for Environmental Engineering Concrete Structures and Commentary.
- C. ACI 315-99 - Manual of Standard Practice for Detailing Reinforced Concrete Structures.
- D. ANSI/ASTM A82-97 A - Cold Drawn Steel Wire for Concrete Reinforcement.
- E. ANSI/ASTM A185-97 - Welded Steel Wire Fabric for Concrete Reinforcement.
- F. SP-66-88 - ACI Detailing Manual.
- G. ANSI/ASTM A496-97 - Deformed Steel Wire Fabric for Concrete Reinforcement.
- H. ANSI/ASTM A497-99 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
- I. ANSI/AWS D1.4 - Structural Welding Code for Reinforcing Steel.
- J. ANSI/AWS D12.1 - Reinforcing Steel Welding Code.
- K. ASTM A615-96a - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- L. CRSI - Concrete Reinforcing Steel Institute Manual of Practice.
- M. CRSI 63 - Recommended Practice For Placing Reinforcing Bars.
- N. CRSI 65 - Recommended Practice For Placing Bar Supports, Specifications and Nomenclature.

#### **1.4 SUBMITTALS**

- A. Submittals shall meet the requirements of Section 01301, Contractor's Submittals.
- B. Indicate bar sizes, spacings, locations, and quantities of reinforcing steel, bending and cutting schedules, supporting and spacing devices, and joint and splice locations.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Comply with ACI 315.
- E. Manufacturer's specifications and installation instructions for all proprietary products, including sleeves for welded splices.

#### **1.5 QUALITY ASSURANCE**

- A. Perform work in accordance with referenced standards. Submit certified copies of mill test report of reinforcement materials analysis.

#### **1.6 COORDINATION**

- A. Coordinate work with other trades, placement of formwork, formed openings and other work.

## **PART 2 - PRODUCTS**

### **2.1 REINFORCEMENT**

- A. Reinforcing Bars: New, deformed billet steel conforming to ASTM A615, Grade 60 for nonweldable bars and ASTM A706-96b, Grade 60 for weldable bars.
- B. Welded Wire Fabric: ASTM A185 for smooth wire and ASTM A457 for deformed wire.

### **2.2 ACCESSORY MATERIALS**

- A. Tie Wire: Minimum 16-gage annealed type.
- B. Supports for Reinforcement: Conform to CRSI 63.
- C. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent settling or vapor barrier puncture.
- D. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel or stainless steel type, size and shape as required.
- E. Splices
  - 1. Mechanical Connections:
    - a. Compression: Gateway Building Products "G-Loc" or approved equivalent.
    - b. Tension: Lenton Anchor or approved equivalent. Connection device shall develop 125 percent of yield strength of bar.

### **2.3 FABRICATION**

- A. Fabricate concrete reinforcing in accordance with CRSI Manual of Practice. Locate reinforcing splices not indicated on Plans at point of minimum stress. Review location of splices with ENGINEER.

## **PART 3 - EXECUTION**

### **3.1 PLACEMENT**

- A. Place, support and secure reinforcement against displacement by means of accepted spacers, chairs or hangers. Do not deviate from required position.
- B. Do not displace or damage vapor barrier.
- C. Accommodate placement of formed openings.
- D. Conform to AC1 350 code for concrete cover over reinforcement. Concrete surfaces in contact with liquids shall have 2-inch cover.
- E. Clean reinforcement to remove loose rust, mill scale, oil, earth, ice, and other materials which might reduce or destroy bond with concrete.

### **3.2 FIELD QUALITY CONTROL**

- A. Concrete shall not be placed until reinforcing steel is inspected by resident engineer. All concrete placed in violation of this provision may be rejected. The CONTRACTOR shall give resident engineer 24-hour notice after completion of reinforcement placement prior to placement of concrete.

**END ITEM 03200**

## **ITEM 03300 – CAST-IN-PLACE CONCRETE**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

- A. Concrete walls and footings.

#### **1.2 QUALITY ASSURANCE**

- A. Reference Standards (most recent Editions of the following):

- ACI-301 : Specification for Structural Concrete for Buildings.
- ACI-304 : Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- ACI-305 : Recommended Practice for Hot Weather Concreting.
- ACI-306 : Recommended Practice for Cold Weather Concreting.
- ACI-318 : Building Code Requirements for Reinforced Concrete.
- ASTM-C31 : Standard Method of Making and Curing Concrete Test Specimens in the Field.
- ASTM-C33 : Standard Specification for Concrete Aggregates.
- ASTM-C39 : Standard Method of Test for Compressive Strength of Cylindrical Concrete Specimens.
- ASTM-C94 : Standard Specification for Ready Mixed Concrete.
- ASTM-C143 : Standard Method of Test for Slump of Portland Cement Concrete.
- ASTM-C150 : Standard Specification for Portland Cement.
- ASTM-C172 : Standard Method of Sampling Fresh Concrete.
- ASTM-C173 : Standard Method of Test for Air Content of Freshly Mixed Concrete by the Volumetric Method.
- ASTM-C260 : Standard Specification for Air Entraining Admixtures.
- ASTM-C494 : Specification Chemical Admixtures in Concrete.

- B. Tolerances: In accord with Section 4.3 of ACI-301.

- C. All concrete cast is to conform to the requirements of ACI-301 and ACI-318.

#### **1.3 JOB CONDITIONS**

- A. Cold Weather: Place concrete only when outside temperature is 40 degrees and rising unless suitable means are provided for maintaining the concrete at minimum 50 degrees temperature for seven (7) days. Review ACI-306 for other requirements.

- B. Hot Weather: Placement.

1. Do not use concrete with a placing temperature that will cause difficulty from loss of slump, flash set, or cold joints.
2. Maintain a concrete temperature during placement of less than 90 degrees Fahrenheit.
3. Wet forms and steel thoroughly prior to placement of concrete.
4. Review ACI-305 for other requirements.

#### **1.4 INSPECTION OF REINFORCING STEEL AND CONCRETE PLACING**

Before any concrete is poured on any particular portion of project, reinforcing steel will be reviewed by the Landscape Architect. Correct any errors or discrepancies before concrete is placed. The Landscape

Architect shall be present anytime concrete is placed. Such review shall not relieve the Contractor from his responsibility to comply with the Contract requirements.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

#### **A. Aggregate for Concrete:**

1. Fine aggregate shall be clean, hard durable, uncoated natural sand, free from silt loam and clay conformed to ASTM-C33.
2. Coarse aggregate shall be clean, Bridgeport Limestone, no river rock will be acceptable, conforming to ASTM-C33. Gradation shall conform to Size Number 67 (3/4") in Table II for all walls and slabs.

**Grading Requirements for Coarse Aggregates**

Size No.	Nominal Size (Sieves with Square Openings)	Amounts Finer than Each Laboratory Sieve (Square Openings), Mass Percent													1.18mm (No. 16)	300µm (No. 50)
		100mm (4 in)	90mm (3.5 in)	75mm (3 in)	63mm (2.5 in)	50mm (2 in)	37.5mm (1.5 in)	25mm (1 in)	19mm (3/4 in)	12.5mm (1/2 in)	9.5mm (3/8 in)	4.75mm (No. 4)	2.36mm (No. 8)			
1	90 to 37.5 mm (3.5 to 1.5 in.)	100	90 to 100		25 to 60		0 to 15		0 to 5							
2	63 to 37.5mm (2.5 to 1.5in)			100	90 to 100	35 to 70	0 to 15		0 to 5							
3	50 to 25mm (2 to 1in)				100	90 to 100	35 to 70	0 to 15		0 to 5						
357	50 to 4.75mm (2 to No. 4)				100	95 to 100		35 to 70		10 to 30		0 to 5				
4	37.5 to 19mm (1.5 to 3/4in)						90 to 100	20 to 55	0 to 15		0 to 5					
467	37.5 to 4.75mm (1.5 to No. 4)						95 to 100		35 to 70		10 to 30	0 to 5				
5	25 to 12.5mm (1 to 1/2in)						100	90 to 100	20 to 55	0 to 10	0 to 5					
56	25 to 9.5mm (1 to 3/8in)						100	90 to 100	40 to 85	10 to 40	0 to 15	0 to 5				
57	25 to 4.75mm (1 to No. 4)						100	95 to 100		25 to 60		0 to 10	0 to 5			
6	19 to 9.5mm (3/4 to 3/8in)							100	90 to 100	20 to 55	0 to 15	0 to 5				
<b>67</b>	<b>19 to 4.75mm (3/4 to No. 4)</b>							<b>100</b>	<b>90 to 100</b>		<b>20 to 55</b>	<b>0 to 10</b>	<b>0 to 5</b>			
7	12.5 to 4.75mm (1/2 to No. 4)								100	90 to 100	40 to 70	0 to 15	0 to 5			
8	9.5 to 2.36mm (3/8in to No. 8)									100	85 to 100	10 to 30	0 to 10	0 to 5		
89	9.5 to 1.18mm (3/8in to No. 16)									100	90 to 100	20 to 55	5 to 30	0 to 10	0 to 5	
9 <sup>A</sup>	4.75 to 1.18mm (No. 4 to No. 16)										100	85 to 100	10 to 40	0 to 10	0 to 5	

- B. Cement: For all concrete work shall be Portland Cement STM-C150, Type I.
- C. Water: Use potable water.

## **2.2 CONCRETE PROPERTIES**

- A. Strength of Concrete: Allowable stresses for the design of cast-in-place concrete members for the structures are based on the specified minimum compressive strength of the concrete at 28 days or the earlier age at which the concrete may be expected to receive its full load.
  - 1. Concrete for footings and piers shall develop 3,000 psi at 28 days.
- B. The seven (7) day compressive strength shall exceed 60% of the 28 day design strength.

## **PART 3 - EXECUTION**

### **3.1 MIXING AND TRANSPORTING**

- A. Mix and transport ready-mix concrete in accordance with ASTM-C94 and ACI-304.
- B. Arrange and maintain delivery schedule so that concrete is not allowed to stand in trucks for more than 45 minutes when temperature is over 80 degrees Fahrenheit and 60 minutes when temperature is less than 80 degrees Fahrenheit.
- C. Delivery tickets shall indicate the date and time of dispatch, the strength of concrete in the load, the quantity of cement per cubic yard and the type and quantity of admixture used.

### **3.2 PLACING CONCRETE**

- A. Notify the Landscape Architect of all placements of concrete sufficiently in advance to allow for review of formwork, reinforcing and imbedded items.
- B. Construction Joints: Location of construction joints shall be subject to approval of the Landscape Architect. Reinforcing steel shall be continuous through the joints. Construction joints in beams shall have additional reinforcing to that scheduled for the member. Quantity of additional reinforcing shall be 0.5% of the cross-sectional area of the concrete member and shall extend 40 bar diameters on each side of the joint.
- C. Depositing Concrete: Convey to and place concrete in the forms by a method that will prevent segregation of materials. The free fall of concrete dumped or chuted into place shall not exceed three (3) feet. Spreading of concrete by means of hoes or shovels shall not exceed six (6) feet from the location of deposit.

### **3.3 CURING AND PROTECTION**

- A. Protect all freshly placed concrete from washing by rain, flowing water, etc. Do not allow the concrete to dry out from the time it is deposited in the forms until the expiration of the curing period hereinafter specified. The methods of curing shall be as specified in the following paragraphs:
  - 1. Concrete surfaces, not otherwise specified, shall be cured by being kept wet with clean water for a period of not less than seven (7) days after placing. Each day the forms are left in place, and kept wet enough to prevent the opening of joints in the forms and the drying out of the concrete, will be counted as one (1) day of curing.

2. Floors and other similar flat finished surfaces shall be cured by covering the entire surface, as soon as practical after finishing, with waterproof paper, laid with four inch (4") lapped joints. The joints shall be covered with gummed tape or be glued with waterproof glue. Such covering shall remain in place until completion of the building, except on surfaces where ceramic tile is to be applied, in which cases the covering shall be removed before a period of at least seven (7) days has elapsed after the placing and finishing of the concrete.
3. In lieu of the wetting of the waterproof paper specified above, the Contractor may use appropriate liquid curing compounds at locations identified as appropriate for use. Curing liquids, if used, shall be applied in accordance with manufacturer's written instructions and recommendations and shall not affect or alter the color, texture or finish of exposed concrete surfaces.

**END ITEM 03300**

## **PART 1 – GENERAL**

### **1.1 DOCUMENTS**

This section of the specification forms part of the Contract Documents and is to be read, interpreted and coordinated with all other parts of the document.

### **1.2 SCOPE**

The specification section applies only to the manufacture and supply of custom digital graphic images in Custom High Pressure Laminate.

### **1.3 DEFINITIONS**

#### **1.3.1 EXTERIOR GRADE CUSTOM HIGH PRESSURE LAMINATES**

Custom High Pressure Laminate material composed of required layers of phenolic resin impregnated brown kraft filler paper to produce specified thicknesses, surfaced by a layers of melamine overlay, graphics imaged on saturation grade paper with UV resistant pigment based process color inks, and with an optically clear UV overlay that will resist no less that 99% of all sunlight and UV rays, as well as provides a graffiti resistant surface that allows for removal with standard cleaners.

#### **1.3.2 MANUFACTURE**

For purposes of this specification, layers of material described in 1.3.1 are to be assembled, and heat / pressure consolidated at approximately 1200 PSI at temperatures exceeding 275° Fahrenheit at manufacturer's prescribed time frames.

All manufacturing processes of printing, pressing, machining, finishing and crating to be accomplished within a single stand alone manufacturing facility to ensure consistent quality control and providing standard product delivery times of three weeks.

#### **1.3.3 IMAGING / ARTWORK**

The graphic material and images are to be supplied by and under the supervision of the architect, designer or end user on this project. To include mechanicals, text, photographs, transparencies, film and other graphic source materials incorporated into digital graphic production artwork files in manufacturer's required file formats. All graphics must be assembled by computer designers familiar with and experienced in the process of digital printing and submitting production artwork files that meet the artwork requirements of the manufacturer.

#### **1.3.4 APPROVALS**

Approvals are the responsibility of the owner, end user, designer or architect at every stage of process and production as submitted by the manufacturer to the above. Work shall not proceed without receipt of written approval authorizations.

## **PART II - GENERAL REQUIREMENTS**

Supply Custom High Pressure Laminate panels as specified and shown on the drawings and supplemental specifications, as approved by the architect, designer or end user before fabrication.

### **2.1 REFERENCES**

Manufacturer shall provide references from a minimum of four (4) customers with projects of similar scope and size and whom have used their service in the past two years and achieved the satisfaction of end user/architect/designer.

### **2.2 RELATED WORK**

Related work shall be carried out by a qualified contractor specializing in such scope of work and as approved by the end user/architect/designer.

## **2.3 INSTALLATION**

Shall be performed in a workmanlike fashion consistent with standard industry practices and per approved fabrication shop drawings related to installation of Custom High Pressure Laminate and conforming to NEMA – LD3. Prime Project Fabrication Contractor shall provide all necessary shop drawings, manufacturing specifications and installation instruction to manufacturer and respective installation resources.

## **2.4 INSTALLATION MATERIALS**

As specified and detailed in approved shop drawings provided by the Prime Project Fabrication Contractor.

## **2.5 QUALIFICATION**

Manufacturer to illustrate a minimum of five (5) years previous experience with projects of similar size and scope.

## **2.6 SUBMITTALS AND SAMPLES**

Custom High Pressure Laminate manufacturer must supply project specific electronic PDF proofs for content approval and minimum 8" x 10" x .060" actual material lab samples for color and finish approval from production ready digital art work and specifications as provided by end user/architect/designer.

## **2.7 QUALITY ASSURANCE**

Quality of entire project must conform to specification and bid submittals as approved by end user/architect/designer.

Quality assurance to be provided by all printing, pressing, machining, finishing and crating of project products to be accomplished within a single stand alone manufacturing facility.

### **2.7.1 EXPERIENCE**

Manufacturer's craftsmen shall have a minimum of two years proven experience in this field of work and be approved by the end user/architect/designer for this type of work.

### **2.7.2 EVIDENCE OF EXPERIENCE**

Submit evidence of having successfully completed two projects of similar scope to this bid within the preceding two years.

### **2.7.3 SAMPLE SUBMITTAL**

Provide project specific sample submittal for approval by end user/architect/designer with this bid to indicate color matching and graphic resolution capability. All technical details contained in the submittal and color management to be treated as strictly confidential.

## **2.8 ENVIRONMENTAL**

Manufacturer must be able to demonstrate compliance with all worker's safety and environmental regulations at specific location of manufacture.

Product to be assembled utilizing only FSC certified brown kraft paper.

Product to include a minimum of 5% Post Consumer Recycled Kraft Paper in product layup. Manufacturer to provide written confirmation and materials procurement back up of such recycled content inclusion. Meets LC50 Pittsburgh Protocol Toxicity Test. Equal to and no more toxic than wood or paper.

## **2.9 WARRANTY**



Provide a written warranty issued in the name of the owner and authorized by the Manufacturer stating that the Custom High Pressure Laminate panels are warranted for exterior durability for ten (10) years against fading, delaminating or other material defect from date of substantial completion. Warranty is not to be pro rated.

## **2.10 ACCEPTABLE MANUFACTURER**

iZone Imaging  
2526 Charter Oaks Drive, Suite 100  
Temple, Texas 76502  
Toll Free: 888.464.9663  
Tel: 254.778.0722  
Fax: 254.778.0938  
lzoneimaging.com

## **PART III - MANUFACTURING PROCESS**

### **3.1 CUTTING AND SHAPING**

All fabrication tools used in shaping and cutting of custom high pressure compact laminate panels must be carbide-tipped. Precision machining to be completed utilizing computer assisted cutting equipment with tooling, feed rates and spindle RPM as required for smooth mill finish edges. When used, saw blades must be no less than 10" diameter, hollow ground, 60-80 tooth, carbide tipped, running at a minimum of 3600 rpm. All cutting and shaping must be conducted in the same facility as all other manufacturing processes. The finished product will be smooth on all edges, and machined within a tolerance of +/-1/16" to size specified for final installation.

### **3.2 SURFACE FINISH**

Provide surface finish to match the Manufacturer's standard finishes of Ice, Matte or Satin and as specified in project design specifications. Continuity of panel surfaces: Visual inspection of each panel shall reveal no visible nicks or cuts, hairline cracks, blemishes or surface defects in the surface of the finished panel.

## **PART IV - ART AND IMAGING**

### **4.1 ART PREPARATION**

Manufacturer shall produce panels from digital production art files as supplied by the end user/architect/designer. Designated resource supplying production ready artwork files will review files and prepared per Manufacturer's artwork requirements for digital image processing. Artwork submitted to Manufacturer shall be in required file format, and stored on a commonly available removable storage media, such as memory stick, DVD or CD or may be uploaded to Manufacturer's FTP site.

### **4.2 ART APPROVALS**

All files to be reproduced in custom High Pressure Laminate shall be submitted to the end user/architect/designer in electronic PDF Proof format for content approval and a minimum 8" x 10" x .060" actual material lab sample submitted for color and finish approval prior to production in Custom High Pressure Laminate.

### **4.3 ORIGINAL ARTWORK**

Original artwork provided for use in production shall not be harmed in any way (writing, cutting, etc.) and will be returned to the end user/architect/designer upon successful completion and acceptance of the project.

### **4.4 DIGITAL IMAGING**

Digital imaging shall be printed on Manufacturer's required saturation grade substrate for inclusion in lamination process and will be of even color consistency throughout the image. All imaging shall be reproduced using UV stable pigmented inks at a resolution of no less than 300 DPI and up to 2400DPI. (Dots per Inch).

### **4.5 IMAGING INKS**

Imaging inks used in the printing process shall be UV resistant. The imaging inks shall be pigment based aqueous inks to assure maximum durability with minimal environmental impacts.

**4.6 TECHNICAL PROFICIENCY**

Manufacturer shall employ printing technicians proficient in industry standard imaging techniques and be able to demonstrate capabilities in photographic reproduction, including halftones, duotones, four-color process and line art.

**4.7 COLOR MATCHING**

Manufacturer shall be able to match nearly the entire range of colors as represented by the Pantone Matching System (PMS) and Toyo Inks, etc. Material lab color samples are to be provided for approval of color and finish prior to production.

**PART V - ASTM - MECHANICAL PERFORMANCE PROPERTIES**

These standards represent the minimum acceptable qualities as tested for Custom High Pressure Laminate materials.

Property	Grade Units	Values
Weight per square foot	1/4"	1.81 lb/sf
	1/2"	3.62 lb/sf
	3/4"	5.40 lb/sf
Flexural Strength	MPa (psi) MD, min	1.24 x 10 <sup>2</sup> (18000)
	MPa (psi) CD, min	8.27 x 10 <sup>1</sup> (12000)
Impact Strength	MM (in), min	1900 (75)
Tensile Strength	MPa (psi) MD, min	1.24 x 10 <sup>2</sup> (18000)
	MPa (psi) CD, min	8.27 x 10 <sup>1</sup> (12000)
Modulus Of Elasticity	MPa (psi) MD, min	1.10 x 10 <sup>4</sup> (1.6 x 10 <sup>6</sup> )
	MPa (psi) CD, min	9.65 x 10 <sup>3</sup> (1800)
iZone Imaging FR	ASTM E84	
Flame spread		15
Smoke Development		40
Rockwell Hardness	Rating, *min	70 (E Scale)
Dimensional Stability	%MD, max	0.3
	%CD, max	0.7
UV Resistance	Rating, *min	No change after 2000 hours
Boiling Water Resistance	Rating, *min	No Change after 2 hours

**PART VI - DELIVERY, TRANSPORT, AND RELATED**

**6.1 INSPECTION**

Prior to wrapping and crating, finished panels shall be inspected for blemishes, chips and flatness. Any panel not meeting the requirements of this specification shall be rejected and promptly replaced by Manufacturer at no additional cost.

**6.2 CLEANING**

All panels shall be cleaned in advance of packaging/crating.

**6.3 CRATING**

Custom High Pressure Laminate panels shall be packaged in a manner which completely enclose the panels from exposure to the environment or transport equipment. The crates shall be lined with packing material to prevent movement and protection of panels within the crates. Complete documentation of shipment to be provided including but not limited to; Packing List, Cleaning & Maintenance Instructions and Warranty Document

## **6.4 DELIVERY**

Delivery shall be the responsibility of the Manufacturer and all materials will be insured for the total value of the contents. The consignee must report any freight or other damage claims to the Manufacturer within 48 hours of receiving the crated panels.

## **PART VII - MAINTENANCE AND SERVICEABILITY**

### **7.1 MAINTENANCE**

Manufacturer's documentation covering the care, cleaning and maintenance of Custom High Pressure Laminate materials to be incorporated into project maintenance manuals to be provided with Manufacturer's product delivery.

## **PART VIII - INSTALLATION**

### **8.1 INSTALLATION**

Installation shall be the responsibility of the End User, Prime Fabrication Contractor, Designated Qualified Installation Subcontractor or under the direction of the General Contractor and as specified in the contract documents and specifications. All installation processes to be executed based on Prime Fabrication Contractor's approved shop drawings and specifications and/or in accordance with NEMA Standards Section LD 3-2005.

### **8.2 INSPECTION – CUSTOM HIGH PRESSURE LAMINATE PANELS**

Inspect completed panels for general workmanship including clarity of images, proper alignment of images on color separations, clean backgrounds, correct colors, appropriate thickness and verify all surfaces are free from blemishes and defects prior to installation.

### **8.3 ADHESIVES**

Apply only applicable and approved adhesives as shown in approved shop drawings, as provided by Prime Fabrication Contractor, and/or NEMA LD3. All surfaces to be cleaned and prepared per adhesives manufacturer's instructions

### **8.4 CLEANING**

Clean completed panel surfaces with a soft cloth and any good quality glass cleaner. Abrasive cleaners should be avoided for long term usage.

### **8.5 INSPECTION - INSTALLATION**

Inspect installation site and coordinate installation schedule with end user/architect/designer representative.

**END ITEM 10425**

## **ITEM 16010 - BASIC ELECTRICAL REQUIREMENTS**

## **PART 1 - GENERAL**

### 1.1 RELATED DOCUMENTS

- A. Basic Requirements: The Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.
- B. General Provisions: Provide all labor, materials, equipment, and incidentals required to make ready for use complete electrical systems as specified herein and shown on the drawings.
- C. Provide and Install: The word "provide" where used on the Drawings or in the Specifications shall mean "furnish, install, mount, connect, test, complete, and make ready for operation". The word "install" where used on the Drawings or in the Specifications shall mean "mount, connect, test, complete, and make ready for operation". Perform work required by, and in accordance with, the Contract Documents.
- D. Installation: Provide and place in satisfactory condition, ready for proper operation, raceways, wires, cables, and other material needed for all complete electrical systems required by the Contract Documents. Additional raceways and wiring shall be provided to complete the installation of the specific equipment provided. Include auxiliaries and accessories for complete and properly operating systems. Provide electrical systems and accessories to comply with the NEC, state and local codes and ordinances. It is the intent of these Specifications that the electrical systems be suitable in every way for the use intended. Material and work which is incidental to the work of this Contract shall be provided at no additional cost to the Contract.
- E. Field Connections: Provide field connections to remote equipment and control panels provided under other Divisions of these Specifications. Provide raceway, wire, and interconnections between equipment, transmitters, local indicators, and receivers. Provide 120V and low voltage surge protection equipment in accordance with Section 16289 at equipment as required. Install field connections to "packaged" equipment provided under other Divisions of these Specifications.

### 1.2 SCOPE OF WORK

- A. General: Provide labor, materials, permits, inspections and re-inspection fees, tools, equipment, transportation, insurance, temporary protection, temporary power and lighting, supervision and incidental items essential for proper installation and operation of the Electrical systems indicated in the Contract Documents. Provide materials not specifically mentioned or indicated but which are usually provided or are essential for proper installation and operation of the Electrical systems indicated in the contract documents.
- B. Notices: Give notices, file Plans, pay fees, and obtain permits and approvals from authorities having jurisdiction. Include all fees in the Bid Price.

### 1.3 INTERPRETATION OF DRAWINGS

- A. General: The Drawings are diagrammatic and are not intended to show exact locations of Raceway runs, outlet boxes, junction boxes, pull boxes, etc. The locations of equipment, appliances, fixtures, Raceways, outlets, boxes and similar devices shown on the Drawings are approximate only. Exact locations shall be determined and coordinated in the field. The right is reserved to change, without additional cost, the location of any outlet within the same room or general area before it is permanently installed. Obtain all information relevant to the placing of electrical work and in case of interference with other work, proceed as directed by the Architect.
- B. Discrepancies: Notify the Architect of any discrepancies found during construction of the project. The Architect will provide written instructions as to how to proceed with that portion of work. If a conflict exists between the Contract Documents and an applicable code or standard, the most stringent requirement shall apply.
- C. Wiring: Each three-phase circuit shall be run in a separate Raceway unless otherwise shown on the Drawings. Unless otherwise accepted by the Architect, Raceway shall not be installed exposed. Where

circuits are shown as "home-runs" all necessary fittings, supports, and boxes shall be provided for a complete raceway installation.

- D. Layout: Circuit layouts are not intended to show the number of fittings, or other installation details. Connections to equipment shall be made as required, and in accordance with the accepted shop and manufacturer's setting drawings.
- E. Coordination: Coordinate final equipment locations with drawings or other disciplines. Layout before installation so that all trades may install equipment in available space. Provide coordination as required for installation in a neat and workmanlike manner.

#### 1.4 EQUIPMENT SIZE AND HANDLING

- A. Coordination: Investigate each space in the structure through which equipment must pass to reach its final location. If necessary, ship the equipment in sections of specific sizes to permit the passing through the necessary areas within the structure.
- B. Handling: Equipment shall be kept upright at all times. When equipment has to be tilted for ease of passage through restricted areas during transportation, the manufacturer shall be required to brace the equipment suitably, to insure that the tilting does not impair the functional integrity of the equipment.

#### 1.5 RECORD DRAWINGS

- A. Production: The Contractor shall provide two (2) sets of black or blue line on white drawings to maintain and submit record "As-Built Documents". Label each sheet of the Record Document set with "Project Record Documents" with company name of the installing contractor in stamped or printed letters. One set shall be maintained at the site and at all times be accurate, clear, and complete. These drawings shall be available at all times to the Architect's field representatives.
- B. Recording: Record information concurrent with construction progress. Make entries within 24 hours upon receipt of information. The "As-Built" drawings shall accurately reflect installed electrical work specified or shown on the Contract Documents.
- C. Completion: At the completion of the Work, transfer changes with a colored pencil onto the second set and submit to the Architect. The "As-Built" drawings shall be made available to the Architect to make the substantial completion punch list.
- D. Final: Upon Contractor's completion of the Engineer's final punch list, transfer all "As-Built" conditions and all requirements by the Engineer to a reproducible set of drawings and CAD files. Submit drawings and CAD disks for review and acceptance. The Contractor shall provide updated disks which include final As-Built conditions.

#### 1.6 ABBREVIATIONS

- A. Abbreviations: The following abbreviations or initials may be used:

A/C	Air Conditioning
AC	Alternating Current
ABV CLG	Above Ceiling
ADA	Americans with Disabilities Act
AF	Ampere Frame
AFF	Above Finished Floor
AFG	Above Finished Grade
AHU	Air Handler Unit
AIC	Amps Interrupting Capacity
AL	Aluminum
AMP	Ampere
ANSI	American National Standards Institute
ASA	American Standards Association
AT	Ampere Trip

ATS	Automatic Transfer Switch
AUX	Auxiliary
AWG	American Wire Gauge
BC	Bare Copper
BIL	Basic Impulse Level
BMS	Building Management System
BRKR or BKR	Breaker
CAB	Cabinet
C	Conduit or Raceway
CB	Circuit Breaker
CBM	Certified Ballast Manufacturers
CCTV	Closed Circuit Television
CKT	Circuit
CLEC	Clock Equipment Cabinet
CLG	Ceiling
CO	Conduit or Raceway Only
COAX	Coaxial Cable
COND	Conductor
CONN	Connection
CPU	Central Processing Unit
CRT	Cathode Ray Terminal (Video display terminal)
CT	Current Transformer
CU	Copper
CW	Cold Water
DC	Direct Current
DDC	Direct Digital Control
DEG	Degree
DISC	Disconnect
DO	Draw Out
DN	Down
DPST	Double Pole Single Throw
EMT	Electrical Metallic Tubing
EO	Electrically Operated
EOL	End of Line Resistor
EWC	Electric Water Cooler
FAAP	Fire Alarm Annunciator Panel
FACP	Fire Alarm Control Panel
FCU	Fan Coil Unit
FLA	Full Load Amperes
FM	Factory Mutual
GF	Ground Fault
GFCI	Ground Fault Circuits Interrupter
GND	Ground
HOA	Hand-Off-Automatic
HORIZ	Horizontal
HP	Horsepower
IC	Intercom
ICU	Intensive Care Unit
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IMC	Intermediate Metallic Raceway
IN	Inches
IT	Instantaneous Trip
IPCEA	Insulated Power Cable Engineers Association
JB	Junction Box
KCMIL	Thousand Circular Mills
KV	Kilovolt
KVA	Kilo-Volt-Amps
KW	Kilowatts
LBS	Pounds
LED	Light Emitting Diode

LT	Light
LTD	Long Time Delay
LTT	Long Time Trip
LTG	Lighting
MAX	Maximum
MCB	Main Circuit Breaker
MCC	Motor Control Center
MCP	Motor Circuit Protector
MIC	Microphone
MIN	Minimum
MLO	Main Lugs Only
MTD	Mounted
MTG	Mounting
MUX	Multiplex (Transponder) Panel
MVA	Mega Volt Amps
N	Neutral
NC	Normally Closed
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NIC	Not in Contract
NF	Non Fused
NL	Non Linear
NO	Number or Normally Open
#	Number
Ø	Phase
OL	Overload
OSHA	Occupational Safety and Health Administration
P	Pole
PB	Pullbox
PIV	Post Indicator Valve
PNL	Panel
PR	Pair
PWR	Power
PF	Power Factor
PRI	Primary
PT	Potential Transformer
PVC	Polyvinylchloride
REF	Refrigerator
RGC or GRC	Rigid Galvanized Raceway
RMS	Root-Mean-Square
RPM	Revolutions Per Minute
RECPT	Receptacle
SCA	Short Circuit Amps
SD	Smoke Detector
SEC	Secondary
S/N	Solid Neutral
SPKR	Speaker
SPST	Single Pole Single Throw
SST	Solid State Trip
ST	Short Time Trip
STD	Short Time Delay
SW	Switch
SWGR	Switchgear
SWBD	Switchboard
TEL	Telephone
TTB	Telephone Terminal Board
TTC	Telephone Terminal Cabinet
TVEC	Television Equipment Cabinet
TYP	Typical

UL	Underwriters Laboratories
UON	Unless Otherwise Noted
V	Volt
VFD	Variable Frequency Drive
VSD	Variable Speed Drive
W	Wire
WP	Weatherproof
XFMR	Transformer

## 1.7 CODES, FEES, AND STANDARDS

- A. Application: The codes, standards and practices listed herein generally apply to the entire project and specification sections. Other codes, standards or practices that are more specific will be referenced within a particular specification.
- B. Requirements: All materials and types of construction covered in the specifications will be required to meet or exceed applicable standards of manufacturer, testing, performance, and installation according to the requirements of UL, ANSI, NEMA, IEEE, and NEC referenced documents where indicated and the manufacturer's recommended practices. Requirements indicated on the contract documents that exceed but are not contrary to governing codes shall be followed.
- C. Compliance and Certification: The installation shall comply with the governing state and local codes or ordinances. The completed electrical installation shall be inspected and certified by applicable agencies that it is in compliance with codes.
- D. Applicability: The codes and standards and practices listed herein, and their respective dates are furnished as the minimum latest requirements.
  - 1. *State of TEXAS.*
  - 2. *Dallas County.*
  - 3. *City of Mesquite.*
- E. Utility Company: Comply with latest utility company regulations.
- F. Building Code:
  - 1. *International Building Code (2009) with City of Mesquite Amendments.*
  - 2. *International Energy Conservation Code (2009) with City of Mesquite Amendments.*
  - 3. *National Electrical Code (2009) with City of Mesquite Amendments.*
- G. Labels: Materials and equipment shall be new and free of defects, and shall be U.L. listed, bear the U.L. label or be labeled or listed with an approved, nationally recognized Electrical Testing Agency. Where no labeling or listing service is available or desired for certain types of equipment, test data shall be submitted to validate that equipment meets or exceeds available standards.

## 1.8 INVESTIGATION OF SITE

- A. General: Before commencing work, verify existing conditions at the premises including, but not limited to, existing structural frame, existing openings; existing wall and partition locations, existing mechanical and electrical work, equipment type, and examine adjoining work on which work is in anyway dependent.
- B. Responsibility: No waiver of responsibility for defective and inadequate work or additional cost as a result of existing conditions which should have been verified shall be considered unless notice of same has been filed by the Contractor and agreed to in writing by the Architect before the bid date.
- C. Site Renovation: Verify and coordinate existing site raceways and pipes at any excavation on site. Provide hand-digging and required rerouting in areas of existing Raceways and pipes within bid price.

## 1.9 SUPERVISION OF THE WORK



- A. Supervision: Provide one field superintendent who has had a minimum of four (4) years previous successful experience on projects of comparable sizes, type and complexity. The Superintendent shall be present at all times when work is being performed. At least one member of the Electrical Contracting Firm shall hold a State Master Certificate of Competency.

#### 1.10 COORDINATION

- A. General: Compare drawings and specifications with those of other trades and report any discrepancies between them to the Architect. Obtain from the Architect written instructions to make the necessary changes in any of the affected work. Work shall be installed in cooperation with other Trades installing interrelated work. Before installation, Trades shall make proper provisions to avoid interferences in a manner approved by the Architect.
- B. Provide all required coordination and supervision where work connects to or is affected by work of others, and comply with all requirements affecting this Division. Work required under other divisions, specifications or drawings to be performed by this Division shall be coordinated with the Contractor and such work performed at no additional cost to Owner including but not limited to electrical work required for:
  - 1. *Landscape Architect drawings*
  - 2. *Irrigation Drawings*
- C. Obtain set of Contract Documents from Owner's Authorized Representative or Contractor for all areas of work noted above and include all electrical work in bid whether included in Division 16 Contract Documents or not.
- D. Secure approved shop drawings from all required disciplines and verify final electrical characteristics before roughing power feeds to any equipment. When electrical data on approved shop drawings differs from that shown or called for in Construction Documents, make adjustments to the wiring, disconnects, and branch circuit protection to match that required for the equipment installed.
- E. Damage from interference caused by inadequate coordination shall be corrected at no additional cost to the Owner.
- F. Adjustments: Locations of raceway and equipment shall be adjusted to accommodate the work with interferences anticipated and encountered. Determine the exact routing and location of systems prior to fabrication or installation.
- G. Priorities: Lines which pitch shall have the right of way over those which do not pitch. For example, plumbing drains shall normally have the right of way. Lines whose elevations cannot be changed shall have the right of way over lines whose elevations can be changed.
- H. Modifications: Offsets and changes of direction in raceway systems shall be made to maintain proper headroom and pitch of sloping lines whether or not indicated on the drawings. Provide elbows, boxes, etc., as required to allow offsets and changes to suit job conditions.
- I. Replacement: Work shall be installed in a way to permit removal (without damage to other parts) of other system components provided under this Contract requiring periodic replacement or maintenance. Raceway shall be arranged in a manner to clear the openings of swinging overhead access doors as well as ceiling tiles.
- J. Layout: The Contract Drawings are diagrammatic only intending to show general runs and locations of raceway and equipment, and not necessarily showing required offsets, details and accessories and equipment to be connected. Work shall be accurately laid out with other Trades to avoid conflicts and to obtain a neat and workmanlike installation, which will afford maximum accessibility for operation, maintenance and headroom.
- K. Contract Conflicts: Where discrepancies exist in the Scope of Work as to what Trade provides items such as starters, disconnects, flow switches, etc. such conflicts shall be coordinated between the divisions

involved. It is the intent of the Contract Documents that all work shall be provided complete as one bid price.

- L. Drawing Conflicts: Where drawing details, plans or specification requirements are in conflict and where sizes of the same item run are shown to be different within the contract documents, the most stringent requirement shall be included in the Contract. Systems and equipment called for in the specification or as shown on the drawings shall be provided as if it was required by both the drawings and specifications. Prior to ordering or installation of any portion of work, which appears to be in conflict, such work shall be brought to Architect's attention for direction as to what is to be provided.
- M. It is the responsibility of this Contractor to coordinate the exact required location of floor outlets, floor ducts, floor stub-ups, etc. with Owner's Authorized Representative and Designer (and receive their approval) prior to rough-in. Locations indicated in Contract Documents are only approximate locations.
- N. The Contract Documents describe specific sizes of switches, breakers, fuses, Raceways, conductors, motor starters and other items of wiring equipment. These sizes are based on specific items of power consuming equipment (heaters, lights, motors for fans, compressors, pumps, etc.). Coordinate the requirements of each load with each load's respective circuitry shown and with each load's requirements as noted on its nameplate data and manufacturer's published electrical criteria. Adjust circuit breaker, fuse, Raceway, and conductor sizes to meet the actual requirements of the equipment being provided and installed and change from single point to multiple points of connection (or vice versa) to meet equipment requirements. Changes shall be made at no additional cost to the Owner.
- O. Working Clearances: Minimum working clearances about electrical equipment shall be as referenced in the applicable edition NEC Article 110, and shall include equipment installed in ceiling spaces.

#### 1.11 DEMOLITION

- A. General: Relocate existing equipment and reroute existing raceways in areas being renovated as required to facilitate the installation of the new systems. The Owner shall require continuous operation of the existing systems, while demolition, relocation work or new tie-ins are performed.
- B. Coordination: Prior to any deactivation, relocation or demolition work, arrange a conference with the Architect and the Owner's representative in the field to inspect each of the items to be deactivated, removed or relocated. Care shall be taken to protect equipment designated as being relocated and reused or equipment remaining in operation and integrated with the new systems.
- C. Provisions: Deactivation, relocation, and temporary tie-ins shall be provided by the Contractor. Demolition, removal and the legal disposal of demolished materials shall be provided by the Contractor.
- D. Owner's Salvage: The Owner reserves the right to inspect the material scheduled for removal and salvage any items he deems usable as spare parts.
- E. Phasing: The Contractor shall perform work in phases as directed by the Architect to suit the project progress schedule, as well as the completion date of the project.

## **PART 2 - PRODUCTS**

### 2.1 MATERIALS

- A. Specified Method: Where several brand names, make or manufacturers are listed as acceptable each shall be regarded as equally acceptable, based on the design selection but each must meet all specification requirements. Where a manufacturer's model number is listed, this model shall set the standard of quality and performance required. Where no brand name is specified, the source and quality shall be subject to Engineer's review and acceptance. Where manufacturers are listed, one of the listed manufacturers shall be submitted for acceptance. No substitutions are permitted.
- B. Certification: When a product is specified to be in accordance with a trade association or government standard requested by the Engineer, Contractor shall provide a certificate that the product complies with

the referenced standard. Upon request of Engineer, Contractor shall submit supporting test data to substantiate compliance.

- C. Basis of Bid: Each bidder represents that his bid is based upon the manufacturer's, materials, and equipment described in the Contract Documents.
- D. Space Requirements: Equipment or optional equipment shall conform to established space requirements within the project. Equipment which does not meet space requirements, shall be replaced at no additional expense to the Contract. Modifications of related systems shall be made at no additional expense to the Contract. Submit modifications to the Architect/Engineer for acceptance.
- E. Samples: Samples are to be submitted for items requested within Specification Sections to determine that the item meets specifications and requirements before being accepted for use on Project. Samples shall be submitted within 30 days after the award of the contract. Each sample shall be tagged, labeled, or marked, "Sample of ..... for (Project)". Accompany samples with copy, in duplicate of manufacturer's instructions regarding installation, and maintenance.

## 2.2 SHOP DRAWINGS

- A. General: Shop drawings shall be submitted for every item listed within the Submittals section each individual specification section. One copy shall be submitted to the engineer prior to ordering equipment. Refer to Basis of approval paragraph.
- B. Responsibility: It is the Contractors responsibility to provide material in accordance with the plans and specifications. Material not provided in accordance with the plans and specifications shall be removed and replaced at the Contractors expense.
- C. Official Record: The shop drawing submittal shall become the official record of the materials to be installed. If materials are installed which do not correspond to the record submittal they shall be removed from the project without any additional cost or delays in construction completion.
- D. Information: The shop drawing record submittal shall include the following information to the extent applicable to the particular item;
  - 1. *Manufacturer's name and product designation or catalog number.*
  - 2. *Standards or specifications of ANSI, ASTM, ICEA, IEEE, ISA, NEMA, NFPA, OSHA, UL, or other organizations, including the type, size, or other designation.*
  - 3. *Dimensioned plan, sections, and elevations showing means for mounting, raceway connections, and grounding, and showing layout of components.*
  - 4. *Materials and finish specifications, including paints.*
  - 5. *List of components including manufacturer's names and catalog numbers.*
  - 6. *Internal wiring diagram indicating connections to components and the terminals for external connections.*
  - 7. *Manufacturer's instructions and recommendations for installation, operation, and maintenance.*
  - 8. *Manufacturer's recommended list of spare parts.*
  - 9. *Provide 1/2" = 1'-0" enlarged electrical room layout drawings for all electrical rooms. All equipment shall be indicated at actual size of equipment being provided. All dimensions and required working clearances shall be shown.*
- E. Preparation: Prior to submittal, shop drawings shall be checked for accuracy and contract requirements. Shop drawings shall bear the date checked and shall be accompanied by a statement that the shop drawings have been examined for conformity to Specifications and Drawings. This statement shall also list discrepancies with the Specifications and Drawings. Shop drawings not so checked and noted shall be returned to Contractor unreviewed.
- F. Basis of Review: Approval is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Contractor is responsible for quantities, dimensions, fabrication processes, and construction techniques.

- G. Responsibility: The responsibility that dimensions are confirmed and correlated with proper coordination of other trades shall be included as part of the Contract Documents. The responsibility and the necessity of providing materials and workmanship required by the Specifications and Drawings which may not be indicated on the shop drawings shall be included as part of the Contract Documents. The Contractor is responsible for any delays in job progress occurring directly or indirectly from late submissions or re-submissions of shop drawings, product data, or samples.
- H. Ordering Equipment: No material shall be ordered or shop work started until the Engineer has officially received the shop drawings record submittal and has formally released the Contractor for submittal requirements.
- I. Brochure Requirements: Submit Technical Information Brochures at the start of construction or no later than 30 days after Award of the Contract. Each brochure shall consist of an adequately sized, hardcover, 3-ring binder for 8-1/2" X 11" sheets. Provide correct designation on outside cover and on end of brochure. When one binder is not enough to adequately catalog all data, an additional binder shall be submitted.
- J. Brochure Contents: First sheet in the brochure shall be a photocopy of the Electrical Index pages in these specifications. Second sheet shall be a list of Project Addresses for this project. Third sheet shall list Project Information. Provide reinforced separation sheets tabbed with the appropriate specification reference number and typed index for each section in the Electrical Schedule. Technical Information consisting of marked catalog sheets or shop drawings shall be inserted in the brochure in proper order on all items specified and shown on drawings. At the end of the brochure, provide and insert a copy of the specifications for this Division and all addenda applicable to this Division.
- K. Contractor's Review: Review the brochures before submitting to the Engineer. No request for payment shall be considered until the brochure has been reviewed, stamped and submitted for review.
- L. Cost: Submit cost breakdown on work in the Technical Information Brochures. The cost of material and labor for each item shall be indicated. The cost of fittings and incidentals are not required.
- M. Title Drawings: Title drawings to include identification of project and names of Architect-Engineer, Engineer, Contractors, and/or supplier, data, number sequentially and indicate in general;
1. *Fabrication and Erection dimensions.*
  2. *Arrangements and sectional views.*
  3. *Necessary details, including complete information for making connections with other work.*
  4. *Kinds of materials and finishes.*
  5. *Descriptive names of equipment.*
  6. *Modifications and options to standard equipment required by the contract.*
  7. *Leave blank area, size approximately 4 by 2-1/2 inches, near title block (for Engineer's stamp imprint).*
  8. *In order to facilitate review of shop drawings, they shall be noted, indicating by cross-reference the contract drawings, notes, and specification paragraph numbers where items occur in the contract documents.*
  9. *See specific sections of specifications for further requirements.*
- N. Technical Data: Submit technical data verifying that the item submitted complies with the requirements of the specifications. Technical data shall include manufacturer's name and model number, dimensions, weights, electrical characteristics, and clearances required. Indicate optional equipment and changes from the standard item as called for in the specifications. Provide drawings, or diagrams, dimensioned and in correct scale, covering equipment, showing arrangement of components and overall coordination.
- O. Same Manufacturer: In general, relays, contactors, starters, motor control centers, switchboards, panelboards, dry type transformers, disconnect switches, circuit breakers, manual motor starter switches, etc., shall be supplied and manufactured by the same manufacturer. This requirement shall apply to same type of electrical components specified in other Divisions.

## 2.3 EQUIPMENT, MATERIALS, AND SUPPORTS

- A. General: Each item of equipment or material shall be manufactured by a company regularly engaged in the manufacturer of the type and size of equipment, shall be suitable for the environment in which it is to be installed, shall be approved for its purpose, environment, and application, and shall bear the UL label.
- B. Installation Requirements: Each item of equipment or material shall be installed in accordance with instructions and recommendations of the manufacturer, however, the methods shall not be less stringent than specified herein.
- C. Required Accessories: Provide all devices and materials, such as expansion bolts, foundation bolts, screws, channels, angles, and other attaching means, required to fasten enclosures, raceways, and other electrical equipment and materials to be mounted on structures which are existing or new.
- D. Protection: Electrical equipment shall at all times during construction be adequately protected against mechanical injury or damage by the elements. Equipment shall be stored in dry permanent shelters. If apparatus has been damaged, such damage shall be repaired at no additional cost or time extension to the Contract. If apparatus has been subject to possible injury, it shall be thoroughly cleaned, dried out and put through tests as directed by the Manufacturer and Engineer, or shall be replaced, if directed by the Engineer, at no additional cost to the Contract.

#### 2.4 IDENTIFICATION OF EQUIPMENT

- A. General: Electrical items shall be identified as specified in the Contract Documents. Such identification shall be in addition to the manufacturer's nameplates and shall serve to identify the item's function and the equipment or system, which it serves or controls. Refer to Identification Section of the specifications for additional information.

#### 2.5 CONCRETE PADS

- A. General: Provide reinforced concrete pads for floor mounted electrical equipment. Unless otherwise noted, pads shall be nominal four (4) inches high and shall exceed dimensions of equipment being set on them, including future sections, by six (6) inches on all sides, except when equipment is flush against a wall, then the side or sides against the wall shall be flush with the equipment. Chamfer top edges 1/2". Trowel surfaces smooth. Reinforce pads with #5 reinforcing bars at 24" centers each way, unless specifically detailed on drawings.

#### 2.6 SURFACE MOUNTED EQUIPMENT

- A. General: Surface mounted fixtures, outlets, cabinets, panels, etc. shall have a factory-applied finish or shall be painted as accepted by Engineer. Raceways and fittings, where allowed to be installed surface mounted, shall be painted to match the finish on which it was installed. Paint shall be in accordance with other applicable sections of these specifications.

#### 2.7 CUTTING AND PATCHING

- A. Core Drilling: The Contractor shall be responsible for core drilling as required for work under this section, but in no case shall the Contractor cut into or weld onto any structural element of the project without the written approval of the Architect.
- B. Cutting and Patching: Cutting, rough patching and finish patching shall be provided as specified in the contract documents. Cutting and patching shall be performed in a neat and workmanlike manner. Upon completion, the patched area shall match adjacent surfaces.
- C. Openings and Sleeves: Locate openings required for work performed under this section. Provide sleeves, guards or other accepted methods to allow passage of items installed under this section.
- D. Roof Penetration: Provide roofer with pitch pans, fittings, etc., required for electrical items which penetrate the roof. Roof penetrations are to be waterproofed in such a manner that roofing guarantees are fully in force. Roof penetrations shall be coordinated with other Trades to ensure that roof warranty is not invalidated.

## 2.8 SLEEVES AND FORMS FOR OPENINGS

- A. Sleeves: Provide sleeves for Raceways penetrating floors, walls, partitions, etc. Locate necessary slots for electrical work and form before concrete is poured. Watertight sleeves shall be line seal type WS. Fire rated partition sleeves shall be mild steel. Sleeves shall be Schedule 40 PVC or galvanized rigid steel unless specifically noted otherwise. Size shall be one standard diameter larger than pipe being installed or of a larger diameter to below 1/4" minimum clearance.
- B. Forms: Provide boxed out forms for Raceway penetrations only where allowed by the Architect. Fill opening after Raceway installation, with equivalent material.

## 2.9 OPERATING AND MAINTENANCE INSTRUCTIONS

- A. General: Thoroughly instruct the Owner's Representative, to the complete satisfaction of the Architect and Engineer, in the proper operation of all systems and equipment provided. The Contractor shall make all arrangements, via the Architect, as to whom the instructions are to be given in the operation of the systems and the period of time in which they are to be given. The Architect shall be completely satisfied that the Owner's Representative has been thoroughly and completely instructed in the proper operation of all systems and equipment before final payment is made. If the Architect determines that complete and thorough instructions have not been given by the Contractor to the Owner's Representative, then the Contractor shall be directed by the Architect to provide whatever instructions are necessary until the intent of this paragraph of the Specification has been complied with.
- B. Submittals: Submit to the Architect for approval five (5) typed sets, bound neatly in loose-leaf binders, of instructions for the installation, operation, care and maintenance of equipment and systems, including instructions for the ordering and stocking of spare parts for equipment installed under this contract. The lists shall include part number and suggested suppliers. Each set shall also include an itemized list of component parts that should be kept on hand and where such parts can be purchased.
- C. Information Requirements: Information shall indicate possible problems with equipment and suggested corrective action. The manuals shall be indexed for each type of equipment. Each section shall be clearly divided from the other sections. A sub index for each section shall also be provided.
- D. Instructions: The instructions shall contain information deemed necessary by the Architect and include but not limited to the following:
  - 1. *Introduction:*
    - a. Explanation of Manual and its use.
    - b. Summary description of the Electrical Systems.
    - c. Purpose of systems.
  - 2. *System:*
    - a. Detailed description of all systems.
    - b. Illustrations, schematics, block diagrams, catalog cuts and other exhibits.
  - 3. *Operations:*
    - a. Complete detailed, step by step, sequential description of all phases of operation for all portions of the systems, including start up, shutdown and balancing. Include posted instruction charts.
  - 4. *Maintenance:*
    - a. Parts list and part numbers.
    - b. Maintenance and replacement charts and the Manufacturer's recommendations for preventive maintenance.
    - c. Trouble shooting charts for systems and components.
    - d. Instructions for testing each type of part.
    - e. Recommended list of on-hand spare parts.
    - f. Complete calibration instructions for all parts and entire systems.
    - g. General and miscellaneous maintenance notes.

5. *Manufacturer's Literature:*
  - a. Complete listing for all parts.
  - b. Names, addresses and telephone numbers.
  - c. Care and operation.
  - d. All pertinent brochures, illustrations, drawings, cuts, bulletins, technical data, certified performance charts and other literature with the model actually furnished to be clearly and conspicuously identified.
  - e. Internal wiring diagrams and Engineering data sheets for all items and/or equipment furnished under each Contract.
  - f. Guarantee and warranty data.

## 2.10 SERVICE AND METERING

- A. **Company:** The utility company serving this project is ONCOR which will be referred to as the Utility Company herein.
- B. **Service:** Make arrangements with the power company for obtaining a complete service. Pay charges and provide labor and material for the service. Service shall be obtained at 120/240 volts from the Utility Company. Provide underground cables and Raceways for incoming services from the utility's pad mounted transformer to distribution equipment. Provide Utility Company approved meter socket.
- C. **Fees:** Contact the Utility Company to determine if any fees, charges or costs will be due the Company, as required for temporary power, permanent power, installations, hook-ups, etc. This fee, charge or cost shall be included in the bid price.
- D. **Payment:** Pay for required licenses, fees and inspections. Include costs in the proposed construction cost submission. These costs shall include but not be limited to applicable taxes, permits, necessary notices, certificates and costs required to obtain same.
- E. **Codes:** Install a complete system in accordance with the latest edition of the National Electrical Code and the latest regulations of governing local, State, County and other applicable codes, including the Utility Company requirements.
- F. Provide transformer pad per Utility Company requirements.

## **PART 3 - EXECUTION**

### 3.1 WORKMANSHIP

- A. **General:** The installation of materials and equipment shall be performed in a neat, workmanlike and timely manner by an adequate number of craftsmen knowledgeable of the requirements of the Contract Documents. They shall be skilled in the methods and craftsmanship needed to produce a quality level of workmanship. Personnel who install materials and equipment shall be qualified by training and experience to perform their assigned tasks.
- B. **Acceptable Workmanship:** Acceptable workmanship is characterized by first-quality appearance and function, conforming to applicable standards of building system construction, and exhibiting a high degree of quality and proficiency which is judged by the Architect as equivalent or better than that ordinarily produced by qualified industry tradesmen.
- C. **Performance:** Personnel shall not be used in the performance of the installation of material and equipment who, in the opinion of the Architect, are deemed to be careless or unqualified to perform the assigned tasks. Material and equipment installations not in compliance with the Contract Documents, or installed with substandard workmanship and not acceptable to the Architect, shall be removed and reinstalled by qualified craftsmen, at no change in the contract price.

### 3.2 PROTECTION AND CLEAN UP

- A. Protection and Restoration: Suitably protect equipment provided under this Division during construction. Restore damaged surfaces and items to "like new" condition before a request for substantial completion inspection.
- B. Handling: Materials shall be properly protected and Raceway openings shall be temporarily closed by the Contractor to prevent obstruction and damage. Post notice prohibiting the use of systems provided under this Contract, prior to completion of work and acceptance of systems by the Owner's representative. The Contractor shall take precautions to protect his materials from damage and theft.
- C. Safeguards: The Contractor shall furnish, place and maintain proper safety guards for the prevention of accidents that might be caused by the workmanship, materials, equipment or systems provided under this contract.
- D. Cleanup: Keep the job site free from debris and rubbish. Remove debris and rubbish from the site and leave premises in clean condition on a daily basis.

### 3.3 SYSTEMS GUARANTEE

- A. General: Provide a one-year guarantee. This guarantee shall be by the Contractor to the Owner for any defective workmanship or material, which has been provided under this Contract at no cost to the Owner for a period of one year from the date of substantial completion of the System. The guarantee shall include lamps, for ninety days after date of Substantial Completion of the System. Explain the provisions of guarantee to the Owner at the "Demonstration of Completed System".

### 3.4 FINAL OBSERVATION

- B. General: Work shall be completed, and forms and other information shall be submitted for acceptance one week prior to the request for final observation of the installation.

### 3.5 SPECIAL CONSIDERATIONS

- C. Comply with special requirements imposed at site by Owner. This may include badging of employees, prohibition of smoking, special working hours, or special working conditions.



CERTIFICATE OF COMPLETED DEMONSTRATION MEMO

Note to Contractor: Do not submit this form at the time Technical Information Brochure is submitted. Submit five copies of information listed below for checking at least one week before scheduled completion of the building. After information has been accepted and inserted in each brochure, give the Owner a Demonstration of the Completed Electrical Systems and have the Owner sign five copies of this form. Provide one signed copy for each brochure. After this has been done, a written request for a final inspection of the System shall be made.

Re: \_\_\_\_\_  
(Name of Project)  
\_\_\_\_\_  
(Division Number and Name)

This memo is for the information of all concerned that the Owner has been given a Demonstration of the Completed Electrical Systems on the work covered under this Division. This conference consisted of the system operation, a tour on which all major items of equipment were pointed out, and the following items were given to the Owner;

- (a) Owner's copy of Technical Information Brochure containing approved submittal sheets on all items, including the following; (To be inserted in the Technical Information Brochure after the correct tab).
  - (1) Maintenance Information published by manufacturer on equipment items.
  - (2) Printed Warranties by manufacturers on equipment items.
  - (3) Performance verification information as recorded by the Contractor.
  - (4) Check-out Memo on equipment by manufacturer's representative.
  - (5) Written operating instructions on any specialized items.
  - (6) Explanation of the one-year guarantee on the system.
- (b) "As-Built" conditions as described in the record drawing specifications.
- (c) A demonstration of the System in Operation and of the maintenance procedures which shall be required.

\_\_\_\_\_  
(Name of General Contractor)

By: \_\_\_\_\_  
(Authorized Signature, Title & Date)

\_\_\_\_\_  
(Name of SubContractor)

By: \_\_\_\_\_  
(Authorized Signature, Title & Date)

Brochure, Instruction, Prints, Demonstration & Instruction in Operation Received:

\_\_\_\_\_  
(Name of Owner)

By: \_\_\_\_\_  
(Authorized Signature, Title, Date)

cc: Owner, Architect, Engineer, Contractor, Sub Contractor and General Contractor  
(List names as stated in cc: above)

**END ITEM 16010**

## **SECTION 16520 – LIGHTING FIXTURES AND LAMPS**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

This section specifies the furnishing and installation of lighting fixtures complete with lamps.

#### **1.2 REFERENCE STANDARDS**

- A. ANSI C78 - High-Intensity-Discharge Lamps.
- B. ANSI C82 - Lamp Ballasts.
- C. ANSI/UL 1029 - High-Intensity-Discharge Lamp Ballasts.
- D. ASTM A325 - Specification of High-Strength Bolts for Structural Steel Joints.
- E. NEMA FA 1 - Outdoor Floodlighting Equipment.
- F. NEMA LE 3 - Manual for High-Intensity-Discharge (H-I-D) Lamps.
- G. UL 57 - Electric Lighting Fixtures.

#### **1.3 APPLICABLE PROVISIONS**

Refer to Section 16010, Electrical General Provisions.

### **PART 2 - PRODUCTS**

#### **2.1 LIGHTING FIXTURES**

- A. General. Lighting fixtures are specified by type and manufacturer in the lighting fixture schedule on the drawings.
- B. Listings. UL 57 - Electric Lighting Fixtures.

#### **2.2 LAMPS**

- A. General. Provide lamps for lighting fixtures.
- B. Acceptable Manufacturers. General Electric, Osram, Sylvania. Where General Electric identification numbers are shown, equivalent lamps from listed manufacturers are acceptable.

#### **2.3 BALLASTS**

- A. General. Provide lighting fixture ballasts for fixtures that require them.
- B. Mercury and Metal Halide. Provide constant wattage ballasts with high power factor. Ballasts shall be suitable for operation in the ambient temperature range of 0° to 115°F. Ballasts shall be individually protected by line fusing within the fixture ballast compartment.
- C. Listings. High-Intensity-Density - UL 1029.
- D. Acceptable Manufacturers. Advance, Valmont, Jefferson, and the listed fixture manufacturer.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Fixtures must be completely wired and lamps installed. Lighting fixtures must be operating properly at final completion.
- B. Clean lamps, reflectors, lenses, and all exposed surfaces of fixtures after installation is complete. Touch up any marred surfaces to original condition.

**END ITEM 16520**

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