

Vendor Information

TFL Enterprises, Inc
Legal Name of Contracting Company

Federal ID Number (Company or Corporation) or Social Security Number (Individual)

(512) 260-3322 Telephone Number (512) 528-1942 Facsimile Number

1001 Leander Dr.
Complete Mailing Address (for Correspondence)


Leander, Tx. 78641
City, State and Zip Code

Complete Remittance Address (if different from above)

City, State and Zip Code

Tipton F. Rowland, CEO
Authorized Representative and Title (printed)

tiffanyw@tfrinc.com
Authorized Representative's Email Address

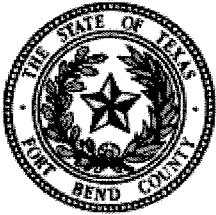
 Signature of Authorized Representative August 11, 2015 Date

Initials of Bidder: TR



COUNTY PURCHASING AGENT

Fort Bend County, Texas



Gilbert D. Jalomo, Jr., CPPB
County Purchasing Agent

(281) 341-8640
Fax (281) 341-8645

August 11, 2015

TO: All Prospective Bidders

RE: Addendum No. 1 – Fort Bend County Bid 16-018 – Term Contract for On-Site Clearing,
Grubbing and Debris Removal Services for Various Fort Bend County Road Projects

Addendum 1:

Attached is addendum 1. See page 16, Section 8.2.

Immediately upon your receipt of this addendum, please fill out the following information and
fax this page to the Fort Bend County Purchasing Department at (281) 341-8645.

TFR Enterprises, Inc
Company Name

Diffany Wilkes 8/11/15
Signature of person receiving addendum Date

If you have any questions, please contact this office.

Sincerely,

Cheryl Krejci
Cheryl Krejci, CPPB
Senior Buyer

**Fort Bend County
Bid 16-018**

Q & A #1

Question 1: Will there be a pre-bid meeting and if so will that be a mandatory meeting?

Answer: No. Pre-Bid meetings are always stated in the bid document.

Question 2: In providing accurate unit counts on stump removal, diameter of stumps must be determined prior to the contractor providing the county pricing within the 5 day period. More often than not, the massive amount of underbrush surrounding the trees to be removed does not allow the contractor accessibility to determine the diameter. Are estimated quantities acceptable? If not how would you suggest we accurately determine quantities and diameter?

Answer: See Addendum 1 which lengthens the number of days given to provide estimate.

Question 3: Will staging areas be provided by FBC and with-in close proximity of designated work site?

Answer: The staging area will be located within the designated area to be cleared. If the area is not large enough for a designated staging area, then all material is to be hauled off site and disposed of by the contractor. (In this case, the additional expense would be included in the job quote).

Fort Bend County Specification Download Acknowledgment



**Invitation for Bid
Term Contract for On-Site Clearing, Grubbing and Debris Removal Services for Various
Fort Bend County Road Projects
BID 16-018**

VENDORS MUST IMMEDIATELY RETURN THIS FORM BY FAX TO 281-341-8645.

Vendor Responsibilities:

- Vendors are responsible to download and complete any addendums.
(Addendums will be posted on the Fort Bend County Website no later than 48 hours prior to Bid Opening)
- Vendors are required to deliver responses as required on cover of this document.
- Vendors may not submit responses via email or fax.

TFR Enterprises, Inc.
Legal Name of Contracting Company

Tiffany Wilkes
Contact Person

601 Leander Drive, Leander, TX 78641
Complete Mailing Address

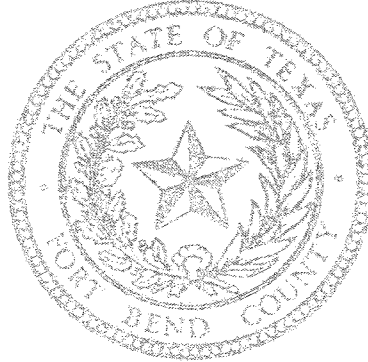
(512) 260-3322 Telephone Number (512) 528-1942 Facsimile Number

tiffanywa@tfrinc.com
Email Address

[Signature] Signature August 11, 2015 Date

*** Amended 8.11.15**

**Fort Bend County, Texas
Invitation for Bid**



**Term Contract for On-Site Clearing, Grubbing and Debris Removal Services for Various
Fort Bend County Road Projects
BID 16-018**

SUBMIT BIDS TO:

Fort Bend County
Purchasing Department
Travis Annex
301 Jackson, Suite 201
Richmond, TX 77469

****NOTE:**
All correspondence must include the
term "Purchasing Department" in
address to assist in proper delivery.

SUBMIT NO LATER THAN:

Thursday, August 13, 2015
1:30 PM (Central)

LABEL ENVELOPE:

**BID 16-018
CLEARING AND DEBRIS REMOVAL**

***ALL BIDS MUST BE RECEIVED IN AND TIME/DATE STAMPED BY THE PURCHASING OFFICE
OF FORT BEND COUNTY BEFORE THE SPECIFIED TIME/DATE STATED ABOVE.
BIDS RECEIVED AS REQUIRED WILL THEN BE OPENED AND PUBLICLY READ.
BIDS RECEIVED AFTER THE SPECIFIED TIME, WILL BE RETURNED UNOPENED.***

Results will not be given by phone.
Results will be provided to bidders
in writing after Commissioners'
Court awards.

Fort Bend County is always conscious and
extremely appreciative of your effort in the
preparation of this bid.

Requests for information must be in
writing and directed to:

Cheryl Krejci, CPPB
Senior Buyer
Cheryl.Krejci@fortbendcountytexas.gov

1.0 GENERAL REQUIREMENTS:

- 1.1 Read this entire bid document carefully. Follow all instructions. You are responsible for fulfilling all requirements and specifications. Be sure you understand them.
- 1.2 General Requirements apply to all advertised bids; however, these may be superseded, whole or in part, by the scope, special requirements, specifications, special specifications or other data contained herein.
- 1.3 Governing Law: Bidder is advised that these requirements shall be fully governed by the laws of the State of Texas and that Fort Bend County may request and rely on advice, decisions and opinions of the Attorney General of Texas and the County Attorney concerning any portion of these requirements.
- 1.4 Bid Document Completion: Fill out, initial each page, sign, and return ONE (1) complete bid document to the Fort Bend County Purchasing Department. An authorized representative of the bidder must sign the Contract Sheet. The contract will be binding only when signed by the County Judge, Fort Bend County and a purchase order authorizing the item(s) desired has been issued. The use of liquid paper is not acceptable and may result in the disqualification of bid. If an error is made, vendor must draw a line through error and initial each change. All response, typed or written, information must be clear and legible.
- 1.5 Bid Returns: Bidders must return entire completed bid document to the Fort Bend County Purchasing Department at 301 Jackson, Suite 201, Richmond, Texas no later than 1:30 P.M. on the date specified. Late bids will not be accepted. Bids must be submitted in a sealed envelope, addressed as follows: Fort Bend County Purchasing Agent, Travis Annex, 301 Jackson, Suite 201, Richmond, Texas 77469.
- 1.6 Governing Document: In the event of any conflict between the terms and provisions of these requirements and the specifications, the specifications shall govern. In the event of any conflict of interpretation of any part of this overall document, Fort Bend County's interpretation shall govern.
- 1.7 Addendums: No interpretation of the meaning of the drawings, specifications or other bid documents will be made to any bidder orally. All requests for such interpretations must be made in writing addressed to Ms. Cheryl Krejci, Senior Buyer, 301 Jackson, Suite 201, Richmond, Texas 77469, e-mail: cheryl.krejci@fortbendcountytexas.gov. Any and all interpretations and any supplemental instructions will be in the form of written addenda to the contract documents which will be posted on Fort Bend County's website. Addenda will **ONLY** be issued by the Fort Bend County Purchasing Agent. It is the sole responsibility of each bidder to insure receipt of any and all addenda. All addendum issued will become part of the contract documents. Bidders must sign

Initials of Bidder: TR

and include addendum in the returned bid package. Deadline for submission of questions and/or clarification is **Thursday, August 6, 2015 at 9:00 a.m. (CST)**. Requests received after the deadline will not be responded to due to the time constraints of this bid process.

- 1.8 **Hold Harmless Agreement:** Contractor shall indemnify and hold Fort Bend County harmless from all claims for personal injury, death and/or property damage arising from any cause whatsoever, resulting directly or indirectly from contractor's performance. Contractor shall procure and maintain, with respect to the subject matter of this bid, appropriate insurance coverage including, as a minimum, public liability and property damage with adequate limits to cover contractor's liability as may arise directly or indirectly from work performed under terms of this bid. Certification of such coverage must be provided to the County upon request.
- 1.9 **Waiver of Subrogation:** Bidder and bidder's insurance carrier waive any and all rights whatsoever with regard to subrogation against Fort Bend County as an indirect party to any suit arising out of personal or property damages resulting from bidder's performance under this agreement.
- 1.10 **Severability:** If any section, subsection, paragraph, sentence, clause, phrase or word of these requirements or the specifications shall be held invalid, such holding shall not affect the remaining portions of these requirements and the specifications and it is hereby declared that such remaining portions would have been included in these requirements and the specifications as though the invalid portion had been omitted.
- 1.11 **Bonds:** If this bid requires submission of bid guarantee and performance bond, there will be a separate page explaining those requirements. Bids submitted without the required bid bond or cashier's checks are not acceptable. Bond/s or cashier's check must be complete with all required signatures.
- 1.12 **Taxes:** Fort Bend County is exempt from all federal excise, state and local taxes unless otherwise stated in this document. Fort Bend County claims exemption from all sales and/or use taxes under Chapter 20, Title 122a, Vernon's Texas Civil Statutes, as amended. Texas Limited Sales Tax Exemption Certificates will be furnished upon written request to the Fort Bend County Purchasing Department.
- 1.13 **Fiscal Funding:** A multi-year lease or lease/purchase arrangement (if requested by the specifications), or any contract continuing as a result of an extension option, must include fiscal funding out. If, for any reason, funds are not appropriated to continue the lease or contract, said lease or contract shall become null and void. After expiration of the lease, leased equipment shall be removed by the bidder from the using department without penalty of any kind or form to Fort Bend County. All charges and physical activity related to delivery, installation, removal and redelivery shall be the responsibility of the bidder.

Initials of Bidder: TR

- 1.14 Pricing: Prices for all goods and/or services shall be firm for the duration of this contract and shall be stated on the bid sheet. Prices shall be all inclusive. No price changes, additions, or subsequent qualifications will be honored during the course of the contract. All prices must be written in ink or typewritten. Pricing on all transportation, freight, and other charges are to be prepaid by the contractor and included in the bid prices. If there are any additional charges of any kind, other than those mentioned above, specified or unspecified, bidder MUST indicate the items required and attendant costs or forfeit the right to payment for such items.
- 1.15 Silence of Specifications: The apparent silence of specifications as to any detail, or the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and that only material and workmanship of the finest quality are to be used. All interpretations of specifications shall be made on the basis of this statement. The items furnished under this contract shall be new, unused of the latest product in production to commercial trade and shall be of the highest quality as to materials used and workmanship. Manufacturer furnishing these items shall be experienced in design and construction of such items and shall be an established supplier of the item bid.
- 1.16 Supplemental Materials: Bidders are responsible for including all pertinent product data in the returned bid package. Literature, brochures, data sheets, specification information, completed forms requested as part of the bid package and any other facts which may affect the evaluation and subsequent contract award should be included. Materials such as legal documents and contractual agreements, which the bidder wishes to include as a condition of the bid, must also be in the returned bid package. Failure to include all necessary and proper supplemental materials may be cause to reject the entire bid.
- 1.17 Material Safety Data Sheets: Under the "Hazardous Communication Act", commonly known as the "Texas Right To Know Act", a bidder must provide to County and using departments, with each delivery, material safety data sheets, which are, applicable to hazardous substances defined in the Act. Bidders are obligated to maintain a current, updated file in the Fort Bend County Purchasing Department. Failure of the bidder to maintain such a file will be cause to reject any bid applying thereto.
- 1.18 Name Brands: Specifications may reference name brands and model numbers. It is not the intent of Fort Bend County to restrict these bids in such cases, but to establish a desired quality level of merchandise or to meet a pre-established standard due to like existing items. Bidders may offer items of equal stature and the burden of proof of such stature rests with them. Fort Bend County shall act as sole judge in determining equality and acceptability of products offered.
- 1.19 Color Selection: Determination of colors of materials is a right reserved by the

Initials of Bidder: TR

using department unless otherwise specified in the bid. Unspecified colors shall be quoted as standard colors, not colors, which require up charges or special handling. Unspecified fabrics or vinyl should be construed as medium grade. If bidder fails to get color/material approvals prior to delivery of merchandise, the using department may refuse to accept the items and demand correct shipment without penalty, subject to other legal remedies.

- 1.20 Evaluation: Evaluation shall be used as a determinant as to which bid items or services are the most efficient and/or most economical for the County. It shall be based on all factors, which have a bearing on price and performance of the items in the user environment. All bids are subject to tabulation by the Fort Bend County Purchasing Department and recommendation to Fort Bend County Commissioners Court. Compliance with all bid requirements, delivery and needs of the using department are considerations in evaluating bids. Pricing is NOT the only criteria for making a recommendation. The Fort Bend County Purchasing Department reserves the right to contact any bidder, at any time, to clarify, verify or request information with regard to any bid.
- 1.21 Inspections: Fort Bend County reserves the right to inspect any item(s) or service location for compliance with specifications and requirements and needs of the using department. If a bidder cannot furnish a sample of a bid item, where applicable, for review, or fails to satisfactorily show an ability to perform, the County can reject the bid as inadequate.
- 1.22 Testing: Fort Bend County reserves the right to test equipment, supplies, material and goods bid for quality, compliance with specifications and ability to meet the needs of the user. Demonstration units must be available for review. Should the goods or services fail to meet requirements and/or be unavailable for evaluation, the bid is subject to rejection.
- 1.23 Disqualification of Bidder: Upon signing this bid document, a bidder offering to sell supplies, materials, services, or equipment to Fort Bend County certifies that the bidder has not violated the antitrust laws of this state codified in section 15.01, et seq., Business & Commerce Code, or the federal antitrust laws, and has not communicated directly or indirectly the bid made to any competitor or any other person engaged in such line of business. Any or all bids may be rejected if the County believes that collusion exists among the bidders. Bids in which the prices are obviously unbalanced may be rejected. If multiple bids are submitted by a bidder and after the bids are opened, one of the bids is withdrawn, the result will be that all of the bids submitted by that bidder will be withdrawn; however, nothing herein prohibits a vendor from submitting multiple bids for different products or services.
- 1.24 Awards: Fort Bend County reserves the right to award this contract on the basis of lowest and best bid in accordance with the laws of the State of Texas, to waive any formality or irregularity, to make awards to more than one bidder, to reject

Initials of Bidder: TR

any or all bids. In the event the lowest dollar bidder meeting specifications is not awarded a contract, the bidder may appear before the Commissioners Court and present evidence concerning his responsibility. An award is final only upon formal execution by the Fort Bend County Commissioners Court or the Fort Bend County Purchasing Agent. Fort Bend County reserves the right to withdraw any award until execution by the proper authority.

- 1.25 Assignment: The successful vendor may not assign, sell or otherwise transfer this contract without written permission of Fort Bend County Commissioners Court.
- 1.26 Term Contracts: If the contract is intended to cover a specific time period, said time will be given in the specifications under scope.
- 1.27 Maintenance: Maintenance required for equipment bid should be available in Fort Bend County by a manufacturer authorized maintenance facility. Costs for this service shall be shown on the bid sheet as requested or on a separate sheet, as required. If Fort Bend County opts to include maintenance, it shall be so stated in the purchase order and said cost will be included. Service will commence only upon expiration of applicable warranties and should be priced accordingly.
- 1.28 Contract Obligation: Fort Bend County Commissioners Court must award the contract and the County Judge or other person authorized by the Fort Bend County Commissioners Court must sign the contract before it becomes binding on Fort Bend County or the bidders. Department heads are not authorized to sign agreements for Fort Bend County. Binding agreements shall remain in effect until all products and/or services covered by this purchase have been satisfactorily delivered and accepted.
- 1.29 Title Transfer: Title and Risk of Loss of goods shall not pass to Fort Bend County until Fort Bend County actually receives and takes possession of the goods at the point or points of delivery. Receiving times may vary with the using department. Generally, deliveries may be made between 8:30 a.m. and 4:00 p.m., Monday through Friday. Bidders are advised to consult the using department for instructions. The place of delivery shall be shown under the "Special Requirement" section of this bid document and/or on the Purchase Order as a "Ship To:" address.
- 1.30 Purchase Order and Delivery: The successful bidder shall not deliver products or provide services without a Fort Bend County Purchase Order, signed by an authorized agent of the Fort Bend County Purchasing Department. The fastest, most reasonable delivery time shall be indicated by the bidder in the proper place on the bid sheet. Any special information concerning delivery should also be included, on a separate sheet, if necessary. All items shall be shipped F.O.B. inside delivery unless otherwise stated in the specifications. This shall be understood to include bringing merchandise to the appropriate room or place designated by the using department. Every tender or delivery of goods must fully

Initials of Bidder: R

comply with all provisions of these requirements and the specifications including time, delivery and quality. Nonconformance shall constitute a breach, which must be rectified prior to expiration of the time for performance. Failure to rectify within the performance period will be considered cause to reject future deliveries and cancellation of the contract by Fort Bend County without prejudice to other remedies provided by law. Where delivery times are critical, Fort Bend County reserves the right to award accordingly.

- 1.31 Contract Extension: Extensions may be made only by written agreement between Fort Bend County and the bidder. Any price escalations are limited to those stated by the bidder in the original bid.
- 1.32 Termination: Fort Bend County reserves the right to terminate the contract for default if Seller breaches any of the terms therein, including warranties of bidder or if the bidder becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies, which Fort Bend County may have in law or equity. Default may be construed as, but not limited to, failure to deliver the proper goods and/or services within the proper amount of time, and/or to properly perform any and all services required to Fort Bend County's satisfaction and/or to meet all other obligations and requirements. Contracts may be terminated without cause upon thirty (30) days written notice to either party unless otherwise specified.
- 1.33 Recycled Materials: Fort Bend County encourages the use of products made of recycled materials and shall give preference in purchasing to products made of recycled materials if the products meet applicable specifications as to quantity and quality. Fort Bend County will be the sole judge in determining product preference application.
- 1.34 Interlocal Participation: Additional governmental entities may purchase from this bid. Vendor agrees to accept purchase orders from those participating entities and to invoice each entity separately.
- 1.35 Escalation Clause: Successful bidder may apply for a price increase to the Fort Bend County Commissioners Court. Price increase will be the amount increased to the vendor from his supplier. Written documentation of the increase must be provided to the Purchasing Agent. No application for a price increase may be submitted within the first four (4) months of this contract. Increases of more than 25% of the original bid price will not be considered.

2.0 TERMS & CONDITIONS:

- 2.1 Seller to Package Goods: Seller will package goods in accordance with good commercial practice. Each delivery container shall be clearly and permanently marked as follows (a) Seller's name and address; (b) Consignee's name, address and purchase order number and the bid number if applicable; (c) Container

Initials of Bidder: TR

number and total number of containers (e.g. box 1 of 4 boxes); and (d) the number of the container bearing the packing slip. Seller shall bear cost of packaging unless otherwise provided. Goods shall be suitably packed to secure lowest transportation costs and to conform to requirements of common carriers and any applicable specifications. Fort Bend County's count or weight shall be final and conclusive on shipments not accompanied by packing list.

- 2.2 Shipment Under Reservation Prohibited: Seller is not authorized to ship goods under reservation and no tender of a bill of lading will operate as a tender of goods.
- 2.3 Title and Risk of Loss: The title and risk of loss of the goods shall not pass to the County until a County employee actually receives and takes possession of the goods at the point or points of delivery.
- 2.4 Delivery Terms: F.O.B. Destination Freight Prepaid, Inside Delivery, unless delivery terms are specified otherwise on Purchase Order.
- 2.5 No Replacement of Defective Tender: Every tender or delivery of goods must fully comply with all provisions of the Purchase Order as to time of delivery, quality and the like. If a tender is made which does not fully conform, this shall constitute a breach and Seller shall not have the right to substitute a conforming tender.
- 2.6 Place of Delivery: The place of delivery shall be that set forth in the block of the purchase order entitled "Ship To". Any change thereto shall be effective by modification as provided for in Clause number 2.20 "Modifications", hereof. The terms of this agreement are "no arrival, no sale", at the discretion of Fort Bend County.
- 2.7 Invoices and Payments:
 - 2.7.1 Seller shall submit separate invoices, in duplicate. Invoices shall indicate the purchase order number and the bid number if applicable. Invoices shall be itemized and transportation charges, if any, shall be listed separately. A copy of the bill of lading, and the freight waybill when applicable should be attached to the invoice.
 - 2.7.2 Fort Bend County's obligation is payable only and solely from funds available for the purpose of this purchase. Lack of funds shall render the order null and void to the extent funds are not available and any delivered but unpaid goods will be returned to Seller by the county.
 - 2.7.3 Do not include Federal Excise, State, or City Sales Tax. Fort Bend County is a tax-exempt governmental entity.
- 2.8 Gratuities: Fort Bend County may, by written notice to the Seller, cancel any

Initials of Bidder: TR

order without liability, if it is determined by the County that gratuities, in the form of entertainment, gifts, or otherwise were offered or given by the Seller, or any agent or representative of the Seller to any officer or employee of Fort Bend County with a view toward securing an order. In the event an order is canceled by the County pursuant to this provision, the County shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by Seller in providing such gratuities.

- 2.9 Special Tools and Test Equipment: If the price stated on the face of an order includes the cost of any special tooling or special test equipment fabricated or required by Seller for the purpose of filing this order, such special tooling equipment and any process sheets related thereto shall become the property of the County and to the extent feasible shall be identified by the Seller as such.
- 2.10 Warranty/Price:
- 2.10.1 The price to be paid by the County shall be that contained in Seller's quote or bid which Seller warrants to be no higher than Seller's current prices on orders by others for products of the kind and specification covered by an order for similar quantities under similar or like conditions and methods of purchase. In the event Seller breaches this warranty the prices of the items shall be reduced to the Seller's current prices on orders by others. Fort Bend County may cancel this contract without liability.
- 2.10.2 The Seller warrants that no person or selling agency has been employed or retained to solicit or secure any County order based upon any agreement or understanding for commission, percentage, brokerage, or contingent fee excepting bona fide employees of bona fide established commercial or selling agencies maintained by the Seller for the purpose of securing business. A breach or violation of this warranty gives the County the right, in addition to any other right or rights, to cancel this contract without liability.
- 2.11 Warranty Product: Seller shall not limit or exclude any implied warranties and any attempt to do so shall render an order voidable at the option of the County. Seller warrants that the goods furnished will conform to the specifications, drawings, and description listed in the bid invitation and purchase order as applicable, and to the sample(s) furnished by Seller if any. In the event of a conflict between the specifications, drawings, and descriptions, the specifications shall govern.
- 2.12 Safety Warranty: Seller warrants that the product sold to Fort Bend County shall conform to the standards promulgated by the U.S. Department of Labor under the Occupational Safety and Health Act of 1970. In the event the product does not conform to OSHA standards, the County may return the product for correction or replacement at the Seller's expense. In the event Seller fails to make the

appropriate correction within 10 days, correction made by the County will be at Seller's expense.

- 2.13 **No Warranty by Fort Bend County Against Infringements:** As part of a contract for sale Seller agrees to ascertain whether goods manufactured in accordance with the specifications will give rise to the rightful claim of any third person by way of infringement. Fort Bend County makes no warranty that the production of goods according to the specification will not give rise to such a claim and in no event shall Fort Bend County be liable to Seller for indemnification in the event the Seller is sued on the grounds of infringement or the like. If Seller is of the opinion that an infringement will result, he will notify Fort Bend County to this effect in writing within two days after the receiving Purchase Order. If the County does not receive notice and is subsequently held liable for the infringement, Seller will defend and save the County harmless. If Seller in good faith ascertains that production of the goods in accordance with the specifications will result in infringement, this contract shall be null and void except that the County will pay Seller the reasonable cost of his search as to infringements.
- 2.14 **Right of Inspection:** The County shall have the right to inspect the goods at delivery before accepting them.
- 2.15 **Cancellation:** Fort Bend County shall have the right to cancel for default all or any part of the undelivered portion of an order if Seller breaches any of the terms hereof including warranties of Seller, or if the Seller becomes insolvent or files for protection under the bankruptcy laws. Such rights of cancellation are in addition to and not in lieu of any other remedies, which Fort Bend County may have in law or equity.
- 2.16 **Termination:** The performance of work under a Purchase Order may be terminated in whole or in part by the County in accordance with this provision. Termination of work there under shall be effected by the delivery to the Seller of a "Notice of Termination" specifying the extent to which performance of work under the order is terminated and the date upon which such termination becomes effective. Such right of termination is in addition to and not in lieu of rights of Fort Bend County set forth in Clause 15 herein.
- 2.17 **Force Majeure:** Force Majeure means a delay encountered by a party in the performance of its obligations under this Agreement, which is caused by an event beyond the reasonable control of that party. Without limiting the generality of the foregoing, "Force Majeure" shall include but not be restricted to the following types of events: acts of God or public enemy; acts of governmental or regulatory authorities; fires, floods, epidemics or serious accidents; unusually severe weather conditions; strikes, lockouts, or other labor disputes; and defaults by subcontractors.

In the event of a Force Majeure, the affected party shall not be deemed to have

Initials of Bidder: TK

violated its obligations under this Agreement, and the time for performance of any obligations of that party shall be extended by a period of time necessary to overcome the effects of the Force Majeure, provided that the foregoing shall not prevent this Agreement from terminating in accordance with the termination provisions. If any event constituting a Force Majeure occurs, the affected party shall notify the other parties in writing, within twenty-four (24) hours, and disclose the estimated length of delay, and cause of the delay.

- 2.18 Assignment-Delegation: No right or interest in an order shall be assigned or delegation of any obligation made by Seller without the written permission of Fort Bend County. Any attempted assignment or delegation by Seller shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.
- 2.19 Waiver: No claim or right arising out of a breach of any contract can be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waived or renunciation is supported by consideration and is in writing signed by the aggrieved party.
- 2.20 Modification: A Purchase Order can be modified or rescinded only by a writing signed by both of the parties or their duly authorized agents.
- 2.21 Parol Evidence: This writing is intended by the parties as a final expression of their agreement and is intended also as a complete and exclusive statement of the terms of this agreement. No course of prior dealings between the parties and no usage of the trade shall be relevant to supplement or explain any terms rendered under this agreement and shall not be relevant to determine the meaning of this agreement even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used in this agreement, the definition contained in the Code is to control.
- 2.22 Applicable Law: This agreement shall be governed by the Uniform Commercial Code. Whenever the term "Uniform Commercial Code" is used it shall be construed as meaning the Uniform Commercial Code as adopted in the State of Texas and in effective on the date of the purchase order.
- 2.23 Advertising: Seller shall not advertise or publish, without the County's prior consent the fact that Fort Bend County has entered into any contract, except to the extent necessary to comply with proper requests for information from an authorized representative of the federal, state, or local government.
- 2.24 Right to Assurance: Whenever the County in good faith has reason to question the other party's intent to perform. The County may demand that the other party give written assurance of his intent to perform. In the event that a demand is made and no assurance is given within five (5) days, the County may treat this

Initials of Bidder: TR

failure as an anticipatory repudiation of the contract.

- 2.25 Venue: Both parties agree that venue for any litigation arising from this contract shall lie in Richmond, Fort Bend County, Texas.
- 2.26 Prohibition Against Personal Interest in Contracts: No officer or employee of the County shall have a financial interest, direct or indirect, in any contract with the County, or shall be financially interested, directly or indirectly, in the sale to the County of any land, materials, supplies, or service, except on behalf of the County as an officer or employee. Any willful violation of this section shall constitute malfeasance in office, and any officer or employee guilty thereof shall be subject to disciplinary action under applicable laws, statutes and codes of the State of Texas. Any violation of this section, with the knowledge, expressed or implied of the person or corporation contracting with the County shall render the contract involved voidable by the County Commissioners Court.

3.0 SCOPE:

It is the intent of Fort Bend County to contract with one (1) or more vendors for the purpose of providing site clearing, grubbing and debris removal on various road projects located within the County, as specified herein.

4.0 TERM OF CONTRACT:

This contract is for the period **1 October 2015** through **30 September 2016**, renewable annually for four (4) years (through 30 September 2020) under the terms and conditions if mutually agreeable to both parties. Either party for any reason may terminate this contract by giving thirty (30) days written notice of the intent to terminate.

5.0 BID DOCUMENT COMPLETION:

Fill out, initial each page, SIGN CONTRACT SHEET, and return ONE (1) complete bid document to the Fort Bend County Purchasing Department. An authorized representative of the bidder MUST sign the contract sheet. The bid must be in a sealed envelope and marked with the appropriate bid number. The contract will be binding only when signed by the County Judge, Fort Bend County and a purchase order authorizing the item(s) desired has been issued. The use of liquid paper is **NOT** acceptable and may result in the disqualification of bid. If an error is made, vendor **MUST** draw a line through error and initial each change. All response, typed or written, information must be clear and legible.

6.0 INSURANCE:

- 6.1 All respondents must submit, with Bid document, a current certificate of insurance indicating coverage in the amounts stated below. In lieu of submitting a certificate of insurance, respondents may submit, with Bid document, a notarized statement from an Insurance company, authorized to conduct business in the State of Texas, and acceptable to Fort Bend County, guaranteeing the issuance of an

Initials of Bidder: TR

insurance policy, with the coverage stated below, to the contractor named therein, if successful, upon award of this Contract. Failure to provide current insurance certificate or notarized statement will result in disqualification of submittal.

- 6.2 The certificates of insurance to be satisfactory to Fort Bend County, naming the Contractor and its employees as insured:
 - 6.2.1 Workers Compensation in accordance with the laws of the State of Texas. Substitutes to genuine Workers' Compensation Insurance will not be allowed.
 - 6.2.2 Employers' Liability insurance with limits of not less than \$1,000,000 per injury by accident, \$1,000,000 per injury by disease, and \$1,000,000 per bodily injury by disease.
 - 6.2.3 Commercial general liability insurance with a limit of not less than \$1,000,000 each occurrence and \$2,000,000 in the annual aggregate. Policy shall cover liability for bodily injury, personal injury, and property damage and products/completed operations arising out of the business operations of the policyholder.
 - 6.2.4 Business Automobile Liability coverage applying to owned, non-owned and hired automobiles with limits not less than \$1,000,000 each occurrence combined single limit for Bodily Injury and Property Damage combined.
- 6.3 County and the members of Commissioners Court shall be named as additional insured to all required coverage except for Workers' Compensation and Professional Liability (if required). All Liability policies written on behalf of Contractor shall contain a waiver of subrogation in favor of County and members of Commissioners Court.
- 6.4 If required coverage is written on a claims-made basis, Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of the Contract and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of 2 years beginning from the time the work under this Contract is completed.
- 6.5 Contractor shall not commence any portion of the work under this Contract until it has obtained the insurance required herein and certificates of such insurance have been filed with and approved by Fort Bend County.
- 6.6 No cancellation of or changes to the certificates, or the policies, may be made without sixty (60) days prior, written notification to Fort Bend County.

Initials of Bidder: TR

- 6.7 Approval of the insurance by Fort Bend County shall not relieve or decrease the liability of the Contractor.

7.0 INDEMNIFICATION:

Respondent shall save harmless County from and against all claims, liability, and expenses, including reasonable attorney's fees, arising from activities of respondent, its agents, servants or employees, performed under this agreement that result from the negligent act, error, or omission of respondent or any of respondent's agents, servants or employees.

- 7.1 Respondent shall timely report all such matters to Fort Bend County and shall, upon the receipt of any such claim, demand, suit, action, proceeding, lien or judgment, not later than the fifteenth day of each month; provide Fort Bend County with a written report on each such matter, setting forth the status of each matter, the schedule or planned proceedings with respect to each matter and the cooperation or assistance, if any, of Fort Bend County required by Respondent in the defense of each matter.
- 7.2 Respondent's duty to defend, indemnify and hold Fort Bend County harmless shall be absolute. It shall not abate or end by reason of the expiration or termination of any contract unless otherwise agreed by Fort Bend County in writing. The provisions of this section shall survive the termination of the contract and shall remain in full force and effect with respect to all such matters no matter when they arise.
- 7.3 In the event of any dispute between the parties as to whether a claim, demand, suit, action, proceeding, lien or judgment appears to have been caused by or appears to have arisen out of or in connection with acts or omissions of Respondent, Respondent shall never-the-less fully defend such claim, demand, suit, action, proceeding, lien or judgment until and unless there is a determination by a court of competent jurisdiction that the acts and omissions of Respondent are not at issue in the matter.
- 7.4 Respondent's indemnification shall cover, and Respondent agrees to indemnify Fort Bend County, in the event Fort Bend County is found to have been negligent for having selected Respondent to perform the work described in this request.
- 7.5 The provision by Respondent of insurance shall not limit the liability of Respondent under an agreement.
- 7.6 Respondent shall cause all trade contractors and any other contractor who may have a contract to perform construction or installation work in the area where work will be performed under this request, to agree to indemnify Fort Bend County and to hold it harmless from all claims for bodily injury and property damage that arise may from said Respondent's operations. Such provisions shall be in form satisfactory to Fort Bend County.

Initials of Bidder: TIR

*** Amended 8/11/15**

- 7.7 Loss Deduction Clause - Fort Bend County shall be exempt from, and in no way liable for, any sums of money which may represent a deductible in any insurance policy. The payment of deductibles shall be the sole responsibility of Respondent and/or trade contractor providing such insurance.

8.0 SPECIFICATIONS AND REQUIREMENTS OF SERVICE:

The work consists of "clearing of right-of way" at various jobsites:

- 8.1 Once the County designates the job location, the County shall communicate with the Contractor the specific job location.
- *8.2 The Contractor will provide their estimated cost and number of days for clearing each jobsite to the County within five (5) to ten (10) business days after receiving job location needing service.
- 8.3 County's approval of said cost and number of days estimate received from the awarded Vendor before beginning any work on jobsite is required.
- 8.4 The Contractor will coordinate with the Project surveyor to get the right-of-way staked.
- 8.5 The Contractor will perform clearing of right-of-way by tree, tree limb, brush cutting, all stump removal, and timber removal and disposal.
- 8.6 The Contractor is responsible for securing a staging area at a location to be approved by the County.
- 8.7 Hydro-excavating, grinding, and mulching is only permitted at the staging area.
- 8.8 Stump removal will be paid by the various diameters shown and include removal, back filling the resulting hole with cement stabilized sand, proof rolling, loading, hauling, and dumping of stumps, including the root ball. Stumps less than six (6) inches in diameter are considered incidental to the various items.
- 8.9 When the trees and stumps have been removed, the Contractor will fill the voids created by the stump removal with cement stabilized sand, as directed by the County. The entire site will then be proof-rolled to the satisfaction of the County. The cost of cement stabilization and proof-rolling will be included in the cost bid for "Clearing of the Right-of-Way."
- 8.10 The Contractor will provide traffic control in accordance with "Texas MUTCD," at all phases of construction, as necessary to perform the work.

Initials of Bidder: TR

- 8.11 If Contractor encounters items in the right-of-way that restrict his/her progress, the Contractor is to notify the County immediately.
- 8.12 The County may completely clear and stockpile trees, stumps, brush, and other wood debris. In that case, the Contractor will be required to remove, haul, and dispose of the stockpiled items to a site approved by the County.

9.0 CONSTRUCTION NOTES:

- 9.1 The Contractor shall be responsible for clearing the right-of-way by tree, tree limb, and brush cutting, stump and timber removal and disposal of all brush and debris within the right-of-way. The Contractor is responsible for verifying the actual limits of the clearing in the field.
- 9.2 The successful Contractor shall meet the following requirements (at minimum) and provide proof with bid submission:
 - A certified arborist in the state of Texas shall be an active and permanent employee of Contractor's staff.
 - The qualified Contractor shall have a minimum of three (3) years actual experience that is described in Harris County's Special Specification Item 8205.
- 9.3 The Contractor shall coordinate with the County's Project Surveyor, to get the right-of-way staked, and provide a line of demarcation for the proposed clearing activity. The County will provide the contact information to the contractor for the surveyor.
- 9.4 On some roads/jobsites, before any actual clearing activity is performed by the Contractor, the County will give notice that their in-house forces will make selective tree removal within the new right-of-way.
- 9.5 Within some right-of-way clearing jobsite or roads, the Contractor will be designated to remove existing fences and/or assigned the job of installing new fence along the right-of-way line. The removal of existing fences and installation of new fence shall only be implemented when the Contractor is given instructions to do so by the field engineer or job inspector.
- 9.6 The Contractor shall clear the right-of-way of all trees, brush, overhangs, and stumps of the trees, unless otherwise instructed. The stump and root system of trees on some projects may be left in place as directed by the field engineer or inspector. Grinding will not be permitted as a means of stump removal unless specifically approved, in writing, by the field engineer or inspector. The Contractor shall furnish all necessary labor crews and equipment to cut down, remove, and dispose of trees, brush, and any debris within the limits of the right-of-way.

Initials of Bidder: TR

- 9.7 Any additional laborer assigned to a crew with a supervisor must be approved by the County, and no more than eight (8) maximum laborers or workers per one supervisor will be permitted.
- 9.8 The Contractor shall provide traffic control in accordance with "Texas MUTCD," during all phases of the work, within the proximity of the existing road pavement. Lane closure of the road is allowed only during off peak traffic hours.
- 9.9 The Contractor shall maintain good communication with the project inspector throughout all phases of the work. A field office and restroom are not required for this project.
- 9.10. The following attached drawings will be used as guidelines in this project:

| Drawing Sheet No. | Title |
|-------------------|--------------------------------------|
| TCP-16 | One Lane Closure- Flagging Operation |
| TCP-17 | Typical Flagging or Moving Operation |

- 9.11 References to Harris County in the project documents are to be considered to mean Fort Bend County as appropriate.
- 9.12 Measurement and payment shall be as provided on the bid form in lieu of the terms specified in the various specifications. Payment for additional items not shown on the bid form shall be as approved by the County.

10.0 AWARD:

This contract will be awarded to a Primary and a Secondary contractor. On a case by case basis, should the Primary contractor be unable to perform the work required in a timely manner, the Secondary contractor will be contacted to accomplish the work.

11.0 PERFORMANCE AND PAYMENT BONDS:

Contractor must provide to the Office of the County Purchasing Agent, a performance bond and a payment bond, each in the amount of \$50,000.00 within ten (10) calendar days after receipt of notification of bid award. Such bonds shall be executed by a corporate surety duly authorized and admitted to do business in the State of Texas and licensed in the State of Texas to issue surety bonds with a Best Rating of "A" or better. Fort Bend County reserves the right to accept or reject any surety company proposed by the Contractor. In the event Fort Bend County rejects the proposed surety company, the Contractor will be afforded five (5) additional days to submit the required bonds issued by a surety company acceptable to Fort Bend County.

| | |
|---------------------------------------------------|----------|
| Flagger | \$ 10.33 |
| Laborer, Common | \$ 11.02 |
| Laborer, Utility | \$ 11.73 |
| Pipelayer | \$ 12.12 |
| Work Zone Barricade Servicer | \$ 11.67 |
| | |
| PAINTER (Structures) | \$ 18.62 |
| POWER EQUIPMENT OPERATOR: | |
| Asphalt Distributor | \$ 14.06 |
| Asphalt Paving Machine | \$ 14.32 |
| Broom or Sweeper | \$ 12.68 |
| Concrete Pavement Finishing Machine | \$ 13.07 |
| Concrete Paving, Curing, Float, Texturing Machine | \$ 11.71 |
| Concrete Saw | \$ 13.99 |
| Crane, Hydraulic 80 Tons or less | \$ 13.86 |
| Crane, Lattice boom 80 tons or less | \$ 14.97 |
| Crane, Lattice boom over 80 Tons | \$ 15.80 |
| Crawler Tractor | \$ 13.68 |
| Excavator, 50,000 pounds or less | \$ 12.71 |
| Excavator, Over 50,000 pounds | \$ 14.53 |
| Foundation Drill, Crawler Mounted | \$ 17.43 |
| Foundation Drill, Truck Mounted | \$ 15.89 |
| Front End Loader 3 CY or Less | \$ 13.32 |
| Front End Loader, Over 3 CY | \$ 13.17 |
| Loader/Backhoe | \$ 14.29 |
| Mechanic | \$ 16.96 |
| Milling Machine | \$ 13.53 |
| Motor Grader, Fine Grad | \$ 15.69 |
| Motor Grader, Rough | \$ 14.23 |
| Off Road Hauler | \$ 14.60 |
| Pavement Marking Machine | \$ 11.18 |
| Piledriver | \$ 14.95 |
| Roller, Asphalt | \$ 11.95 |
| Roller, Other | \$ 11.57 |
| Scraper | \$ 13.47 |
| Spreader Box | \$ 13.58 |
| | |
| Servicer | \$ 13.97 |
| | |
| Steel Worker | |
| Reinforcing Steel | \$ 15.15 |
| Structural Steel Welder | \$ 12.85 |
| Structural Steel | \$ 14.39 |
| | |
| TRUCK DRIVER | |
| Low Boy Float | \$ 16.03 |

Initials of Bidder: TR

| | |
|------------------------------------|----------|
| Single Axle | \$ 11.46 |
| Single or Tandem Axle Dump | \$ 11.48 |
| Tandem Axle Tractor w/Semi Trailer | \$ 12.27 |

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Initials of Bidder: 

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Initials of Bidder: TR

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

13.0 GENERAL INFORMATION:

13.1 The quantities provided in each Bid Item are for bid evaluation only. They represent the estimated number of each item to be used during a one (1) year period and the County reserves the right to adjust these quantities as needed.

13.2 The Contractor shall perform the work herein specified on as-needed basis, as determined by the County, on Rights-of-Way located within the County.

14.0 REFERENCES:

Bidders must list, below, a minimum of three (3) references with whom bidder has provided the service outlined herein during 2014 and/or 2015.

References: List three (3).

Company Name: Grand Parkway - Zachary-Odebrecht
Address: 222 Pennbright Dr. Houston, TX. 77090
Contact Person: Travis Moss
Email Address: _____
Phone Number: (832) 232-7300

Company Name: LJA Engineering, Inc
Address: 2929 Briarpark Dr. Houston, TX. 77042
Contact Person: Randy Bowles
Email Address: rbowles@ljaengineering.com
Phone Number: (713) 953-5034

Company Name: Liberty Property Trust
Address: 8827 North Sam Houston, Houston, TX. 77064
Contact Person: Ken Chang
Email Address: kchang@libertyproperty.com
Phone Number: (281) 517-2518

Initials of Bidder: TR

15.0 ENCLOSURES:

- 15.1 Pricing Sheets
- 15.2 Flagging Operation Plan
- 15.3 Specification 421 – Structural Concrete
- 15.4 Specification 457 – Timber Preservation and Treatment
- 15.5 Specification 550 – Existing Fencing and Gates
- 15.6 Specification 554 – Wood Fencing
- 15.7 Specification 555 – Chain Link Fencing
- 15.8 Specification 556 – Five Strand Barbed Wire Fence
- 15.9 Specification 671 – Traffic Control
- 15.10 Specification Special Provision 671 – Traffic Control
- 15.11 Specification 672 – Flagmen
- 15.12 Specification 8205 – Clearing Right-of-Way

16.0 ADDITIONAL REQUIRED FORMS:

All vendors submitting are required to complete the attached and return with submission:

- 16.1 Vendor Form
- 16.2 W9 Form
- 16.3 Tax Form/Debt/Residence Certification

ITEM 421

STRUCTURAL CONCRETE

- 421.1 Description. These specifications shall govern for the materials used; for the storing, measuring and handling of materials and for the proportioning and mixing of concrete for bridges, culverts, other concrete structures, and incidental construction. Concrete shall meet the requirements of:
- A. ACI 318, "Building Code Requirements for Reinforced Concrete".
 - B. The ASTM Standards.
 - C. ACI "Manual of Concrete Practice".
- 421.2 Materials. Concrete shall be composed of Portland cement, coarse and fine aggregate, water and chemical admixtures as outlined below:
- A. Portland cement shall meet the requirements of ASTM C150, "Specification for Portland Cement". Unless otherwise permitted or required, cement shall be Type I or Type III.
 - B. Mixing water for concrete shall conform to the requirements for water specified in ASTM C94, "Specification for Ready-Mixed Concrete".
 - C. Chemical admixtures shall conform to the following specifications:
 - 1. Air-entraining admixtures shall conform to the requirements of ASTM C260, "Specification for Air-Entraining Admixtures for Concrete".
 - 2. Chemical admixtures shall conform to the requirements of ASTM C494, "Specification for Chemical Admixtures for Concrete".
 - 3. High early strength concrete may be produced from either Type I or Type III Portland cement. If Type I cement is used in lieu of Type III, the Contractor shall use an accelerating agent (Type C), conforming to ASTM Designation C494. The accelerator shall be used in accordance with that manufacturer's recommendations.

- D. Aggregates for normal weight concrete shall conform to the requirements of ASTM C33, "Specification for Concrete Aggregates".

Coarse aggregates shall consist of durable particles of gravel, crushed stone, or combinations thereof; free from frozen material or injurious amounts of salt, alkali, vegetable matter, or other objectionable material. It shall not contain more than 0.25 percent, by weight, of clay lumps, not more than 1.0 percent, by weight, of shale not more than 5 percent, by weight, of laminated and/or friable particles. It shall have a wear of not more than 35 percent when tested in accordance with ASTM C131, "The Los Angeles Abrasion Test".

Coarse aggregate shall be subjected to five cycles of both the sodium sulfate and the magnesium sulfate soundness tests. Coarse aggregate which has a loss greater than 12 percent with sodium sulfate and/or 18 percent with magnesium sulfate shall not be accepted.

Gradation of coarse aggregate shall conform to the grading requirements shown in Table 1.

TABLE 1 - Coarse Aggregate Gradation

| Nominal Size | Percent by Weight, Retained on Square Sieve | | | | | | |
|--------------|---------------------------------------------|--------|----|-------|-------|--------|--------|
| | 2" | 1-1/2" | 1" | 3/4" | 3/8" | No. 4 | No. 8 |
| 1-1/2" | 0 | 0-5 | | 30-65 | 70-90 | 95-100 | |
| 3/4" | 0 | 0 | 0 | 0-10 | 45-80 | 90-100 | 95-100 |

The loss by decantation of coarse aggregate shall be from 0 to 1%.

Fine aggregate shall consist of clean, hard, durable and uncoated particles of natural or manufactured sand or a combination thereof, with or without a mineral filler. It shall be free from frozen material or injurious amounts of salt, alkali, vegetable matter or other objectionable material and it shall not contain more than 0.5 percent by weight of clay lumps. When subjected to the color test for organic impurities, it shall not show a color darker than standard. The fine aggregate shall produce a mortar having a tensile strength equal to or greater than that of Ottawa sand mortar.

Mineral filler shall consist of stone dust, clean crushed sand or other approved inert material.

Gradation of fine aggregate shall conform to the grading requirements shown in Table No. 2.

TABLE 2 - Fine Aggregate Gradation

| Percent, By Weight Retained on Square Sieve | | | | | | | |
|---------------------------------------------|-------|--------|---------|---------|---------|----------|----------|
| 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| 0 | 0 - 5 | 0 - 20 | 15 - 50 | 35 - 75 | 65 - 90 | 90 - 100 | 97 - 100 |

Fine aggregate shall be subjected to the Sand Equivalent Test. The sand equivalent shall be not less than 80.

The fineness modulus for fine aggregate shall be between 2.30 and 3.10. The fineness modulus will be determined by adding the percentages, by weight, retained on the following sieves, and dividing by 100; Numbers 4, 8, 16, 30, 50 and 100. The fine aggregate shall have not more than 45% passing any sieve and retained on the next consecutive sieve of those shown in Table 2.

421.3 Storage of Materials. Cement shall be stored in well ventilated weathertight buildings, bins, or silos which shall exclude moisture and contaminants.

Aggregate stockpiles shall be arranged and used in such a manner as to avoid contamination, with other materials or with other sizes of like aggregates. To ensure that this condition is met, any test for determining conformance to requirements for cleanliness and grading shall be performed on samples secured in accordance with ASTM D75. Frozen or partially frozen aggregates shall not be used. Unless otherwise authorized by the Engineer, all aggregate shall be stockpiled at least 24-hours prior to use, to reduce free moisture content.

Chemical admixtures shall be stored in such a manner as to avoid contamination, evaporation, or damage. For those used in the form of suspensions or non-stable solutions, agitating equipment shall be provided to assure thorough distribution of the ingredients. Liquid admixtures shall be protected from freezing and from temperature changes which would adversely affect their characteristics.

421.4 Proportioning of Concrete. Concrete for all parts of the work shall be of the specified quality, capable of being placed without excessive segregation and, when hardened, of developing all characteristics required by this item and the contract documents.

The specified compressive or flexural strength of the concrete, for each portion of the structure, shall be as designated in the contract documents.

Strength requirements shall be based on the 28-day and 7-day compressive strength, respectively.

421.5 Concrete Classification. Concrete shall be classified as shown by Table No. 3.

TABLE 3 - Concrete Classification

| Class | Nominal Coarse Aggregate | Cement Sacks Per C.Y. | Maximum Allowable Water-Cement ratio, by weight (lb. of H ₂ O/lb. of cement) | | | |
|----------------|--------------------------|-----------------------|-----------------------------------------------------------------------------------------|---------------------------------------|---------------------|-----------------|
| | | | Minimum 28-day strength f _c | Minimum 7-day strength f _c | Non-Air Entr. Conc. | Air Entr. Conc. |
| A ₁ | 1-1/2" | 7 | 4,000 psi | 2,800 psi | 0.46 | 0.46 |
| A ₂ | 3/4" | 7 | 4,000 psi | 2,800 psi | 0.52 | 0.46 |
| B ₁ | 1-1/2" | 6 | 3,500 psi | 2,400 psi | 0.53 | 0.49 |
| B ₂ | 3/4" | 6 | 3,500 psi | 2,400 psi | 0.60 | 0.54 |
| C ₁ | 1-1/2" | 5.5 | 3,000 psi | 2,100 psi | 0.58 | 0.52 |
| C ₂ | 3/4" | 5.5 | 3,000 psi | 2,100 psi | 0.66 | 0.59 |
| D ₁ | 1-1/2" | 5 | 2,500 psi | 1,750 psi | 0.63 | 0.59 |
| D ₂ | 3/4" | 5 | 2,500 psi | 1,750 psi | 0.72 | 0.65 |

421.6 Selection of Proportions. Proportions of materials for concrete shall be established to provide:

- A. Workability and consistency to permit concrete to be worked readily into forms and around reinforcement under conditions of placement to be employed without segregation or excessive bleeding.

- B. Strength requirements in accordance with Table No. Three.
- C. Resistance to special exposure as required by the Engineer and as specified in the contract documents in any Special Provisions.

All classes of concrete will have a slump as determined in accordance with ASTM C143 of 3-inches with an allowable tolerance of plus or minus 1-inch. The average slump for all classes of concrete may range to the wet side of the tolerance.

The allowable air-content for moderate exposures is:

1-1/2" aggregate (No. 2) - 2.5 - 5.0 percent
3/4" aggregate (No. 5) - 3.0 - 5.0 percent

- 421.7 Evaluation and Acceptance of Concrete. Samples for strength tests shall be taken in accordance with ASTM C172, "Method of Sampling Freshly Mixed Concrete".

Cylinders for strength tests shall be molded and laboratory cured in accordance with ASTM C31, "Method of Making and Curing Concrete Test Specimens in the Field", for 7 and 28 day testing. Specimens shall be tested in accordance with ASTM C39, "Test Method for Compressive Strength of Cylindrical Concrete Specimens". Two cylinders shall be molded for the 28-day test and two cylinders for the 7-day test. For structural concrete, one set of cylinders shall be cast for a pour of 50 yards.

The strength level of an individual class of concrete shall be considered satisfactory, if both of the following requirements are met:

- A. Average of all sets of three consecutive strength tests equal to or exceed specified f_c .
- B. For concrete structures, no individual strength test (average of two cylinders falls below f_c by more than 500 psi.)

- 421.8 Production of Concrete. Ready mixed concrete shall be batched, mixed and transported in accordance with ASTM C94, "Specification for Ready-Mixed Concrete".

The concrete shall be mixed in the quantities required for immediate use, and any concrete which has developed initial set or which is not in place within 1 1/2-hours after the initial water has been added, shall not be used.

No concrete shall be mixed while the air temperature is at or below 35° F. The temperature of the concrete shall at no time fall below 60° F. or exceed 90° F. When the concrete reaches a temperature of 85° F., retarders shall be introduced into the mixture.

Chemical admixtures shall be charged into the mixer as solutions and shall be measured by means of an approved mechanical dispensing device. The liquid shall be considered as part of the mixing water. Admixtures that cannot be added in solution may be weighed or may be measured by volume if so recommended by the manufacturer.

If two or more admixtures are used in the concrete, they shall be added separately to avoid possible interaction that may interfere with the efficiency of either admixture or adversely affect the concrete.

When concrete arrives at the project with a slump below that suitable for placing, as indicated by the specifications, water may be added only if the maximum permissible water-cement ratio and maximum slump is not exceeded. The water shall be incorporated by additional mixing equal to at least half of the total mixing required.

421.9

Placing of Concrete. Concrete shall not be placed into any formwork, until that formwork has been inspected by the Engineer. It is the Contractor's responsibility to determine if the formwork will support the load and that all of the reinforcement is in place.

Concrete shall be conveyed from mixer to place of final deposit by methods that will prevent separation or loss of materials and without interruptions sufficient to permit loss of plasticity between successive increments.

Concrete shall be deposited as near as practicable in its final position to avoid segregation due to rehandling or flowing. Depositing large quantities at one point in the forms and running and/or working it along the forms will not be permitted. Pumped concrete shall not be dropped more than 3-feet from the bottom of the "elephant trunk/boot".

Concrete that has partially hardened or been contaminated by foreign materials shall not be deposited in the structure.

In depositing the concrete, care shall be taken to entirely fill the form, and to consolidate the concrete by continuous vibratory means. The concrete shall be placed in forms designed to support the load and not bulge, distort the forms, or disturb their alignment.

Any porous section may be removed at the expense of the contractor.

Sufficient placing capacity, as well as mixing and transporting capacity, should be provided so that the concrete can be kept plastic and free of cold joints while it is being placed. It should be placed in horizontal layers not exceeding 2 feet (60 centimeters) in depth, avoiding inclined layers and cold joints. For monolithic construction each concrete layer shall be placed before an initial set has taken place in the previous layers, and layers shall be sufficiently shallow to permit knitting the two together by proper means. Special care shall be taken in filling the forms, to thoroughly work the concrete under and around the reinforcement, embedded fixtures and into corners of forms.

After concreting is started, it shall be carried on as a continuous operation until complete as defined by its boundaries or predetermined joints. When construction joints are required, joints shall be made as specified in the contract documents.

After the concrete has taken its initial set, care shall be exercised to prevent walking on the concrete, to avoid jarring the forms or knocking or straining projecting reinforcement.

421.10 Concreting in Cold Weather. No concrete shall be placed when the atmosphere temperature is below 35 degrees Fahrenheit unless permission to do so is granted in writing by the Engineer. When such permission is given, the requirements of ACI 306R, "Cold Weather Concreting", shall govern. The contractor shall assume all risk connected with placing concrete during freezing weather. The County Engineer's permission in no way relieves the contractor of proper and satisfactory quality concrete placement.

421.11 Concreting in Hot Weather. Hot weather is defined as any combination of high air temperature, low relative humidity, and wind velocity tending to impair the quality of fresh or hardened concrete or otherwise resulting in abnormal properties.

Concrete placement in hot weather should be performed in a period of time so as to reduce water demand and slump loss. This period of time should not exceed one and one-half (1 1/2) hours after cement has been mixed in the batch.

Small increments of retempering water may be added, with Engineer's approval, to mixed batches to obtain the mix design slump. However, the production of concrete of excessive slump or adding water in excess of the mix design to compensate for slump loss resulting from delays in delivery or placing shall be prohibited.

The contractor shall follow all requirements of ACI 305R, "Hot Weather Concreting" for placing concrete in hot weather and assume all risk involved in its placing.

- 421.12 Curing Concrete. Concrete (other than high-early-strength) shall be maintained above 50° F., protected from the sun, and kept in a moist condition for at least the first 7 days after placement. High-early-strength shall be maintained above 50° F., protected from the sun, and in a moist condition for at least the first 3 days.

Accelerated curing methods are not allowed.

Concrete shall be cured from loss of moisture for not less than 72 hours for pavement and not less than 7 days for structures from initiation of the curing process. Curing methods acceptable to Harris County are:

- A. Sealing Materials: White, clear, or for cold weather, black plastic shall be used to completely cover and seal structure and/or pavement from moisture loss. The plastic material shall be no less than 0.004 inches (0.10 millimeters) in thickness. Two (2) thicknesses shall be required on all finished concrete during cold weather (50 degrees and below). Precautions shall be taken to prevent traffic on and tears in plastic cover. All tears shall be remedied immediately to prevent moisture loss and deleterious material introduction. Plastic shall conform to ASTM C171, "Sheet Materials for Curing Concrete".
- B. Liquid Membrane: Placed concrete not cured by plastic sealing method may be cured using liquid membrane curing. See the Item, "Membrane Curing". Abutment caps, bridge slabs, bridge sidewalks, bridge rails, retaining walls, culvert, and culvert headwalls shall not be cured using curing compounds.
- C. Additional Curing Methods: Methods not listed will be noted in a Special Provision in this item, by the Engineer and referenced to ACI 308 "Curing Concrete".

- 421.13 Inspection and Testing. Concrete materials and operations will be tested and inspected as the work progresses. Failure to detect any defective work or material shall not in any way prevent later rejection when such defect is discovered nor shall it obligate the Engineer for final acceptance.

- 421.14 Responsibilities and Duties of the Contractor. The Contractor shall:

- A. Submit the proposed concrete mix design furnished by the supplier.
- B. Provide other testing services needed or required by the Contractor.
- C. Facilitate testing and inspection, by furnishing any necessary labor to assist the designated Testing Laboratory in obtaining and handling samples at the project or other sources of materials.
- D. Advise the Testing Laboratory's representative sufficiently in advance of operations to allow for completion of quality tests and for the assignment of personnel.
- E. Submit copies of mill test reports for shipments of cement, reinforcing steel and prestressing tendons to the Engineer when required.

421.15 Fly Ash. The addition of fly ash, in any form to structural concrete, used on any Harris County construction projects, is strictly prohibited.

421.16 Quality Assurance. The Testing Laboratory's representative will sample and test the concrete mixtures being used for the specific designations in accordance with the requirements given for that designation.

For structural concrete used in all except prestressed structures, the Testing Laboratory's representative will mold four cylinders for each set of test specimens, from each batch sampled. The cylinders will be tested in accordance with ASTM C39 at 28 days.

The average strength for the set will be determined by use of the average of the two cylinders tested.

For structural concrete used in prestressed concrete structures, the manufacturer shall supply cylinder molds to the Testing Laboratory's representative to cast early release test cylinders. These cylinders shall be cast and cured along side the precast/prestressed unit and tested by the manufacturer. The compressive strength test shall be performed in accordance with ASTM C39 and witnessed by the Testing Laboratory's representative to insure that the concrete meets the minimum requirements of 4000 psi compressive strength prior to stress transfer. Four additional test cylinders shall also be cast and cured in accordance with ASTM C31 for each lot of precast concrete. Two cylinders shall be tested 7 days. The remaining two cylinders shall be tested at 28 days to insure that the minimum 28 day compressive strength is obtained.

421.17 Measurement. The method of measurement for structural concrete shall be as shown in the table below:

| Structural Component | Method of Measurement |
|-------------------------|-----------------------|
| Columns | Cubic Yards |
| Caps | Cubic Yards |
| Wingwalls | Cubic Yards |
| Headwalls | Cubic Yards |
| Abutments | Cubic Yards |
| Bridge Decks | Square Yards |
| Retaining Walls | Cubic Yards |
| Sidewalks | Square Yards |
| Approach Slabs | Square Yards |
| Parapet Walls | Cubic Yards |
| Spread Footings | Cubic Yards |
| Concrete Bridge Medians | Cubic Yards |

Any structural components not listed above shall be measured by the cubic yard.

421.18 Payment. Structural concrete shall be paid for at the contract unit price bid based on the method of measurement shown above.

There are line code(s), description(s), and unit(s) for this item.

END OF ITEM 421

SUMMARY SHEET

ITEM 421 - STRUCTURAL CONCRETE

Other Specifications Required

Item 420, Concrete Structures
Item 440, Reinforcing Steel
Item 526, Membrane Curing

Reference Standards

| | |
|-----------|-----------|
| ASTM C 94 | ASTM C143 |
| ASTM C260 | ASTM C172 |
| ASTM C494 | ASTM C 31 |
| ASTM C 33 | ASTM C 39 |
| ASTM C131 | ASTM C 78 |
| ASTM C 75 | ASTM C150 |

ACI 318 - Building Code Requirements for Reinforced Concrete
ACI - Manual of Concrete Practice
ACI 305R - Hot Weather Concreting

Description:

Discusses the requirements for materials used, and the storing, measuring and handling of materials and for the proportioning, mixing and placing of concrete for concrete structures.

Payment:

Structural concrete shall be paid for as shown in the method of measurement section of this specification.

DO NOT INCLUDE THIS SHEET IN CONTRACT SPECIFICATIONS

ITEM 457

TIMBER PRESERVATIVE & TREATMENT

- 457.1 Description. This item shall govern for the preservative, and for the seasoning, preparation and treatment of piles, posts, timbers, lumber and service poles, when treatment is specified on the plans or called for in the specifications. Unless otherwise specified on the plans, the preservative and retention shall be as shown in Table 1 of this item.
- 457.2 Materials. Except as otherwise provided herein, American Wood Preservers' Association (AWPA) Standard Specification shall govern for materials and methods of treatment, including seasoning, incising, preservatives, treatment and inspection for treatment. Pre-treated stock will not be accepted, except in emergencies. In such cases, special permission must be obtained from the Engineer.
- Except for falsework and for temporary trestle work during construction, untreated timber piling shall be used only below permanent ground water level. Untreated timber piling shall not be used in water which is infested by marine borers.
- 457.3 Paintability. All guard posts and sign posts shall be steam cleaned after treatment to assure paintability. Timber other than guard posts and sign posts shall be cleaned for paintability.
- 457.4 Treatment of Cuts. When it is necessary to bore holes or to cut pressure treated material after treatment, or when any treated surface is badly scarred, the hole, cut or scarred surface shall be given a multi-application of a concentrated solution of the same type preservative as that used in the original treatment as specified in AWPA Standard M4. The supplier of the timber products shall furnish suitable liquid preservative for field treatment upon request from the Engineer. Heating of the preservative and the method of application to the damaged or cut areas shall be as specified in AWPA Standard M4.
- 457.5 Quality Assurance. AWPA Standard Specifications shall govern for materials and methods of incising preservatives, treatment and inspection of treatment.
- Inspection shall be by a Commercial Laboratory, at the Contractor's expense at the site of the treatment plant to determine compliance with net penetration and retention requirements. Unsuitable materials shall be rejected.

Table No. 1

MATERIALS & APPLICATION

The Contractor shall provide the minimum net retention of preservative (lbs. per cu. ft.) for Longleaf Southern Pine or Dense Southern Pine as follows, unless otherwise specified.

| <u>PRODUCT</u> | <u>CREOSOTE (AWPA P1)</u> | <u>CREOSOTE-COAL TAR SOLUTION (AWPA P12)</u> | <u>PENTACHLORA -PHENOL (AWPA P8 & P9)</u> | <u>WOLMANIZING</u> |
|-------------------------------------------------------------------|-------------------------------|------------------------------------------------------|-------------------------------------------------------|--------------------|
| Piling Per AWPA C3 | | | | <u>0.60CCA-C</u> |
| Land or Freshwater Use | 12 | — | 0.60 | |
| Coastal Water Use | — | 20 | — | |
| Posts Per AWPA C5 | 6 | — | 0.30 | |
| Bridge & Fender Timbers Per AWPA C2 | 25 | — | 0.60 | |
| Lumber OTHER than Bridge & Fender Timbers Per AWPA C2 | 20 | — | 0.40 | |
| <u>Wood In Direct Contact with the Ground</u> | | | | <u>0.40CCA-C</u> |
| <u>PRODUCT</u> | <u>CREOSOTE (AWPA P1)</u> | <u>CREOSOTE-COAL TAR SOLUTION (AWPA P12)</u> | <u>PENTACHLORA -PHENOL (AWPA P8 & P9)</u> | <u>WOLMANIZING</u> |

Wood Not In
Direct Contact
with the Ground

0.25CCA-C

| | | | |
|-----------|-----|---|------|
| Service | | | |
| Poles Per | | | |
| AWPA C4 | 7.5 | — | 0.38 |

Wolmanizing material shall be manufactured by the Koppers Company, or approved equal. Prior to wolmanizing, all timber shall be air seasoned until the air content is below 20 percent. Wolmanizing shall be in accordance with applicable AWPA standards.

457.6 Identification. Each piece or bundle of treated timber products shall bear a legible brand mark or tag indicating the name of the treater, date of treatment and the specification symbol to which the treatment conforms.

457.7 Payment. Payment for all work prescribed herein will be included in the unit prices bid for "Timber for Structures", "Timber Piling", "Timber Post Guard Fence", or other Timber Products, as the case may be.

There are line code(s), description(s), and unit(s) for this item.

END OF ITEM 457

SUMMARY SHEET

ITEM 457 - TIMBER PRESERVATIVE & TREATMENT

Other Specifications Required
None

Reference Standards
1. AWP Standard Specifications

C2
C3
C4
C5
M4
P1
P8
P9
P12

Description

Describes seasoning and treatment of materials to be used as piles, posts or poles, bridge and fender timber.

Payment

None, the work performed under this Item shall be incidental to the Item, "Timber for Structures".

DO NOT INCLUDE THIS SHEET IN CONTRACT SPECIFICATIONS

ITEM 550

EXISTING FENCING AND GATES

550.1 Description. This item shall govern for the removal of existing fencing and gates and their disposal, salvaging or reinstallation at a location as shown on the drawings or directed by the Engineer.

550.2 Construction Methods. Fencing which is not be reinstalled shall be removed from the site and disposed of by the Contractor unless salvaged as directed by the Engineer. All holes left as a result of post removal, if in an area not to receive roadway construction, excavation or fill, shall be filled and tamped with dirt to the elevation of natural ground. The Contractor shall provide the dirt.

When a chain link fence is to be reinstalled it shall be installed in accordance with the Item 555, "Chain Link Fencing". When barbed wire fence is to be reinstalled, it shall be reinstalled in accordance with the Item 556, "Four Strand Barbed Wire Fence". When wood fencing is to be reinstalled, it shall be reinstalled in accordance with the Item 554, "Wood Fencing".

When an existing fence is to be reinstalled, it shall be reinstalled with the same post spacing as the original, or as otherwise directed by the Engineer.

If a wood fence is to be reinstalled, the reinstallation shall be accomplished with new galvanized nails.

If a barbed wire fence is to be reinstalled, the reinstallation shall be accomplished with galvanized staples.

If a chain link fence is to be reinstalled, the reinstallation shall be accomplished with new galvanized pig rings or wire clips.

All new gates shall be as shown on the plans, or as directed by the Engineer. New gates shall be paid for under Items 554, 555 and 556, as appropriate.

550.3 Measurement. Measurement for the removal of existing fencing, the removal and salvage or the removal and reinstallation shall be made by the linear foot, including gates.

550.4 Payment. Payment shall be made at the contract unit price bid per linear foot of fencing, including gates:

- A. To be removed and disposed of;
- B. To be removed and salvaged;
- C. To be removed and re-installed;

and this unit price shall include all labor, equipment, and new materials necessary for removal and disposal, removal and salvaging, and/or reinstallation, necessary to complete the work.

There are line code(s), description(s) and unit(s) for this item.

NOTE: This specification requires other Standard Specifications

Item 554, Wood Fencing

Item 555, Chain Link Fencing

Item 556, Four Strand Barbed Wire Fence

END OF ITEM 550

SUMMARY SHEET

ITEM 550 – EXISTING FENCING AND GATES

Other Specifications Required

Item 554, Wood Fencing
Item 555, Chain Link Fencing
Item 556, Four Strand Barbed Wire Fence

Reference Specifications

Description:

This specification shall be used for fence removal and disposal and/or reinstallation.

Method of Payment:

Payment shall be made at the contract unit price per linear foot.

DO NOT INCLUDE THIS SHEET IN THE CONTRACT DOCUMENTS.

ITEM 554

WOOD FENCING

554.1 Description. This item shall govern for furnishing the necessary materials and installing a solid picket wood fence, with gates, to the lines and grades shown on the plans.

554.2 Materials. Wood shall be western red cedar meeting the requirements of AWPA Standard U1, suitable for Use Category 4A. All members shall be straight, sound and with tight knots. Concrete for post embedment shall be class D2, in accordance with the Item 421, "Structural Concrete".

Hardware for gate hinges, drop rods (one in each gate section) and other gate hardware shall be hot-dip galvanized with 2.0 ounces minimum per square foot. All gate hardware shall be the heavy type. Nails for fence pickets shall all be aluminum alloy screw type. All other nails shall be galvanized. Bolts, nuts and washers shall be galvanized.

Pickets shall be 1-inch x 8-inches or 1-inch x 10 inches.

Posts to be 4-inches x 4-inches, S4S, meeting the requirements of AWPA Standard U1, suitable for Use Category 4A. Bottom three feet of posts shall be set in Class D2 concrete, with minimum cover of wood to be 4-inches. The top of posts shall extend above the top of pickets as required, for bolted attachment of 2-inches x 4-inches, 45-degree guard arms (extruding out). The spacing of posts shall be 6-foot on centers, maximum. Concrete shall be crowned at the top to shed water.

Guard arms shall be 2-inches x 4-inches, S4S, at 45 degrees, extending out, proper length for 3-barbed wire guard, top wire approximately 12-inches above top and 12-inches outside of pickets. Arms to be bolted to top of posts, with two (2) 3/8-inch galvanized carriage bolts.

Gate shall be double swing, 14-foot clear opening, all bolted construction. Frames to be 2-inches x 6-inches minimum, S4S, well braced, with metal straps and hardware as required for sturdy construction. Each gate section shall have a drop rod with receptacle in concrete, at ground level; gate shall be heavy bolted on hinged hasp and staple for lock.

554.3 Submittal Required. All shipments shall include certification from the appropriate wood treatment plant. This certificate shall also state that

all samples representing each lot have been tested and inspected in accordance with American Wood Preservers' Association Standard M2, "Inspection of Treated Products" and have been found to meet the requirements of applicable American Wood Preservers' Association standards for wood treatment for its intended use.

The Contractor shall submit certification that the concrete that will be used meets the requirements of this specification.

554.4 Measurement. Wood fencing will be measured by the linear foot, including gates. When noted in the bid documents, gates may be measured as a separate item.

554.5 Payment. The work performed and the material furnished as prescribed by this item and measured as provided under measurement will be paid for at the contract unit price bid for "Wood Fencing". Which price shall be full compensation for furnishing and installing all fence materials, including gates; for all preparation, hauling and installing of same; and for all labor, tools, equipment and incidentals necessary to complete the work, including excavation, backfilling and disposal of surplus material.

There are line code(s), description(s) and unit(s) for this item.

Note: This specification requires other standard specifications.

Item 421, Structural Concrete
Item 551, Clearing, Grubbing and Fencing
Item 550, Fence Removal

END OF ITEM 554

SUMMARY SHEETS

ITEM 554 - WOOD FENCING

Other Specifications Required

Item 421, Structural Concrete
Item 551, Clearing, Grubbing and Fencing
Item 550, Fence Removal

Reference Standards

1. AWPA Standard U1, "Use Category System: User Specification For Treated Wood"

Description

Discusses the materials required for Western red cedar wood fencing and the method of installation.

Payment

Paid for by the linear foot of wood fencing, including gates.
When noted in the bid documents, gates may be paid for as a separate item.

DO NOT INCLUDE THIS SHEET IN CONTRACT SPECIFICATIONS

ITEM 555

CHAIN LINK FENCING

555.1 Description. This item shall govern for furnishing the quantities of chain link fencing and gates as shown on the plans, including all posts, bracing and accessories as called for herein and the installation of all items, complete in every respect at the locations shown on the plans.

555.2 Materials. Wire fabric for fencing shall be nine (9) gauge steel with a minimum tensile strength of 80,000 psi. Mesh size shall be 2-inch + 1/16 inch between parallel wires. Top edge of fabric shall be twisted and barbed on 6-foot height fencing and shall be knuckled salvage on 4-foot fencing. Bottom edge of all fencing shall be twisted and barbed.

Fabric ties of the same material as fabric shall be furnished in sufficient quantity to fasten fabric to top tension wire or to top rail at 18-inch intervals. Ties shall be furnished to fasten the fabric to bottom tension wire at 18-inch intervals. The fabric shall be tied to the line posts at 15-inch intervals.

Line posts shall be furnished in sufficient quantity to provide a maximum spacing between posts of 10-feet.

Table 1

LINE POST REQUIREMENTS

| PIPE SECTION Fabric Height | H-BEAM SECTION Size | H-BEAM SECTION | | EMBEDMENT Length |
|----------------------------------|------------------------|----------------|-----------|---------------------|
| | | Wt./Ft. | Wt./Ft. | |
| 4 feet | 1.90" O.D. | 2.72 lbs. | 2.70 lbs. | 24" |
| 5 feet | 2.375" O.D. | 3.65 lbs. | 4.10 lbs. | 24" |
| 6 feet | 2.375" O.D. | 3.65 lbs. | 4.10 lbs. | 24" |

Table 2

CORNER POST, PULL POST AND ENDPPOST REQUIREMENTS

| Fabric Height | Pipe Section | | Embedment Length |
|---------------|--------------|-----------|------------------|
| | Size | Wt./Ft. | |
| 4 feet | 2.375" O.D. | 3.65 lbs. | 30" |

| | | | |
|--------|-------------|-----------|-----|
| 5 feet | 2.875" O.D. | 5.79 lbs. | 36" |
| 6 feet | 2.875" O.D. | 5.79 lbs. | 36" |

Table 3

GATE POSTS

| Gate Leaf | Pipe Section Size | Wt./Ft. | Embedment Length |
|--------------|----------------------|------------|------------------|
| to 6 ft. | 2.875" O.D. | 5.79 lbs. | 36" |
| 6 to 13 ft. | 4.00" O.D. | 9.10 lbs. | 36" |
| 13 to 18 ft. | 6.625" O.D. | 18.79 lbs. | 42" |

Post caps for pipe sections shall be designed to exclude all moisture. Where barbed wire is specified, extension arms shall be integral with post caps. Where top rail is specified, post caps shall have an opening for top rail. All post caps shall have a 2-inch skirt for rigidity.

Top rail, where called for, shall be 1.625-inch O.D. steel pipe weighing 2.27 lbs./ft. Top rail shall be furnished in random lengths not less than 18-feet per section and shall be joined with outside sleeve, steel couplings not less than 6-inches long and having a wall thickness of not less than 0.70 inch. Couplings shall be designed to allow for expansion movement of the top rail.

Tension wire for top finish, where no top rail is specified, shall be 7 gauge high carbon steel wire. Tension wire shall be furnished for bottom edge of all fence fabric.

Trussed bracing shall be furnished for each panel adjacent to a terminal, pull, corner or gate post. Compression member shall be 1.625-inch O.D. pipe, as specified for top rail material. Tension members shall be 3/8-inch diameter steel rods with turnbuckles.

For 6-foot fences with top tension wire, braced panels shall consist of horizontal pipe brace, located approximately 4-inches below top of fabric, a diagonal pipe brace, attached at the midpoint of the terminal post and at the bottom of the adjacent line post, and a truss rod, attached to the top of the adjacent line post, extending diagonally to the bottom of the terminal post.

For 6-foot fences with top rail, braced panels shall consist of a horizontal pipe brace, midway between top and bottom of fence fabric, with a truss rod extending from the mid point of the line post diagonally to the bottom of the terminal post.

Four-foot fences with top rail shall be braced with a truss rod connected to the bottom of the terminal post and extending to the top of adjacent line posts.

Four-foot fences without top rail shall have a horizontal brace pipe at the top of the fabric and a diagonal truss rod installed as described above.

Gates shall be fabricated from 1.90 inch O.D. pipe weighing 2.72 lbs./ft. The fabric on the gates shall be the same as that specified for fencing. The following accessories shall be furnished for each gate:

Corner and tee fittings of malleable iron or pressed steel having means for attaching diagonal members. Hinges of malleable iron providing for full 180 degree swing with bottom hinges to be ball and socket type.

Diagonal braces consisting of 3/8-inch diameter truss rods with turn-buckles, two for each gate frame. Vertical gates shall have vertical 1.90-inch O.D. pipe brace at center of each gate leaf.

Latches for single gates shall have a single fork latch with padlock eye; double leaf gates shall have two fork latches mounted on center plunger rod with padlock eye.

Hold backs shall be provided for each leaf of vehicular gates, employing a semi-automatic hold back catch to be anchored at least 12-inches into a 12-inch diameter by 24-inch deep concrete footing.

A malleable iron center rest, designed to receive the plunger rod, to be anchored at least 12-inches into a 12-inch diameter by 24-inch deep concrete footing, shall be provided for all double leaf gates.

The top of all gate frames shall align with the fencing top rail. Vehicular gates shall be 4 inches greater in overall height than the adjacent fencing so as to extend to within 2-inches of pavement between 6-inch curbs, if curbs are designated on the plans.

Barbed wire support arms shall be at an angle of 45-degrees from vertical and shall have clips for attaching three strands of barbed wire. Each support arm shall be of sufficient strength to support a 200 lbs. weight applied at the outer strand of barbed wire.

Barbed wire, where specified, shall be 12 1/2 gauge, with barbs spaced approximately 5-inches apart. Three strands of barbed wire will be required where barbed wire top is specified.

Stretcher bars shall be not less than 3/16-inch by 3/4-inch flat steel and not more than 2-inches shorter than the fabric height. One stretcher bar shall be provided for each gate and end post. Two stretcher bars shall be provided for each corner and pull post. Stretcher bars shall be attached to terminal posts with 1-inch by 1/8-inch flat steel bands, with 3/8-inch carriage bolts at intervals not exceeding 15-inches.

Miscellaneous fittings and fasteners shall be furnished in sufficient quantities to erect all fencing materials in a proper manner.

All fencing materials shall be approved by the Engineer to be in accordance with the specification before they are erected. When requested by the Engineer, samples of any fencing component shall be furnished by the Contractor for testing.

555.3 Galvanizing and Aluminum Coating. All material used in chain link fencing shall be hot dip zinc coated as specified by the following:

All Posts and Pipe: ASTM Designation A120 A53 "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless" (1.8 oz/sf)

All H-Beam Sections: ASTM Designation A123, "Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products" (2.0 oz/sf)

Fence Fabric: ASTM Designation A392, "Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric" Class I (1.2 oz/sf)

Tension Wire, Barbed Wire: ASTM Designation A121, "Standard Specification for Metallic-Coated Carbon Steel Barbed Wire", Class III (0.80 oz/sf)

Post Caps, stretcher Bars and Miscellaneous Fittings, ASTM Designation A153, "Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware".

The weight of zinc coating for all items shall be determined in accordance with ASTM Method A90, "Standard Test Method for Weight (Mass) of Coating on Iron and Steel Articles with Zinc or Zinc-alloy Coatings."

555.4 Construction Methods. The Contractor shall perform all clearing of brush and debris, which may be necessary for the installation of this fencing.

The fencing panels between corner and terminal posts shall generally follow the finished ground elevations. However, the Contractor shall grade off minor irregularities in the path of the fencing as necessary to limit the variation of grade under the bottom edge of fence fabric to a distance of not more than 6-inches and not less than 2-inches to the ground.

The maximum spacing for line posts shall be 10-feet. Pull posts shall not be located more than 500-feet apart and at each change in direction exceeding 20-degrees, both horizontally and vertically. Runs of fencing over 500-feet but less than 1,000-feet shall have a pull post in the center of the run.

Holes for concrete footings, for all posts, shall be drilled to the dimensions listed in the following tables.

Table 4

HOLES FOR LINE AND END POSTS

| Type Post | Fabric Height | Min. Hole Diameter | Min. Hole Depth | Post Embedment |
|-----------|---------------|--------------------|-----------------|----------------|
| Line | 4' | 9" | 30" | 24" |
| Line | 5', 6' | 9" | 30" | 24" |
| End | 4' | 12" | 36" | 30" |
| End | 5', 6' | 12" | 42" | 36" |

Table 5

HOLES FOR GATE POSTS

| Gate Post Size | Min. Hole Diameter | Min. Hole Depth | Post Embedment |
|--------------------------|--------------------|-----------------|----------------|
| 2.875" O.D. x 5.79 lbs. | 12" | 42" | 36" |
| 4" O.D. x 9.10 lbs. | 18" | 42" | 36" |
| 6.625" O.D. x 18.97 lbs. | 18" | 48" | 42" |

Concrete for footings shall be Class B and shall be in accordance with the Item 421, Structural Concrete. All concrete footings shall be cast up to finish grade and crowned one inch to shed water. Excess concrete not

used in the footings, and any other construction debris shall be removed from the site.

The fence fabric shall be erected by securing one end and applying sufficient tension to the other end to remove all slack before making attachments. The fabric shall be cut and each span shall be attached independently at all corner posts and pull posts.

Fastening to end, pull, corner and gate posts shall be with stretcher bars which shall be secured to the posts with stretcher bar bands at intervals not exceeding 15-inches.

Fence fabric shall generally follow the finished contour of the site with the bottom edge of the fabric located 2-inches above the grade.

555.5 Submittal Required. The Contractor shall submit manufacturer's certification that materials meet the requirements of this specification.

555.6 Measurement. Chain Link Fencing of the height specified, will be measured by the linear foot of fence measured at the bottom of the fabric along the centerline of fence from center to center of end posts, excluding gates. Gates will be measured as each gate, complete in-place.

555.7 Payment. The work performed and the material furnished as prescribed by this Item, measured as provided under measurement, will be paid for at the unit price bid for "Chain Link Fencing", of the height specified, which price shall be full compensation for furnishing and installing all fencing materials, except gates, including all miscellaneous fittings, braces, post caps, line wires, connection clips or wires; digging post holes; furnishing and placing concrete for setting posts; all hauling; and for all manipulations, labor, tools, equipment and incidentals necessary to complete the work, including excavation, backfilling and disposal of surplus material.

Gates measured as provided under measurement will be paid for at the unit price bid for "Pedestrian Gate" or "Vehicular Gate", of the type, height and opening specified, which price shall be full compensation for furnishing all materials; fabricating, preparation, hauling and erecting all miscellaneous fittings, braces, latches, gate hinges, stops and center anchorages; and for all manipulations, labor, tools, equipment and incidentals necessary for a complete installation.

There are line code(s), description(s), and unit(s) for this item.

Note: This specification requires drawings

Dwg. NO. HC555-1 Rolling Gate Fence Details
Dwg. NO. HC555-2 Chain Link Fence Details

NOTE: This specification requires other Standard Specifications

Item 421, Structural Concrete
Item 550, Fence Removal
Item 551, Clearing, Grubbing and Fencing

END OF ITEM 555

SUMMARY SHEET

ITEM 555 - CHAIN LINK FENCING

Other Specifications Required

Item 551, Clearing, Grubbing and Fencing
Item 550, Fence Removal
Item 421, Structural Concrete

Reference Standards

1. ASTM A53 "Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless"
2. ASTM A90, "Test Method for Weight (Mass) of Coating on Iron and Steel Articles with Zinc or Zinc-alloy Coatings".
3. ASTM A120,
3. ASTM A121, "Specification for Metallic-Coated Carbon Steel Barbed Wire",
4. ASTM A123, "Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products"
5. ASTM A153, "Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware".
6. ASTM A392, "Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric"

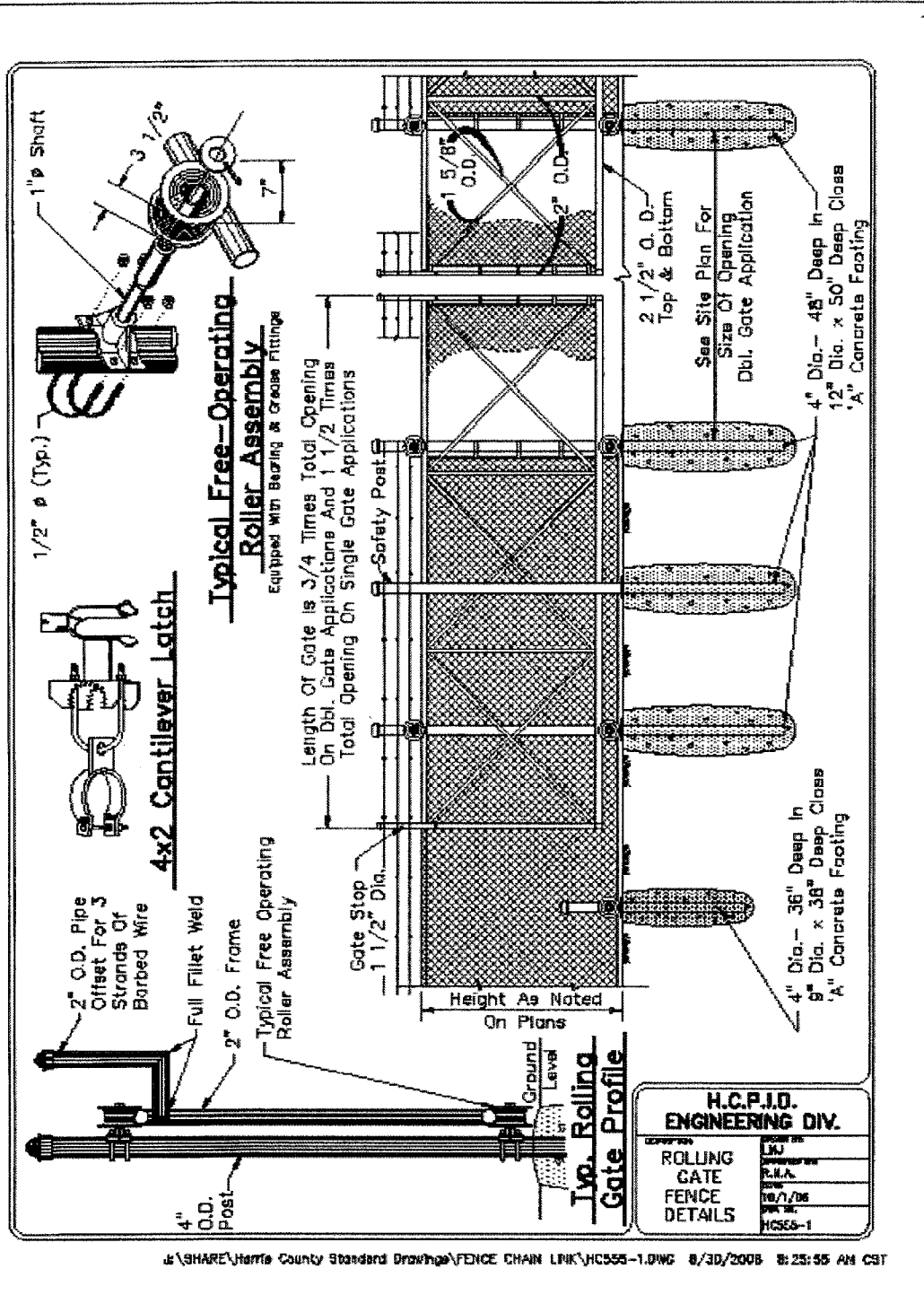
Description

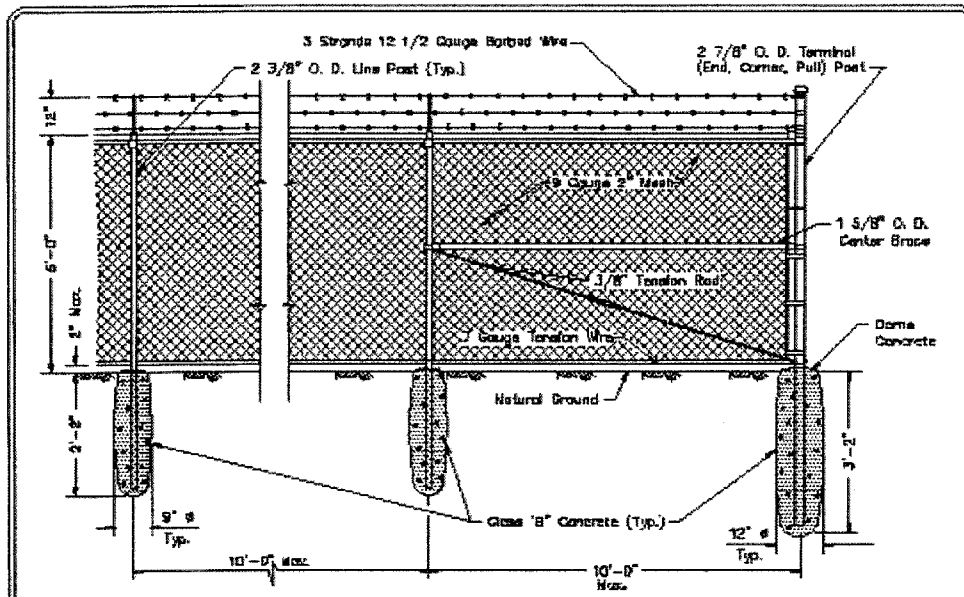
Discusses the requirements for materials and the method of installation of chain link fencing.

Payment

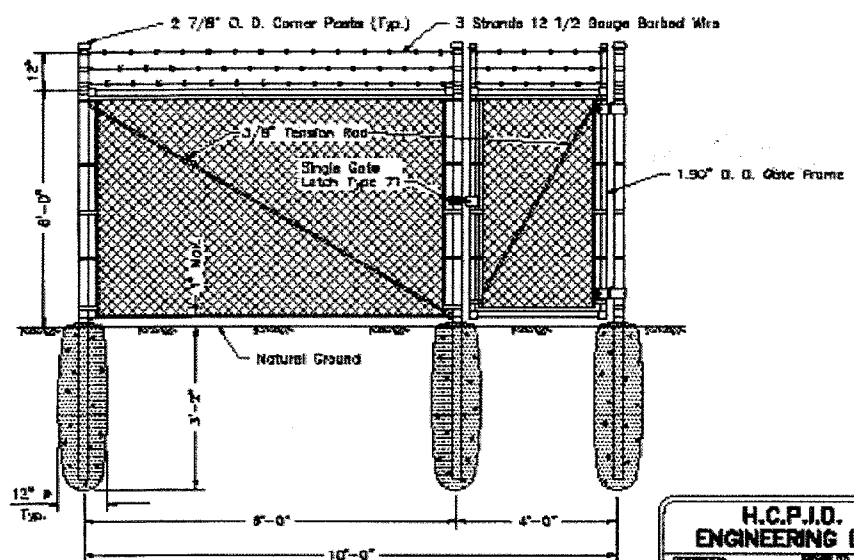
Paid for by the contract unit price per linear foot bid for chain link fencing. Gates are paid for by each unit.

DO NOT INCLUDE THIS SHEET IN THE CONTRACT SPECIFICATIONS





TYPICAL LINE WITH CORNER POST



SECURITY FENCE AND GATE
FOR ELECTRICAL PANEL BOARD

**H.C.P.I.D.
ENGINEERING DIV.**

| | |
|-------------|---------|
| DESIGNED BY | LMJ |
| CHECKED BY | R.R.A. |
| DATE | 10/1/06 |
| PKT. NO. | HCSE6-2 |

J:\SHARE\Harris County Standard Drawings\FENCE CHAIR UNC\p0555-2.dwg 8/30/2006 2:29:37 AM CST

ITEM 556

FOUR STRAND BARBED WIRE FENCE

556.1 Description. This item shall govern for constructing one line of 48-inch, four strand barbed wire fence in accordance with the details and at the locations shown on the plans.

556.2 Barbed wire shall be fine coated (galvanized) steel, meeting the requirements of ASTM Designation A121, "Specification for Metallic - Coated Carbon Steel Barbed Wire", No. 12-1/2, W & M gauge wires, 2-point barbs of 14-gauge wire at 5-inch maximum spacing. Zinc coating shall be to Class 2 requirements.

Staples shall be of 9-gauge galvanized hard wire. All staples shall be 1 1/2-inches long. Staples shall be driven diagonally with the wood grain to avoid splitting. Space should be left between the staple and the post, to permit movement of wire.

Treated wood posts and braces shall be pine, or fir timber, meeting the requirements of AWP Standard U1, suitable for Use Category 4A. Line posts shall have a maximum spacing of 12-feet and have 3-inch to 4-inch tops. Line posts shall be a minimum of 6-feet long and shall be set 24-inches in the ground.

All corner, pull and gate posts shall be 7-feet long and a minimum of 6-inches round and be set in the ground 36-inches.

The timber shall be sound and free from all decay, shakes, splits or any other defects which would weaken the posts or braces or otherwise make them structurally unsuitable for the purposes intended.

The posts and braces shall be round; square or sawed rectangular shape. The slope of grain in sawed, square or rectangular posts for the full length shall not exceed one in ten and the knots shall be sound, tight, well spaced, and shall not exceed one-third of the small diameter or least dimension of the post. A line drawn from the center of each end of the post shall not fall outside the center of the post at any point more than 2-inches. All posts and braces shall be penta-treated and shall have pentachlorophenol wood treatment of a minimum of 8 pounds per cubic foot of 5-percent penta solution.

Posts shall be inspected at time of treatment. Round posts and braces shall be peeled to remove all outer

bark and all inner combium bark, except that occasional strips of bark may remain if not over 1/2-inch wide or over 3-inches long. All Knots shall be trimmed flush the sides, spurs and splinters removed and the ends cut square. The allowable taper from end to inches end of round posts and braces shall not exceed 1-1/2.

Contractor shall provide and install gates at the locations shown on the plans. Gates shall be 14' wide, and the same dimension as the height of the fence, Hog Gate by Farmaster or approved equal, installed as per manufacturer's recommendations.

556.3 Construction Methods. Fence posts shall be spaced at the intervals required by this specification. Posts shall be set in a vertical position. Corner and pull posts shall be braced in two directions. End and gateposts shall be braced in one direction. Where alignment changes 30-degrees or more, a corner post shall be installed. At alignment angles varying from 15 to less than 30-degrees, the angle post shall be braced to adjacent line posts by diagonal tension wires. The spacing of pull post assemblies shall be approximately 500-feet, unless otherwise shown on the plans. All posts shall be placed the minimum depth below ground as shown on the attached drawings or as required by these specifications. Posts shall be set plumb and firm to the lines and grades shown on the plans. Backfilling shall be thoroughly tamped in 4-inch layers. The timber post braces shall be notched as shown on the plans.

The corner, end or angle post assembly shall be installed before stretching the wire between line posts. The barbed wire shall be installed inside (cattle side) of the posts. At all grade depressions where stresses tend to pull the posts out of the ground, the fencing shall be snubbed or guyed at the critical points by means of a 12 1/2-gauge galvanized wire connected to each horizontal line of barbed wire and then to a deadman, or screw type anchor, buried in the ground as shown on the attached drawings. The fencing shall be stretched before being snubbed and guyed. Existing cross-fences shall be connected to the new fences and corner posts with braces which shall be placed at junctions with existing fences. The barbed wire shall be drawn taut and fastened to posts with stables.

556.4 Submittal Required. All shipments shall include certification from the appropriate wood treatments plant. This certificate shall also state that all samples representing each lot have been tested and inspected in accordance with American Wood Preservers' Association Standard M2, "Inspection of Treated Products" and have been found to meet the requirements of applicable American Wood Preservers' Association standards for wood treatment for its intended use.

The Contractor shall submit manufacturer's certification that materials meet the requirements of this specification.

556.5 Measurement. Fencing will be measured by the linear foot, in-place, including gates. When noted in the bid documents, gates may be measured separately.

556.6 Payment. The work performed and the material furnished as prescribed by this item and measured as provided under measurement will be paid for at the contract unit price bid for "Four Strand Barbed Wire Fence", which prices shall be full compensation for furnishing and installing all fence material, including gates; for all preparation, hauling and installing of same; and for all labor, tools, equipment and incidentals necessary to complete the work, including excavation, back filling and disposal of surplus material. When noted in the bid documents, gates may be paid for separately.

There are line code(s), description(s) and unit(s) for this item.

Note: This specification requires drawings.

Note: This specification requires other standard specifications.

Dwg. No. HC556-1
Dwg. No. HC556-2

Barbed Wire Fencing Details
Barbed Wire Fencing Details

Item 421, Structural Concrete
Item 457, Timber Preservative and Treatment
Item 550, Fence Removal
Item 551, Clearing, Grubbing and Fencing

END OF ITEM 556

SUMMARY SHEET

ITEM 556 - FOUR STRAND BARBED WIRE FENCE

Other Specifications Required

Item 421, Structural Concrete
Item 457, Timber Preservative and Treatment
Item 550, Fence Removal
Item 551, Clearing, Grubbing and Fencing

Reference Standards

- ASTM A121, "Specification for Metallic -Coated Carbon Steel Barbed Wire",

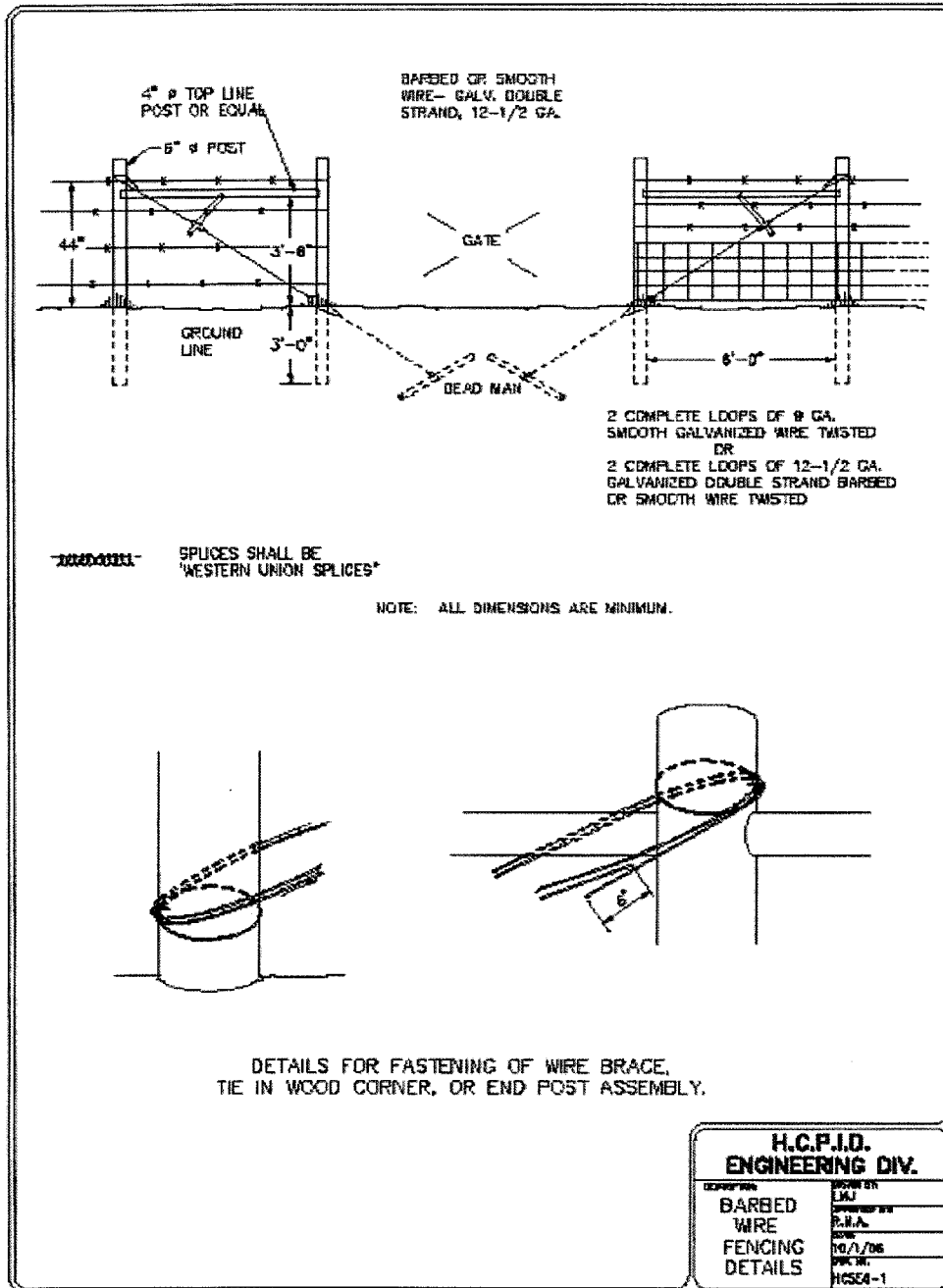
Description

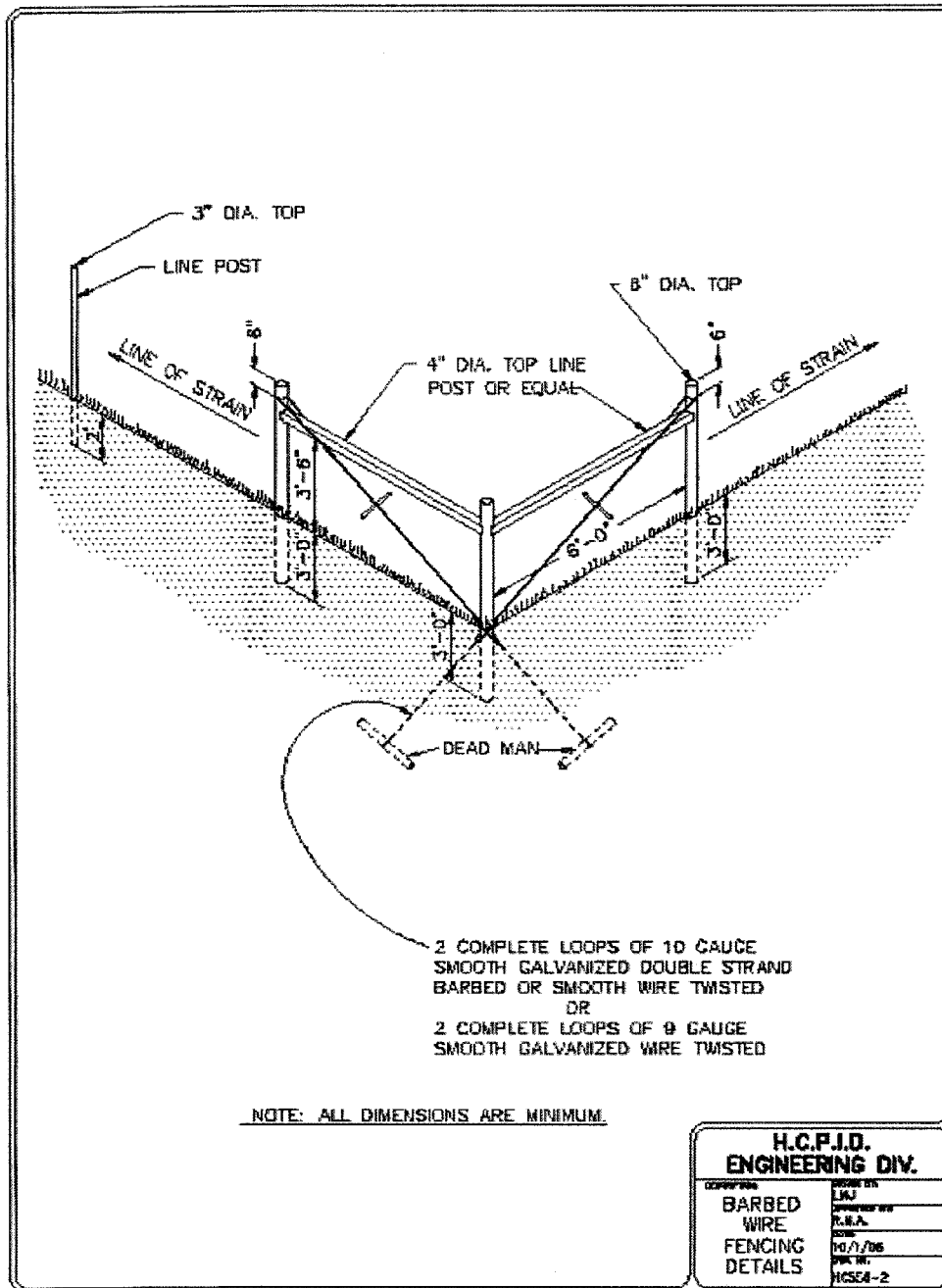
Discusses requirements for materials and method of installation of four strand barbed wire fence, including gates.

Payment

Paid for by the linear foot of four strand barbed wire fence, including gates. When noted in the bid documents, gates may be paid for separately.

DO NOT INCLUDE THIS SHEET IN CONTRACT SPECIFICATIONS





ITEM 671

TRAFFIC CONTROL

- 671.1 Description. This item shall consist of furnishing, installing, moving, replacing, maintaining, cleaning and removing upon completion of work, all barricades, signs, barriers, barrels, cones, lights, delineators, pavement markings, and other such devices and detours in conformance with the drawings or as directed by the Engineer.

A Traffic Control Plan (TCP) has been established for this project in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD). The Contractor may propose an alternate TCP, and if the alternate plan is approved by the Engineer, it may be used. The alternate TCP must be prepared in accordance with Harris County Traffic Control Guidelines (June 1992) and sealed by a Professional Engineer registered in the State of Texas proficient in the field of Traffic Engineering.

- 671.2 Construction Methods. All barricades, signs and other types of traffic control devices shall conform to details shown on the drawings, and those indicated in Part VI of the TMUTCD.

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 TCP.

The Contractor is solely responsible for furnishing, erecting and maintaining all barricades, signs, barriers, barrels, cones, lights, delineators, pavement markings, and other such devices as necessary to adequately protect the project and workers and warn, advise and safeguard the traveling public over the entire length of the project. The Contractor's responsibility in this regard extends for the entire duration of the project, from the start of construction until acceptance by the County.

All reflective traffic control devices such as barricades, vertical panels, signs, etc. shall be maintained at all times by cleaning, replacing or a combination thereof such that during darkness and rain the reflective characteristics shall equal or exceed the retro-reflective characteristics of the standard reflective panels in the Engineer's possession.

Unless otherwise set forth in these specifications, the Contractor shall receive compensation for furnishing, erecting and maintaining the necessary barricades, signs, barriers, barrels, cones, lights, delineators, pavement markings, other such devices and any incidentals necessary for the good and proper safety, convenience and direction of traffic prior to final inspection and acceptance by the County.

Detours and temporary structures necessary for public travel during the prosecution of the work will be indicated on the TCP and the cost included in the bid and contract price. Any necessary detours or temporary structures not indicated on the drawings or provided for in the specifications shall be at the expense of the Contractor. Increased maintenance costs incurred incidental to resulting traffic over an established road, street, or highway as a result of any detour shall not be considered as a cost of maintaining detours and will be paid for by the Contractor.

The Contractor shall provide at his expense, means of ingress and egress for all residents and businesses along any closed section of the work and shall provide property owners a means of access to a public road.

Temporary access driveways shall provide an all-weather surface and shall be maintained by the Contractor in a condition acceptable to the Engineer. Where indicated in the bid documents, asphalt millings may be used for temporary driveways.

No section of the work shall be closed to traffic until so directed by the Engineer. No bridge, culvert or drainage structure shall be closed until an adequate detour has been arranged and constructed.

If, in the opinion of the Engineer, the Contractor does not comply with the above requirements such work as the Engineer may deem necessary for the safety, comfort and convenience of the traveling public may be performed and the charges therefore withheld from any money due or to become due to the Contractor. The Contractor shall not be paid to provide traffic control during delays caused by the Contractor.

The above does not preclude the requirements of the "Harris County General Conditions".

Providing, installing, moving, replacing, maintaining, cleaning and removing upon completion of work all barricades, signs, barriers, barrels, cones, lights, delineators, pavement markings, and other such devices shall be in accordance with Item 665, "Work Zone Pavement Markings", Item 670, "Barricades", Item 696 "Low Profile Concrete

Traffic Barrier” and Item 698 “Temporary Polyethylene Water-Filled Barrier”.

Flagmen shall be furnished, maintained and possess the minimum qualification and requirements stipulated in the TMUTCD. Operation of flagmen shall be as outlined in Item 672 “Flagmen”.

Temporary pavement markings shall be in accordance with Item 665, “Work Zone Pavement Markings”.

Temporary signs and supports shall be made from wood, metal, or other approved materials. Wood for signs shall be minimum ½ inch, medium density, outdoor grade plywood. Metal signs shall be in conformance with Item 624, “Aluminum Signs”. Reflectorized sign sheeting shall be in conformance with Item 648, “Encapsulated Lens Reflective Sheeting for Traffic Control Signs (Hi-Intensity Grade). Signs may be erected on portable, temporary, or fixed supports for use in the work zone. Signs erected on portable supports shall be for daytime use only. All wood supports shall be painted white. Sandbags shall be used where portable or temporary sign supports require the use of weights to prevent a sign assembly from falling over. All signs shall be placed in accordance with the drawings and the TMUTCD.

671.3 Measurement & Payment. Barricades, signs, barriers, barrels, cones, lights, delineators, and other such devices shall be paid for by the month or per each Jobsite, provided the traffic control plan is properly installed and maintained. This includes preparation of an alternative Traffic Control Plan by the Contractor, if any, and approved by the Engineer.

Work Zone Pavement Markings shall be paid for in accordance with Item 665, “Work Zone Pavement Markings”.

Barriers designated as “Low Profile Concrete Barrier” and “Temporary Polyethylene Water-Filled Barrier” shall be paid for in accordance with Items 696 and 698 respectively.

Temporary driveways and the removal of temporary driveways shall be measured and paid for as follows: “Temporary Commercial Driveways per Each” and “Temporary Residential Driveways per Each”. Payment shall include all labor and materials, including shaping, furnishing and hauling necessary to complete the work.

There are line code(s), description(s) and unit(s) for this item:

NOTE: This specification requires other Standard Specifications

Item 665 Work Zone Pavement Markings

Item 670 Barricades

Item 672 Flagmen

Item 673 Constructing Detours for Maintaining Two Way Traffic

END OF ITEM 671

SUMMARY SHEET

ITEM 671 - TRAFFIC CONTROL

Other Specifications Required:

- Item 665 Work Zone Pavement Markings
- Item 670 Barricades
- Item 672 Flagmen
- Item 673 Constructing Detours for Maintaining Two Way Traffic

Reference Standards:

Texas Manual on Uniform Traffic Control Devices

Description:

Describes the requirements for providing and maintaining all traffic control devices, including barricades, flagmen, and detours.

Measurement & Payment. Barricades, signs, barriers, barrels, cones, lights, delineators, pavement markings, and other such devices shall be paid for by the month or per jobsite. This includes the preparation of an alternative Traffic Control Plan by the Contractor.

Temporary driveways and the removal of temporary driveways shall be measured and paid for as "Temporary Commercial Driveways per Each" and "Temporary Residential Driveways per Each".

DO NOT INCLUDE THIS SHEET IN THE CONTRACT SPECIFICATIONS.

SPECIAL PROVISION TO

ITEM 671

TRAFFIC CONTROL

On page three of three, Section 671.3 shall be deleted.

Section 671.3 Measurement and Payment, shall be replaced by the following:

All traffic control devices, traffic handling, signs, barricades, signals, flagmen, lights, striping, etc., used during construction, will be measured and paid for by the unit price per traffic control setting. The price shall be full compensation for furnishing all labor, materials, supplies, equipment and incidentals necessary to complete the work outlined by this specification.

A traffic control setting shall include all traffic control devices necessary to secure a single work area as per Harris County specifications and drawings. A single work area may include more than one construction area. Each setting shall enclose all construction within any 500 foot distance of any other construction site. A single traffic control setting may be as long as 1000 feet but is not limited to 1000 feet.

Payment will be made on the following basis:

1. The total amount for this item will not exceed 10 percent of the total contract amount prior to the final estimate. The portion of the contract amount for this item in excess of 10 percent of the total contract amount will be paid for on the final estimate.
2. The quantity under this item will not exceed the total plan quantity, except when additional work is approved by a Change in Contract. No increase in quantity will be allowed for this item unless the additional quantity is included in the field change adding the additional work. When work is suspended for the convenience of Harris County, through no fault of the Contractor, additional quantity may be paid when approved by a Change in Contract.
3. An overrun for this item will not be allowed for approving designs, material shortages, curing period, test periods, failure to complete the work prior to payment of the amounts allowed by paragraphs 1 and 3 above, nor delays caused directly or indirectly by requirement of the contract.

ITEM 672

FLAGMEN

- 672.1 Description. This item shall provide for the furnishing of flagmen to insure the even flow of traffic through the construction site. The primary function is to move vehicles and pedestrians safely and expeditiously through or around the construction area.
- 672.2 General Requirements. All flagmen shall possess the minimum qualifications and meet the requirements stipulated in the Texas Manual on Uniform Traffic Control Devices (TMUTCD). The Contractor shall use flagmen for the work associated with the control and safety of all traffic and pedestrian flow throughout the project as shown in the project traffic control plan (TCP), Harris County standard guidelines, the TMUTCD, and as directed by the Engineer.

It is the responsibility of the Contractor to ensure that all flagmen are properly trained in flagging procedures. Flagmen will use paddles, lights, flags, and other equipment which meet the required guidelines and dimensions of the TMUTCD. The STOP/SLOW paddle, which gives drivers more positive guidance than a flag, shall be the primary hand-signaling device. Reusable, removable (temporary) white stop bars should be used to the maximum extent possible and removed when flaggers are not present. Flags should be limited to emergency situations and at low-speed and/or low volume locations that can be best served by a single flagger. The use of an orange vest and cap shall be required for all flagmen. For nighttime conditions, these similar garments shall be reflectorized.

The flagmen are provided at work sites to stop traffic intermittently, as required to protect the Contractor's workmen and equipment, pedestrians and motorists. The flagmen must, at all times, be clearly visible to approaching traffic for a distance sufficient to permit proper response by the motorist to flagging instructions and to permit traffic to reduce speed before entering the work site.

The use of flagmen does not relieve the Contractor of his responsibility to insure proper protection of the public, or of the construction. The Contractor is liable for all damages that occur at the construction site, as a result of accidents with citizens and motorists, even though he has provided flagmen.

All costs for flagmen shall be incidental to the other work.

- 672.3 Off-Duty Uniformed Local Law Officers. When directed by the Engineer, the Contractor shall use a combination of off-duty uniformed local law officers and flagmen for intersection work and for the implementation of initial traffic control phases or traffic switches (traffic directed to change lanes or stop). When off-duty uniformed local law officers are used, they shall be used in addition to flagmen, not as a substitute for flagmen. The Contractor may at his own expense elect to use off-duty uniformed local law officers when not directed by the Engineer. The Engineer may direct the use of off-duty uniformed local law officers for circumstances which could not have been reasonably anticipated in the planning of the project. The direction may be based upon, but certainly not limited to, one, or all of the following reasons:
- a. traffic volume;
 - b. the nature and location of the work to be accomplished;
 - c. weather conditions;
 - d. the safety of the motorists, pedestrians or construction workers.

672.4 Submittal Required. If flagmen are to be used during the project the contractor shall demonstrate ownership of 2 radios, 2 stop/slow paddles, 2 temporary white stop bars, 2 flags, 2 orange vests and 2 safety caps at the start of the project.

672.4 5 Measurement and Payment.

Flagmen. Flagmen shall not be paid for directly, but shall be incidental to the other work.

Off-duty Uniformed Peace Officers. Off-duty, uniformed, peace officers shall be paid for by the hour when the use is directed by the Engineer. The contractor may at his own expense elect to use off-duty uniformed local law officers when not directed by the Engineer. The Engineer's approval of any Contractor's request to use off-duty, uniformed local law officers does not constitute approval for payment.

There are line code(s), description(s) and unit(s) for this item:

END OF ITEM 672

SUMMARY SHEET

ITEM 672 - FLAGMEN

Other Specifications Required
None

Reference Standards
None

Description
Discusses the requirements for flagmen.

Payment
Flagmen are incidental to the other work.
Uniform Peace Officer are paid per hour.

DO NOT INCLUDE THIS SHEET IN CONTRACT SPECIFICATIONS.

SPECIAL PROVISION TO

ITEM 671

TRAFFIC CONTROL

On page three of three, Section 671.3 shall be deleted.

Section 671.3 Measurement and Payment, shall be replaced by the following:

All traffic control devices, traffic handling, signs, barricades, signals, flagmen, lights, striping, etc., used during construction, will be measured and paid for by the unit price per traffic control setting. The price shall be full compensation for furnishing all labor, materials, supplies, equipment and incidentals necessary to complete the work outlined by this specification.

A traffic control setting shall include all traffic control devices necessary to secure a single work area as per Harris County specifications and drawings. A single work area may include more than one construction area. Each setting shall enclose all construction within any 500 foot distance of any other construction site. A single traffic control setting may be as long as 1000 feet but is not limited to 1000 feet.

Payment will be made on the following basis:

1. The total amount for this item will not exceed 10 percent of the total contract amount prior to the final estimate. The portion of the contract amount for this item in excess of 10 percent of the total contract amount will be paid for on the final estimate.
2. The quantity under this item will not exceed the total plan quantity, except when additional work is approved by a Change in Contract. No increase in quantity will be allowed for this item unless the additional quantity is included in the field change adding the additional work. When work is suspended for the convenience of Harris County, through no fault of the Contractor, additional quantity may be paid when approved by a Change in Contract.
3. An overrun for this item will not be allowed for approving designs, material shortages, curing period, test periods, failure to complete the work prior to payment of the amounts allowed by paragraphs 1 and 3 above, nor delays caused directly or indirectly by requirement of the contract.

SPECIAL SPECIFICATION

ITEM 8205

CLEARING OF RIGHT-OF-WAY

8205.1 Description. This item shall consist of clearing the right-of-way of all trees, brush, overhangs, logs, rubbish, and other debris, including any deleterious materials within the right-of-way limits of the project. The intent of this item is to remove brush, shrubs, and trees, and stumps. Cut brush and trees at 6" above ground level. Remove stumps. **This specification represents clearing of right-of-way as further described.**

It shall be the responsibility of the Contractor to visit the project site and ascertain the clearing requirements as included in the bid documents prior to submitting a bid proposal/cost estimate on each jobsite.

Any necessary trimming of overhangs that extend into the right-of-way and will interfere with the facilitation of construction or the operation or maintenance of the executed project will be paid for as part of this item.

8205.2 Submitting a Bid Proposal/Cost Estimate on Each Jobsite. The Contractor shall provide an estimated cost of potential tree/brush removal and disposal for each jobsite to the job inspector and receive the inspector and/or engineer's approval of said cost estimate before beginning any work on the jobsite.

8205.3 Construction Methods. The right-of-way shall be cleared of all trees, brush, overhangs, with the stumps of the trees. Grinding will not be permitted as a means of stump removal unless specifically approved, in writing, by the final engineer or inspector. The contractor shall be responsible for adequately protecting existing structures, utilities, fences and other adjoining facilities, and shall repair or replace the same at his expense due to damage caused by his operations. If fences are designated and approved by Harris County to be removed and/or replaced with new fence then the extra work bid items for fences will be implemented.

When the trees and stumps have been removed, the Contractor will fill the voids created by the stump removal with cement stabilized sand, as directed by the field engineer or inspector. The entire site will then be proof-rolled to the satisfaction of the County.

Contractor shall furnish all necessary labor crews and equipment to cut down, remove, and dispose of trees and debris as directed by Harris County. Once work on an assigned jobsite is initiated by the Contractor, the Contractor shall maintain at least one crew continuously working on the job until completion.

The Contractor shall maintain a consistent level of work effort. A County inspector will be present to monitor efficiency and accuracy of the work.

8205.4 Equipment and Crew. The contractor will be responsible to provide all the necessary equipment such as but not limited to: trucks, chippers, lifts, chain saws, barricades, hand tools, and three (3) types of labor crew configurations (see measurement and payment section). Each crew will be made up of common laborers and a supervisor. The supervisor must oversee, direct, and manage each work assignment.

The supervisor will be required to have the ability to communicate in English. Each labor crew member should be proficient in running and operating all necessary hand tools and power equipment used in the cutting, removal, and disposal of trees, tree limbs, stumps, brush, and related debris.

8205.5 Jobsite. The County will provide access to all jobsites, plus provide the Contractor the phone number of Fort Bend County's Surveyor. This Surveyor will have provided the original surveying/staking for the acquisition of Fort Bend County's Right-of-way.

The County inspector will provide verbal instructions for each job assignment. The Contractor shall provide field supervision and maintain contact with the County by mobile telephone, as necessary.

8205.6 Disposal of Materials. All cleared/cut materials shall be disposed of off-site. The Contractor shall be responsible for obtaining any necessary disposal permits. The Contractor shall not bury any refuse on Fort Bend County property. No burning shall be allowed within the county right-of-way unless otherwise noted.

The contractor must keep all existing streets clean of construction related debris at all times.

8205.7 Limit of Operation. No clearing shall be done outside the limits of the right-of-way. Any work done outside the right-of-way limits, for any purpose, shall be done at the Contractor's expense and it shall be the Contractor's responsibility to negotiate and secure the permission of the property owner for such operation. The Contractor shall provide sufficient evidence to Fort Bend County that such permission has been obtained.

8205.8 Schedule of Clearing. The Contractor shall schedule his clearing operations on Monday through Friday, between the hours of 7:00 a.m. to 4:30 p.m.

8205.9 Measurement & Payment. Clearing of Right-of-Way, including cement stabilization and proof-rolling, will be paid for at the unit price bid per hour for each of the following three (3) types of Labor crew configurations:

- 1) Labor crew 1: 1 Supervisor & 2 Laborers
- 2) Labor crew 2: 1 Supervisor & 3 Laborers
- 3) Labor crew 3: 1 Supervisor & 4 Laborers

Stump removal will be paid for at the unit price bid per each for each of the following two (2) types of stumps.

- 1) Stump Removal (6 to 12-inch Diameter)
- 2) Stump Removal (13 to 24-inch Diameter)
- 3) Stump Removal (25 to 36-inch Diameter)
- 4) Stump Removal (37-inch or larger Diameter)

Fencing removal shall be measured and paid for according to Harris County Standard Specification Item 550, "Fencing Removal", at the contract unit price bid per linear foot of fencing, including gates; to be removed and disposed of.

Fence installation shall be measured and paid in accordance to Harris County Standard Specification Items 554, "Wood Fencing," 555, "Chain Link Fencing," and 556, "Four Strand Barbed Wire Fence", at the contract unit price bid per linear foot of installed fencing, including gates.

The line codes, descriptions, and units for this item are:

| | |
|----------------------------------------------------|------|
| 8205.01 Labor crew 1: 1 Supervisor & 2 Laborers | Hour |
| 8205.02 Labor crew 2: 1 Supervisor & 3 Laborers | Hour |
| 8205.03 Labor crew 3: 1 Supervisor & 4 Laborers | Hour |
| 8205.04 Stump Removal (6 to 12-inch Diameter) | Each |
| 8205.05 Stump Removal (13 to 24-inch Diameter) | Each |
| 8205.06 Stump Removal (25 to 36-inch Diameter) | Each |
| 8205.07 Stump Removal (37-inch or larger Diameter) | Each |

Note: This specification requires Standard Specifications:

Item 554, Wood Fencing

Item 555, Chain Link Fencing

Item 556, Four Strand Barbed Wire Fence

END OF ITEM 8205

CONTRACT SHEET
Bid 16-018

THE STATE OF TEXAS
COUNTY OF FORT BEND

This memorandum of agreement made and entered into on the 25 day of August, 20 15,
by and between Fort Bend County in the State of Texas (hereinafter designated County), acting herein by
County Judge Robert Hebert, by virtue of an order of Fort Bend County Commissioners Court, and
TFR Enterprises, Inc (hereinafter designated Contractor).
(company name)

WITNESSETH:

The Contractor and the County agree that the bid and specifications for **On-Site Clearing, Grubbing, and
Debris Removal Services** which are hereto attached and made a part hereof, together with this instrument and the
bond (when required) shall constitute the full agreement and contract between parties and for furnishing the items
set out and described; the County agrees to pay the prices stipulated in the accepted bid.

It is further agreed that this contract shall not become binding or effective until signed by the parties hereto and a
purchase order authorizing the items desired has been issued.

Executed at Richmond, Texas this 1 day of September 20 15.

By: Robert Hebert **Fort Bend County, Texas**
County Judge Robert E. Hebert

By: [Signature]
Signature of Contractor

By: Tipton F. Rowland, CEO
Printed Name and Title