

SECTION 01610

APPROVED PRODUCTS LIST

PART I: GENERAL

1.1 GENERAL REQUIREMENTS

- A. Specify that materials and products that have been tested and approved for use in the City of Friendswood.
- B. No separate payment shall be made for items listed in this Section. Cost of items shall be included in the individual Bid item in Document 00300 – Unit Price Form.

1.2 REFERENCES

- A. CFTS – City of Friendswood Technical Specifications.
 - 1. Document 00300 – Unit Price Form.
 - 2. Section 01330 – Submittal Procedures.

1.3 SUBMITTALS

- A. Conform to requirements of Section 01330 – Submittal Procedures.

PART II: PRODUCTS

2.1 WATER PRODUCTS

- A. FIRE HYDRANTS [Steamer Nozzle four and one-eighth inches (4.125 In), pumper nozzle two and one-half inches (2.5 In), N.S.T. Thread].
 - 1. Mueller – Model: Centurion, Modern Centurion, Super Centurion.
 - 2. American Darling – Model B84-B or B-62-B.
- B. VALVES (AWWA Approved resilient Wedge Type).
 - 1. Mueller.
 - 2. American Darling.

C. BRASS GATE VALVES three –quarter inch (3/4 In) thru two inch (2 In).

1. Hammond.
2. Watts.
3. Red and White.
4. Matco Norca.

5. Eagle.
6. C and K.

D. CHECK VALVES

1. Swing Check.
2. Mueller.

E. POLYVINYL CHLORIDE (PVC) PIPE (AWWA C900).

1. J-M Pipe.
2. Certainteed.
3. Capco.

F. DUCTILE IRON PIPE (DIP) (AWWA C151, C150 and C600).

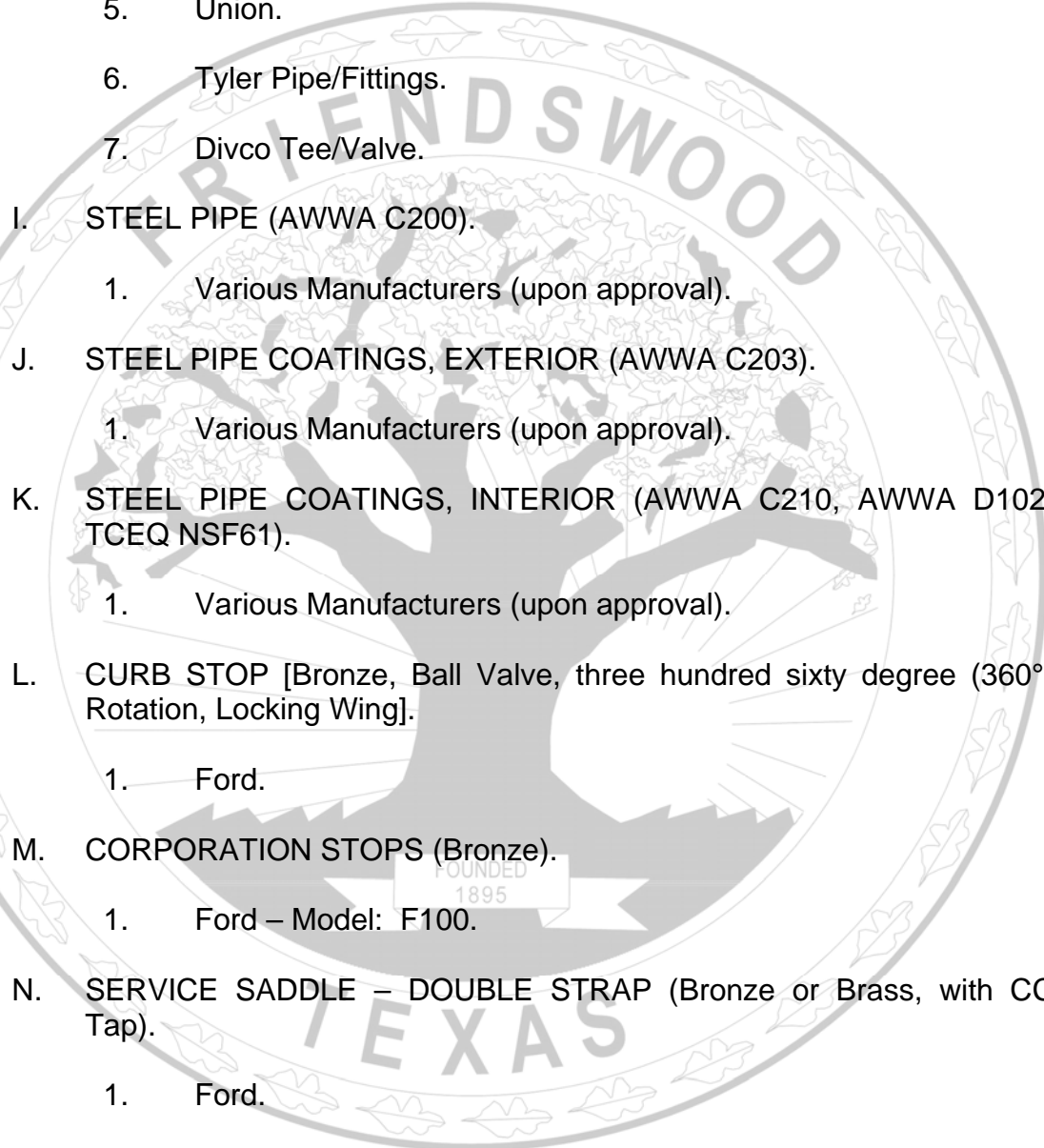
1. US Pipe.
2. American.
3. McWane.
4. Tyler Pipe.
5. Griffin.

G. DUCTILE IRON PIPE (DIP) COATINGS [AWWA C104 (ANSI A21.4)].

1. Various Manufacturers (upon approval).

H. FITTINGS [D.I.P., AWWA C153/A21.53.84, AWWA C110(ANSI 21.10)].

1. US Pipe.

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2. American.
 3. Star.
 4. Sigma.
 5. Union.
 6. Tyler Pipe/Fittings.
 7. Divco Tee/Valve.
 - I. STEEL PIPE (AWWA C200).
 1. Various Manufacturers (upon approval).
 - J. STEEL PIPE COATINGS, EXTERIOR (AWWA C203).
 1. Various Manufacturers (upon approval).
 - K. STEEL PIPE COATINGS, INTERIOR (AWWA C210, AWWA D102, TCEQ NSF61).
 1. Various Manufacturers (upon approval).
 - L. CURB STOP [Bronze, Ball Valve, three hundred sixty degree (360°) Rotation, Locking Wing].
 1. Ford.
 - M. CORPORATION STOPS (Bronze).
 1. Ford – Model: F100.
 - N. SERVICE SADDLE – DOUBLE STRAP (Bronze or Brass, with CC Tap).
 1. Ford.
 - O. SERVICE SADDLE – SINGLE STRAP (Stainless Steel, Epoxy Coated Inside).
 1. Romac.
 2. Smith Blair.

P. WATER METERS (AWWA Approved).

1. Sensus (Old Rockwell).

Q. SERVICE TUBBNG.

1. Plastic SDR9 Class 200 Polyethylene.

- a. Driscopipe.
- b. Continental.
- c. Orangeburg.

2. Copper.

- a. Mueller-Streamline.
- b. Holstaf.
- c. Wolverine.
- d. Cerro (Type K).

R. TAPPING SLEEP AND VALVE (Stainless Steel, Full Clamp, MJ Valve).

1. JCM.
2. Mueller.
3. Smith Blair.
4. Romac.
5. American.
6. Power Seal.
7. Clow.
8. Tyler Pipe.
9. US Pipe

S. AIR RELEASE VALVE [Two inch (2 In), Bonney Forge 3,000# threadolet].

1. APCO – No. 145-c

T. METER BOXES

1. Plastic.
 - a. DFW.
 - b. Gross.
 - c. Brooks Products.
2. Concrete.
 - a. Brooks Products.
 - b. Southern Precast.

U. POLYETHYLENE ENCASEMENT TUBING (8 Mil Minimum, ANSI/AWWA C105).

1. Various Manufacturers (upon approval).

2.2 SANITARY SEWER PRODUCTS

A. GRAVITY FLOW PIPES (AWWA 150, AWWA 151, C600, C900).

1. P.V.C. < twelve inch (12 In) – SDR 26, minimum one hundred sixty pounds per square inch (160 psi) Ratings, flow line < twelve feet (12 Ft).
2. P.V.C. > twelve inch (12 In) – SDR 25, one hundred sixty-five pounds per square inch (165 psi) Rating.
3. P.V.C., flow line > twelve feet (12 Ft) – SDR 18, C900.
4. P.V.C., SDR 21, flow line < twelve feet (12 Ft).
5. Ductile Iron Pipe, Class 51 bituminous coated, C600.

B. FORCE MAIN.

1. Ductile Iron Pipe, Class 51 with forty (40) mil polyliner.
2. P.V.C., SDR 18, C900.

C. COATING FOR MANHOLES [forty (40) mils. Minimum Thickness].

1. Strong Seal MS-2.

D. LIFT STATION SUBMERSIBLE PUMPS.

1. Flyght.
2. ABS.
3. Gorman Rupp.

E. LIFT STATION CONTROL PANELS

1. E.G. Controls.
2. Consolidated Electric.
3. Murphymatic.
4. Sta-Con, Inc.
5. Automatic Control Systems.

F. NON-SHRINK GROUT.

1. Fosrok Preco Patch.

G. MANHOLE COVER (City of Friendswood Standards) and Rings.

1. East Jordan Ironworks.
2. Star Pipe Products, Inc.
3. Vulcan S. VM 18.

H. ENGINEERING FABRICS.

1. Trevira S1114.

I. MANHOLE INSERTS (No Flo/In-Flow Protector).

1. Contractor Specialties and Supply Co.

J. SEWER FITTING.

1. GPK.

2. Multi Fitting (3034 OD).
3. Head.
4. J-M pipe/fittings.
5. Vassallo.
6. Plastic Trends.

K. PIPE CONNECTORS/FLEXIBLE COUPLINGS.

1. Flow Control.
2. Flow Seal.
3. DFW.

L. MANHOLES (Concrete Prefab).

1. Moor-Tex.
2. Southern Precast.
3. Calvert.
4. Gifford Hill.
5. Brooks Products.
6. Dalworth.
7. Rinker.

2.3 STORM SEWER PRODUCTS

A. ENGINEERING FABRICS.

1. Trevira S1114.

B. MANHOLE COVERS (City of Friendswood), Rings and Inlet Grates.

1. East Jordan Iron Works
2. Star Pipe Products, Inc.

3. Vulcan – S. VM 19 Mod-32 inch,
- C. REINFORCED CONCRETE PIPE (ASTM C76, ANSI/ASTM C443, ASTM C506, ASTM C507).
 1. Various Manufacturers (upon approval).
- D. CONCRETE BOX CULVERTS (ASTM C789).
 1. Various Manufacturers (upon approval).
- E. CORRUGATED METAL PIPE (AASHTO M-35-82, AASHTO C-361).
 1. Aluminized Steel Type 2 (AASHTO M-274-791).
 - a. Various Manufacturers (upon approval).
 2. Precoated Galvanized Steel, ten (10) mil coating (AASHTO M-246).
 - a. Various Manufacturers (upon approval).

2.4 STREET PRODUCTS

- A. RAISED PAVEMENT MARKERS (Class A,B,C & D).
 1. Apex Universal.
- B. TYPE Y AND TYPE W TRAFFIC BUTTONS (ceramic only).
 1. Apex Universal.
- C. RAISED PAVEMENT MARKER ADHESIVE.
 1. Bundy Raised Pavement Marker Adhesive.
- D. THERMOPLASTIC PAVEMENT MARKINGS (125 mil thick).
 1. Flint Trading Inc. – Premark LKF Roadmarking Material.
- E. PREFABRICATED PAVEMENT MARKINGS (125 mil thick).
 1. Flint Trading Inc. – Premark LKF Roadmarking Material.
- F. THERMOPLASTIC ADHESIVE.
 1. Ashland Chemicals – Pliobond 10.

G. CRACK AND JOINT SEALANT.

1. Elastometric-type, Hot-pour Joint Sealant conforming to TxDOT Item 433 and TxDOT Departmental Material Specification D-9-6310. (various mfrs.).

H. PAINTS.

1. Only Water Based conforming to TxDOT Specifications are approved for use in the City of Friendswood (various mfrs.).

I. ROAD MARKER POSTS.

1. Carsonite #CRM-375.

J. REPLACEABLE DELINEATOR POST W/BASE [Epoxy or eight inch (8 In) Bundy Adhesive].

1. Repo Tm model.

K. CONCRETE CURING MEMBRANES.

1. Liquid membrane-forming Curing Compound conforming to TxDOT Item 526 and TxDOT Departmental Material Specification D-9-8120 (various mfrs.).

2.5 APPROVAL REQUIRED

- A. Materials and manufactured items used in construction of a public infrastructure project shall be approved by the City of Friendswood prior to installation. Water, sanitary, storm and street system appurtenances shall be subject to the approved items as listed in the above Approved Products List. Items not appearing on this approved list shall not be used for construction of public infrastructure facilities in the City of Friendswood without prior approval.

PART III: EXECUTION – NOT USED

END OF SECTION

SECTION 01630

PRODUCT SUBSTITUTION

PART I: GENERAL

1.1 GENERAL REQUIREMENTS

- A. Options for making Product or process selections.
- B. Procedures for proposing equivalent Products or processes, including pre-approved, pre-qualified, and approved Products or processes.

1.2 DEFINITIONS

- A. Product: As defined in Section 00500 – General Conditions. Product does not include machinery and equipment used for production, fabrication, conveying, and erection of the Work. Products may also include existing materials or components designated for reuse.
- B. Process: Any proprietary system or method for installing system components resulting in an integral, functioning part of the Work. For this Section, the word Products includes Processes.

1.3 SELECTION OPTIONS

- A. Pre-approved Products: Construction products of certain manufacturers or Suppliers designated in Technical Specifications as "pre-approved." Products for this project are designated as pre-approved in the Technical Specifications. Products of other manufacturers' or suppliers are not acceptable for this Project and shall not be considered under the submittal process for approving alternate products.
- B. Pre-qualified Products: Construction products of certain manufacturers or Suppliers designated in the Technical Specifications as "pre-qualified." Pre-qualified Products for this Project are designated as pre-qualified in the Technical Specifications. Products of other manufacturers or suppliers shall not be acceptable for this Project and shall not be considered under the submittal process for approving alternate products.
- C. Approved Products: Construction products of certain manufacturers or Suppliers designated in the Technical Specifications followed by words "or approved equal." Approval of alternate products not listed in the Technical Specifications may be obtained through provisions for;

product options and substitutions in Section 00500 – General Conditions, and by following submittal procedures specified in Section 01330 – Submittal Procedures. The procedure for approval of alternate products is not applicable to pre-approved or pre-qualified products.

- D. **Product Compatibility:** To the maximum extent possible, provide Products that are of the same type or function from a single manufacturer, make, or source. Where more than one (1) choice is available, select Product that is compatible with other Products already selected, specified, or in use by the City.

1.4 CONTRACTOR'S RESPONSIBILITY

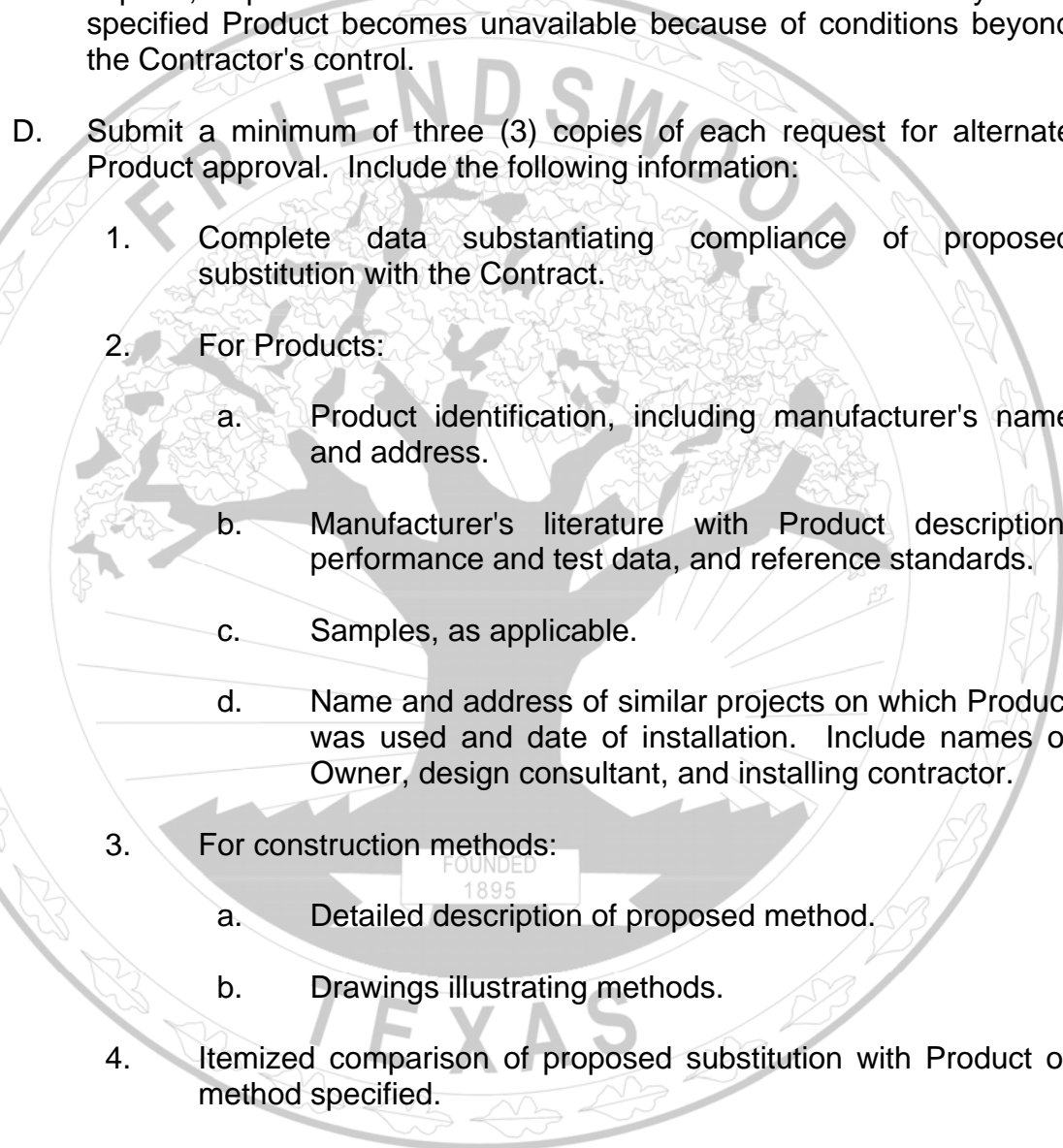
- A. Responsibility related to Product options and substitutions is defined in Section 00500 – General Conditions.
- B. Furnish information the Project Manager deems necessary to judge equivalency of alternate Product.
- C. Pay for laboratory testing, as well as any other review or examination costs, needed to establish equivalency between products in order to obtain information upon which the Project Manager can base a decision.
- D. If the Project Manager determines alternate product is not equal to that named in Technical Specifications, furnish one (1) of the specified Products.

1.5 CITY REVIEW

- A. Use alternate Products only when approved in writing by the Project Manager. The Project Manager's determination regarding acceptance of proposed alternate Product is final.
- B. Alternate Products shall be accepted if Products are judged by the Project Manager to be equivalent to specified Product or to offer substantial benefit to the City.
- C. The City retains the right to accept any Product deemed advantageous to the City, and similarly, to reject any product deemed not beneficial to the City.

1.6 SUBSTITUTION PROCEDURE

- A. Collect and assemble technical information applicable to the proposed Product to aid in determining equivalency as related to the approved Product specified.

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- B. Submit a written request for a construction Product to be considered as an alternate Product.
 - C. Submit Product information after the effective date of the Contract and within the time period allowed for substitution submittals given in Section 00500 – General Conditions. After the submittal period has expired, requests for alternate Products shall be considered only when specified Product becomes unavailable because of conditions beyond the Contractor's control.
 - D. Submit a minimum of three (3) copies of each request for alternate Product approval. Include the following information:
 1. Complete data substantiating compliance of proposed substitution with the Contract.
 2. For Products:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature with Product description, performance and test data, and reference standards.
 - c. Samples, as applicable.
 - d. Name and address of similar projects on which Product was used and date of installation. Include names of Owner, design consultant, and installing contractor.
 3. For construction methods:
 - a. Detailed description of proposed method.
 - b. Drawings illustrating methods.
 4. Itemized comparison of proposed substitution with Product or method specified.
 5. Data relating to changes in Construction Schedule.
 6. Relation to separate contracts, if any.
 7. Accurate cost data on proposed substitution in comparison with Product or method specified.

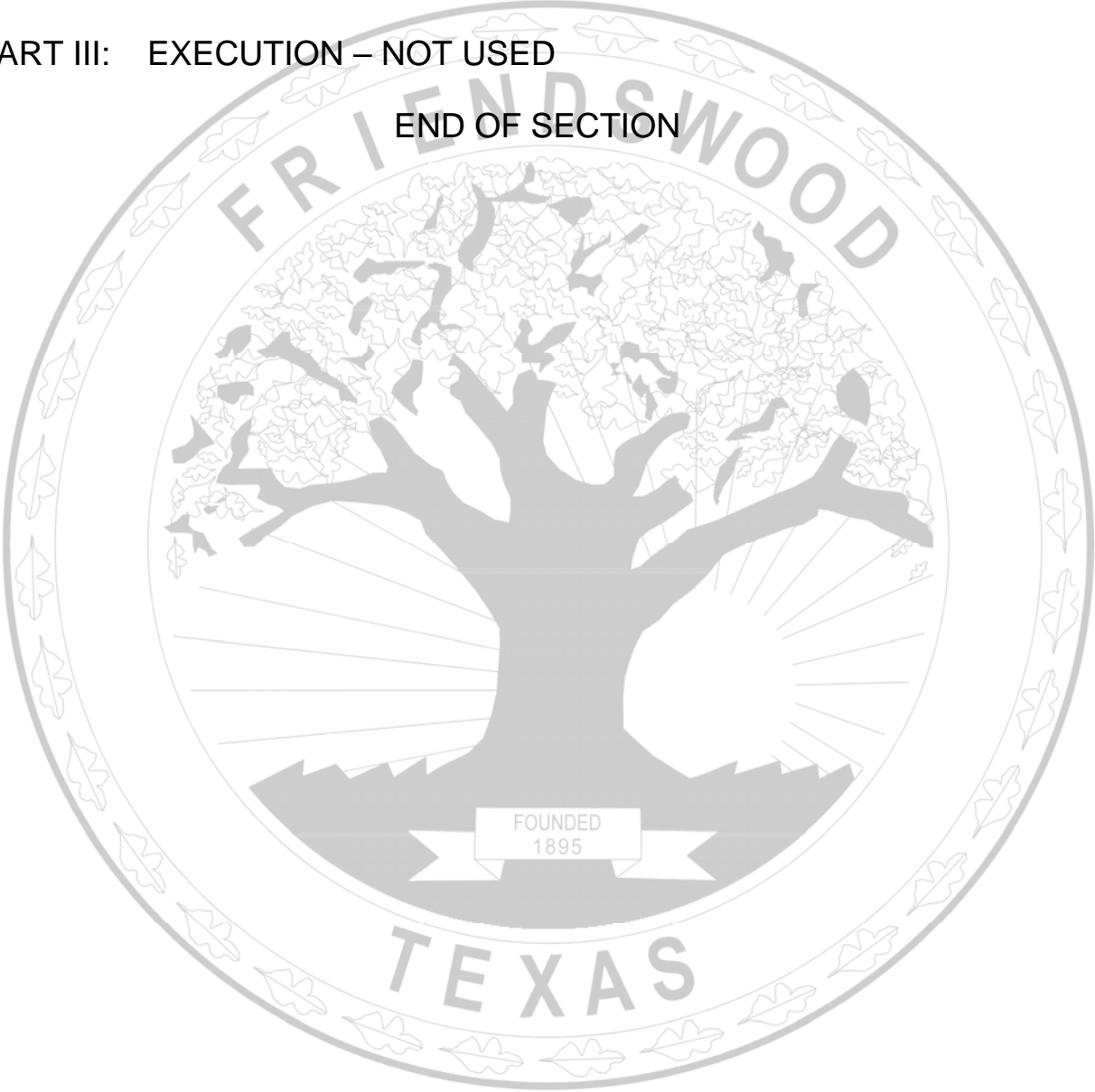
- 8. Other information requested by the Project Manager.

- E. Approved alternate Products will be subject to the same review process as the specified Product would have been for Shop Drawings, Product Data, and Samples.

PART II: PRODUCTS – NOT USED

PART III: EXECUTION – NOT USED

END OF SECTION



Section 01640

CLEANING AND ADJUSTING

PART I: GENERAL

1.1 GENERAL REQUIREMENTS

- A. The Contractor shall be responsible for cleaning and adjusting the Work. If the Contractor fails to clean and adjust the Work, the City may do so and charge the resulting costs to the Contractor.
- B. Detailed cleaning and adjusting requirements for specific trades or work are specified in sections pertaining to that trade or work.
- C. No separate payment shall be made for any cleaning or adjusting required under this Section. Include the cost of such work in the contract prices for items listed in the Bid Document.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

- A. Fire Protection – Store volatile waste in covered metal containers and remove from premises daily.
- B. Pollution Control – Conduct cleaning and disposal operations in compliance with local ordinances and anti-pollution laws.
 - 1. Burying of rubbish and materials on the project site shall not be permitted.
 - 2. Disposal of volatile fluid wastes and other chemical wastes in storm or sanitary sewer systems or into streams or waterways shall not be permitted.
- C. Safety Standards – Maintain the project in accordance with insurance and safety standards.

PART II: PRODUCTS – NOT USED.

PART III: EXECUTION

3.1 DURING CONSTRUCTION

- A. Oversee cleaning to ensure that the premises are maintained free from accumulations of waste material and rubbish. Do not allow waste

materials, rubbish and debris to accumulate and become unsightly or create a hazard. Provide containers and locate on site for collection of waste materials, rubbish, and debris.

- B. At reasonable intervals during progress of the Work, collect and dispose of waste materials, rubbish, and debris. Handle waste in a controlled manner; do not drop or throw materials from heights.
- C. Remove waste materials, rubbish, and debris from the site and legally dispose at public or private dumping area off the project site.

3.2 FINAL CLEANING AND ADJUSTING

- A. Use experienced personnel for final cleaning. Broom-clean paved surfaces; rake clean other surfaces of grounds. Remove all waste material and rubbish from the project area, as well as all tools, construction equipment, machinery, surplus materials, and temporary facilities.
- B. Immediately prior to acceptance or occupancy, verify that exposed interior and exterior surfaces are properly cleaned.

3.3 ADJACENT AREAS

- A. To the City's satisfaction, clean or repair adjacent areas affected by the construction, at no cost to the City. Remove dust and debris in the adjacent area. Repair, patch, and touch-up marred surfaces to match adjacent finishes.

END OF SECTION

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