

Request for Competitive Sealed Proposals (RCSP) For Construction of an Old High School Parking Lot and a Blessing Elementary Parking Lot.

**Proposing contractors must label the outside of their proposal
with the title above.**

Bid Bond Required

A bid Bond in the amount of 5% of the total maximum amount of the contractor's proposal shall be submitted with the Sealed Proposal and should be attached to the proposal pricing form.

Sealed Proposals addressed to the TIDEHAVEN INDEPENDENT SCHOOL DISTRICT (TISD) Attention: Dr. Andrew Seigrist, Superintendent shall be received at the TISD Central Administration Building located at 47 CR 427, Doman Road, El Maton, Texas 77440 (Mailing Address: P.O. Box 129, El Maton, Texas 77440) until 3:30 PM, October 29, 2018. Proposals shall then be opened and proposers' names and prices read aloud.

Proposals shall be for the furnishing of all labor, materials, equipment, plant and superintendence required to be performed by the respective RCSP package(s) and any issued applicable addenda named above. The use of the term "Bidder" in this solicitation means a contractor responding to the Request for Competitive Sealed Proposals (RCSP), and is NOT meant to indicate that this solicitation is a "Competitive Bid" as defined in Texas Gov't Code §2269.101, Subchapter C. et seq.

The RCSP Documents Package(s), which includes Instructions to Proposers, Proposal Documents, Technical Specifications, Contract Drawings, etc., may be examined or picked up at TISD Central, Administration Building, 47 CR 427 Doman Road, El Maton, TX 77440.

Questions about this Solicitation should be directed to: Dr. Andrew Seigrist, Superintendent, Tidehaven ISD, 979-843-4307.

The TISD reserves the right to not award a project, award one or both projects separately to separate proposers, or both projects to the same proposer. The TISD reserves the right to reject any and all Proposals and to waive informalities in the Proposal process

Estimated budgets and completion times are provided according to Texas Government Code 2269. However, you must provide your proposal the price on the proposal form and the time for completion.

The following are estimates only and actual times will be subject to proposals received and negotiations with selected vendor.

Estimated Approximate Completion Dates:

1. Old High School Parking Lot: Estimated approximate completion date after contract is executed should not exceed 90 days from notice to proceed.
2. Blessing Elementary Parking Lot: Estimated approximate completion date after contract is executed should not exceed 90 days from notice to proceed.

Estimated Budgets:

1. Old High School Parking Lot: \$400,000.00
2. Blessing Elementary Parking Lot: \$300,000.00

Design Package for Old High School Parking Lot begins on page 036.

Design Package for Blessing Elementary Parking Lot begin on page 122.

Proposed Percentage Discount for Joint Award for Request for Competitive Sealed Proposals (RCSP) For Construction of an Old High School Parking Lot and a Blessing Elementary Parking Lot.

The TISD reserves the right to not award a project, award one or both projects separately to separate proposers, or both projects to the same proposer. The TISD reserves the right to reject any and all Proposals and to waive informalities in the Proposal process.

Price sheets are included in each Construction Specification Package. The price sheets for Construction of an Old High School Parking Lot are located at Pages 43-44. The price sheets for Construction of a Blessing Elementary are located at Pages 128-130. These price sheets permit a base bid and several alternative bids for each parking lot construction project respectively. The vendor may propose pricing for one or both projects.

If the vendor proposes pricing for both projects, the vendor must price each parking lot construction project separately on the pricing sheets provided on Pages 43-44, 128-130. If the vendor proposes pricing for both projects, below please submit the percentage discount, if any, the vendor is willing to apply to the total combined proposed pricing amount of both projects, in the event that the TISD awards both projects to a single vendor.

Upon entering a percentage discount in the blank provided below, the vendor agrees to apply that percentage discount to any combination of base bid pricing and/or alternate bid pricing submitted by the proposer and selected by TISD. "

PERCENTAGE DISCOUNT VENDOR WILL APPLY IF AWARDED BOTH CONSTRUCTION OF AN OLD HIGH SCHOOL PARKING LOT AND CONSTRUCTION OF A BLESSING PARKING LOT: _____%

EXAMPLE

<i>Vendor's proposed price for Construction of an Old High School Parking Lot ONLY:</i>	<i>\$100.00</i>
<i>Vendor's proposed price for Construction of a Blessing Elementary Parking Lot ONLY:</i>	<i>\$100.00</i>
<i>Total Combined Proposed Pricing Amount for both Projects if Awarded to Same Vendor:</i>	<i>\$200.00</i>
<i>Percentage Discount Vendor is Willing to Apply to Total if Awarded Both Projects:</i>	<i>.02%</i>
<i>Total Combined Proposed Pricing Amount for both Projects Awarded to Same Vendor with Applied Percentage Discount:</i>	<i>\$198.00</i>

This clause controls over any other clause in this document.

CONTRACT SECURITY

A. Payment Bonds shall be required for all work where the Contract exceeds \$25,000.00. A Performance Bond shall be required for all work where the Contract exceeds \$100,000.00. After award of contracts by Owner, the successful Proposer, at Proposer's expense, must deliver to the Owner an executed Performance and Payment Bond in an amount of 100% of the accepted proposal as security for the faithful performance of the Contract and payment of all persons performing labor and furnishing materials in connection with this Contract.

B. Bonding Company must be licensed, listed, and approved in the State of Texas (State Board of Insurance).

C. Bonding Company shall provide such other information as necessary to document net worth, stability, total bonding capacity, and projects under coverage, etc., with adequate financial capacity for this Project. If the Contract sum exceeds the underwriting limitation of the Surety on the most recent list of acceptable sureties, the Contractor shall provide the Owner with evidence that the excess is protected by re-insurance or co-insurance in a form and amount acceptable to the Owner.

D. Such bonds shall meet the requirements of Chapter 2253 of the Texas Government Code.

E. Costs of the above stated bonds and insurance are to be included in the proposal.

F. Attorneys-in-Fact who sign bonds shall file with each bond a certified and effective dated copy of their Power of Attorney.

G. The Performance Bond shall guarantee the repair and maintenance of all defects due to faulty materials

EVALUATION CRITERIA AND ASSIGNED WEIGHTS

FOR REQUEST FOR COMPETITIVE SEALED PROPOSALS (RCSP) FOR
CONSTRUCTION OF AN OLD HIGH SCHOOL PARKING LOT AND A BLESSING
ELEMENTARY PARKING LOT FOR TIDEHAVEN INDEPENDENT SCHOOL DISTRICT
EL MATON, TEXAS

The evaluation criteria permitted by Texas Government Code §2269 are as follows.

The process for evaluation and selection for the RCSP method as prescribed by Texas Government Code §2269 is as follows:

Sec. 2269.154. EVALUATION OF OFFERORS. (a) The governmental entity shall receive, publicly open, and read aloud the names of the offerors and any monetary proposals made by the offerors. (b) Not later than the 45th day after the date on which the proposals are opened, the governmental entity shall evaluate and rank each proposal submitted in relation to the published selection criteria.

Sec. 2269.155. SELECTION OF OFFEROR. (a) The governmental entity shall select the offeror that submits the proposal that offers the best value for the governmental entity based on:

- (1) the selection criteria in the request for proposal and the weighted value for those criteria in the request for proposal; and*
- (2) its ranking evaluation.*

(b) The governmental entity shall first attempt to negotiate a contract with the selected offeror. The governmental entity and its architect or engineer may discuss with the selected offeror options for a scope or time modification and any price change associated with the modification.

(c) If the governmental entity is unable to negotiate a satisfactory contract with the selected offeror, the governmental entity shall, formally and in writing, end negotiations with that offeror and proceed to the next offeror in the order of the selection ranking until a contract is reached or all proposals are rejected.

The evaluation criteria permitted by Texas Government Code §2269 are:

Sec. 2269.055. CRITERIA TO CONSIDER. (a) In determining the award of a contract under this chapter, the governmental entity may consider:

- (1) the price;*
- (2) the offeror's experience and reputation;*
- ⁰⁰⁵(3) the quality of the offeror's goods or services;*

- (4) *the impact on the ability of the governmental entity to comply with rules relating to historically underutilized businesses;*
- (5) *the offeror's safety record;*
- (6) *the offeror's proposed personnel;*
- (7) *whether the offeror's financial capability is appropriate to the size and scope of the project; and*
- (8) *any other relevant factor specifically listed in the request for bids, proposals, or qualifications.*

The Tidehaven ISD has assigned the following criteria and weights for this project.

- (1) ***the price;** 40% based on the price proposed*
- (2) ***the offeror's experience and reputation;** 30 points based on references and other known information of the evaluation committee. Contractor should provide a statement of qualifications with the proposal.*
- (3) ***the quality of the offeror's goods or services;** 30 points based on the based on references and other known information of the evaluation committee.*

TOTAL 100 POINTS

**RESOLUTION OF THE BOARD OF TRUSTEES OF
TIDEHAVEN INDEPENDENT SCHOOL DISTRICT DETERMINING METHOD OF PROCUREMENT
AND DELEGATING AUTHORITY CONCERNING CONSTRUCTION MATTERS**

WHEREAS, the Tidehaven Independent School District (the "District" or "TISD") is undertaking multiple construction projects (the "Projects"); and

WHEREAS, the Projects include the following work, construction of an Old High School Parking Lot and a Blessing Elementary Parking Lot.

WHEREAS, the Board of Trustees of the Tidehaven ISD has determined that Request for Competitive Sealed Proposal procurement method provides the best value to the TISD for the Projects; and

WHEREAS, the Board of Trustees of the Tidehaven ISD desires to delegate its authority with regard to certain actions authorized or required by Chapter 2269 of the Texas Government Code concerning the Project to the TISD Superintendent, certain designated representatives, committees or other persons and hereby provides notice of the delegation, the limits of the delegation and the name or title of each person or committee.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF TIDEHAVEN INDEPENDENT SCHOOL DISTRICT AS FOLLOWS:

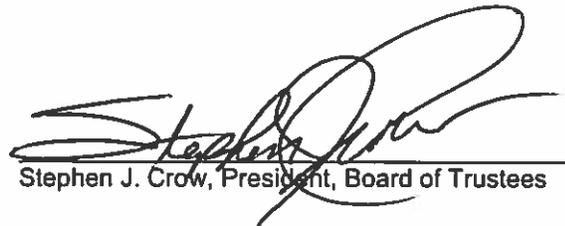
1. It is found that the foregoing recitals are true and correct and are hereby adopted as findings of fact by the Board of Trustees of Tidehaven Independent School District.
2. The delegations enumerated herein are made and determined by rule as permitted by law, and wherever the word "proposal(s)" is used herein, it shall be deemed to include bid(s) and/or qualification(s), as applicable.
3. The Board of Trustees of Tidehaven Independent School District delegates to the TISD Superintendent of Schools, with regard to the Projects, the authority to: (1) develop Requests for Competitive Sealed Proposals and any other solicitation documents, as appropriate and in keeping with the Board's selected procurement or delivery method; (2) establish the selection criteria and the weight to be given to each criterion to be used in evaluating and ranking proposals; (3) advertise or publish notices of requests for competitive sealed proposals in a manner prescribed by law and/or otherwise solicit proposals in accordance with law; (4) appoint members to an evaluation committee(s) to analyze and rank bids, proposals or qualifications, the members to be appointed by name or title, which could include, but is not limited to, a representative or representatives of the design professionals for the Project; (5) receive and publicly open the proposals and read aloud the names of the offerors/bidders/proposers and any monetary amounts, or designate another individual(s) to perform those functions; (6) evaluate, analyze and rank the proposals according to the published selection criteria and weights through the appointed evaluation committee; (7) negotiate proposals and contracts; (8) make award to the highest scoring proposer(s) according to

the weighted evaluation criteria published in the solicitation; (9) sign and otherwise execute the awarded contract(s) and (10) other ministerial duties as required to procure public work contracts.

4. The Board of Trustees of Tidehaven Independent School District further authorizes both the TISD Superintendent of Schools and the proposal evaluation committee to utilize the assistance of any person or entity that they deem appropriate, including, but not limited to, the design professionals for the Project, and/or the legal counsel of TISD, in carrying out the authority granted to them.
5. The Board of Trustees of Tidehaven Independent School District further delegates to the Superintendent the authority to publish, offer and negotiate the terms and conditions of contracts pertaining to the Project.
6. This Resolution shall take effect immediately.

PASSED and ADOPTED the 8th day of October, 2018, by the Board of Trustees of the Tidehaven Independent School District by the following vote:

AYES: 6
NOES: 0
ABSENT: 1
ABSTAIN: 0



Stephen J. Crow, President, Board of Trustees

ATTEST:

Stuart Lynn, Secretary, Board of Trustees

**RESOLUTION OF THE BOARD OF TRUSTEES OF TIDEHAVEN INDEPENDENT SCHOOL DISTRICT
DETERMINATION OF PREVAILING WAGE RATE FOR CONSTRUCTION PROJECTS**

WHEREAS, the Tidehaven Independent School District (the "District" or "TISD") is undertaking multiple construction projects (the "Projects"); and

WHEREAS, the Projects include the following work, construction of an Old High School Parking Lot and a Blessing Elementary Parking Lot.

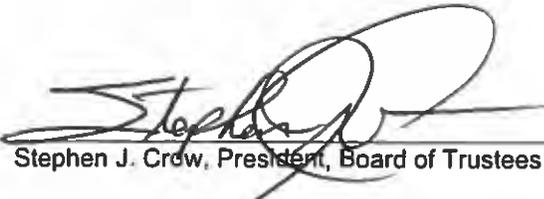
WHEREAS, Chapter 2258 of the Texas Government Code requires the Board of Trustees ("Board") of TISD to determine the general prevailing wage rate in the locality where the Projects will be constructed.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF TIDEHAVEN INDEPENDENT SCHOOL DISTRICT AS FOLLOWS:

1. It is found that the foregoing recitals are true and correct and are hereby adopted as findings of fact by the Board of Trustees of Tidehaven Independent School District.
2. The TISD Board of Trustees further determines that the prevailing wage rate in Tidehaven ISD for the Project is as determined by the United States Department of Labor in its Wage Rate General Decision # TX180248 for Matagorda County, Texas and dated September 14, 2018, and incorporated herein as Exhibit "A" to this resolution.
3. The TISD Board of Trustees further determines that the prevailing wage rate for the Project for legal holiday and overtime work is the rate of one and one-half times the prevailing wage rate determined above.
4. If the wage rate is updated by the US Department of Labor at <https://www.wdol.gov/dba.aspx> before the publication of the solicitation, then the wage rates applicable at the time of the publication shall be substituted for the above specified rate.
5. This Resolution shall take effect immediately.

PASSED and ADOPTED the 8th day of October, 2018, by the Board of Trustees of the Tidehaven Independent School District by the following vote:

AYES: 6
NOES: 0
ABSENT: 1
ABSTAIN: 0



Stephen J. Crow, President, Board of Trustees

ATTEST:

Stuart Lynn, Secretary, Board of Trustees

General Decision Number: TX180248 09/14/2018 TX248

Superseded General Decision Number: TX20170248

State: Texas

Construction Type: Building

Counties: Matagorda and Refugio Counties in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2018
1	03/23/2018
2	08/03/2018
3	09/14/2018

ASBE0022-003 06/01/2018

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 24.15	13.29

ASBE0087-010 01/01/2018

Refugio County

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 22.72	10.02

BOIL0074-003 01/01/2017

	Rates	Fringes
BOILERMAKER.....	\$ 28.00	22.35

* IRON0066-008 09/01/2018

Refugio County

Rates Fringes

IRONWORKER, REINFORCING AND STRUCTURAL.....\$ 22.05 6.73

* IRON0084-003 06/01/2018

Matagorda County

Rates Fringes

IRONWORKER, STRUCTURAL AND REINFORCING.....\$ 23.77 7.12

LAB00154-001 05/01/2008

Rates Fringes

Laborers: (Mason Tender - Cement/Concrete).....\$ 12.98 3.49

PLUM0068-002 10/01/2017

Rates Fringes

PLUMBER.....\$ 34.90 10.54

PLUM0142-004 07/01/2017

Refugio County

Rates Fringes

Plumber.....\$ 30.25 11.80

SUTX2009-103 04/20/2009

Rates Fringes

BRICKLAYER.....\$ 19.67 0.00

CARPENTER.....\$ 13.18 0.00

CEMENT MASON/CONCRETE FINISHER...\$ 13.27 0.00

ELECTRICIAN.....\$ 20.00 3.11

LABORER: Common or General.....\$ 12.02 0.00

LABORER: Landscape & Irrigation.....\$ 8.50 0.22

LABORER: Mason Tender - Brick...\$ 12.02 0.00

LABORER: Mortar Mixer.....\$ 12.00 0.00

OPERATOR: Backhoe/Excavator/Trackhoe.....\$ 13.75 0.00

OPERATOR: Bulldozer.....\$ 12.80 0.43

OPERATOR: Crane.....\$ 21.33 0.00

OPERATOR: Forklift.....\$ 14.58 0.00

OPERATOR: Loader (Front End)....\$ 10.54	0.00
PAINTER: Brush, Roller and Spray.....\$ 12.26	0.00
ROOFER.....\$ 13.64	1.80
SHEET METAL WORKER.....\$ 17.00	0.00
TILE SETTER.....\$ 15.00	0.00
TRUCK DRIVER.....\$ 11.24	0.35

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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

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:

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.

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END OF GENERAL DECISION

Prevailing Wage Rates Required for this Project

The following pages are the prevailing wage rates for this project and are required by Texas law.

General Decision Number: TX180248 09/14/2018 TX248

Superseded General Decision Number: TX20170248

State: Texas

Construction Type: Building

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* IRON0066-008 09/01/2018

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	Rates	Fringes
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* IRON0084-003 06/01/2018

Matagorda County

	Rates	Fringes
IRONWORKER, STRUCTURAL AND REINFORCING.....	\$ 23.77	7.12

LAB00154-001 05/01/2008

	Rates	Fringes
Laborers: (Mason Tender - Cement/Concrete).....	\$ 12.98	3.49

PLUM0068-002 10/01/2017

	Rates	Fringes
PLUMBER.....	\$ 34.90	10.54

PLUM0142-004 07/01/2017

Refugio County

	Rates	Fringes
Plumber.....	\$ 30.25	11.80

SUTX2009-103 04/20/2009

	Rates	Fringes
BRICKLAYER.....	\$ 19.67	0.00
CARPENTER.....	\$ 13.18	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 13.27	0.00
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LABORER: Landscape & Irrigation.....	\$ 8.50	0.22
LABORER: Mason Tender - Brick...	\$ 12.02	0.00
LABORER: Mortar Mixer.....	\$ 12.00	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 13.75	0.00
OPERATOR: Bulldozer.....	\$ 12.80	0.43
OPERATOR: Crane.....	\$ 21.33	0.00
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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)).

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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

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:

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.

=====

END OF GENERAL DECISION

TISD RCSP FOR CONSTRUCTION OF AN OLD HIGH SCHOOL PARKING LOT AND A BLESSING
ELEMENTARY PARKING LOT

FELONY CONVICTION NOTICE

FOR RESPONSE TO TIDEHAVEN ISD SOLICITATION

Statutory citation covering notification of criminal history of contractor is found in the Texas Education Code #44.034. Following is an example of a felony conviction notice:

State of Texas Legislative Senate Bill No. 1, Section 44.034, Notification of Criminal History, Subsection (a), states "a person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony." Subsection (b) states "a school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for services performed before the termination of the contract."

THIS NOTICE IS NOT REQUIRED OF A PUBLICLY-HELD CORPORATION

Complete only one of the three below: A or B or C.

I, the undersigned agent for the firm named below, certify that the information concerning notification of felony convictions has been reviewed by me and the following information furnished is true to the best of my knowledge.

Official: _____
Print Authorized Company Official's Name

A. My firm is a publicly held corporation; therefore, this reporting requirement is not applicable.

Signature of Authorized Company Official: _____

OR

B. My firm is not owned nor operated by anyone who has been convicted of a felony:

Signature of Authorized Company Official: _____

OR

C. My firm is owned or operated by the following individual(s) who has/have been convicted of a felony:

Name of Felon(s): _____

Details of Conviction(s): _____

You may attach another sheet

Signature of Authorized Company Official: _____

**Notice to Vendors Conflict of Interest
Disclosure Statements Texas Local
Government Code, Chapter 176 for Tidehaven ISD**

Vendors are required to file a Conflict of Interest Questionnaire (Form CIQ) with the District **if an employment or business relationship or family relationship exists** between the vendor and a local government officer ("LGO") of the District or a family member of the LGO. **THERE ARE POTENTIAL CRIMINAL PENALTIES FOR FAILURE TO COMPLY WITH TEX. LOCAL GOVT. CODE CHAPTER 176.** Certain terms used herein are defined in Chapter 176. Vendors are encouraged to review and become familiar with all disclosure requirements of Chapter 176 and Form CIQ. The information contained herein is for information purposes only and shall not be construed as legal advice. "Vendor" means a person who enters or seeks to enter into a contract with a local governmental entity. The term includes an agent (including an employee) of a vendor.

A vendor is required to file a completed Form CIQ if the vendor has a business relationship with Tidehaven ISD and:

1. has an employment or other business relationship with a Local Government Officer ("LGO") of Tidehaven ISD or a family member of the LGO;
2. has given a LGO of the District, or a family member of the LGO, one or more gifts that have the aggregate value of more than \$100 in the 12-month period specified in Loc. Govt. Code Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
3. has a family relationship with a LGO of the District.

Form CIQ must be filed with the appropriate District records administrator:

1. Not later than the seventh business day after the later of:
 - (1) the date that the vendor:
 - (A) begins discussions or negotiations to enter into a contract with the District; or
 - (B) submits to the District an application, response to a request for proposals or bids, correspondence, or other writing related to a potential contract with the District; or
 - (2) the date the vendor becomes aware:
 - (A) of an employment or other business relationship with a LGO, or a family member of the LGO;
 - (B) that the vendor has given one or more gifts described above; or
 - (C) of a family relationship with a LGO.
2. The vendor also shall file an updated completed questionnaire (Form CIQ) not later than the seventh business day after the date on which the vendor becomes aware of an event that would make a statement in the questionnaire in complete or inaccurate

Local Government Officers (LGOs) of the Tidehaven ISD as of February 05, 2018, include:

1. **Members of the Tidehaven ISD Board of Trustees:** current list found at <http://www.tidehavenisd.com/home/board-of-trustees>
2. Superintendent Dr. Andrew Seigrist
3. **An employee of Tidehaven ISD Board of Trustees:** who exercises discretion in the planning, recommending, selecting, or contracting of a vendor.

If you are required to file a Conflict of Interest Questionnaire (Form CIQ), upload the with your proposal.

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

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

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

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

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

OFFICE USE ONLY

Date Received

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

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

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

Name of Officer

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

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

Yes No

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

Yes No

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

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

7

Signature of vendor doing business with the governmental entity

Date

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

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

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

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

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

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

(2) the vendor:

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

- (i) a contract between the local governmental entity and vendor has been executed;
- or
- (ii) the local governmental entity is considering entering into a contract with the vendor;

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

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

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

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

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

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

(1) the date that the vendor:

- (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or
- (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

- (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);
- (B) that the vendor has given one or more gifts described by Subsection (a); or
- (C) of a family relationship with a local government officer.

Texas Government Code 2270 Verification Form

Texas 2017 House Bill 89 has been signed into law by the governor and as of September 1, 2017 will become law codified as Texas Government Code § 2270 and 808 et seq.

The relevant section addressed by this form reads as follows:
Texas Government Code Sec. 2270.002. PROVISION REQUIRED IN CONTRACT. A governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract.

I, _____ as an authorized representative of
_____ Insert Name of Company _____, a contractor/vendor
engaged by

Tidehaven ISD, PO Box 129, El Maton, Texas 77440

verify by this writing that the above-named company affirms that it (1) does not boycott Israel; and (2) will not boycott Israel during the term of this contract, or any contract with the above-named Texas governmental entity in the future. I further affirm that if our company’s position on this issue is reversed and this affirmation is no longer valid, that the above-named Texas governmental entity will be notified in writing within one (1) business day and we understand that our company’s failure to affirm and comply with the requirements of Texas Government Code 2270 et seq. shall be grounds for immediate contract termination without penalty to the above-named Texas governmental entity.

AND

our company is not listed on and we do not do business with companies that are on the the Texas Comptroller of Public Accounts list of Designated Foreign Terrorists Organizations per Texas Gov't Code 2270.0153 found at <https://comptroller.texas.gov/purchasing/docs/foreign-terrorist.pdf>

I swear and affirm that the above is true and correct.

Signature of Named Authorized Company Representative Date

To the extent that the Terms and Conditions provided on the following Pages 27-29 conflict with any other terms and conditions herein, the Terms and Conditions provided for on the following Pages 27-29 Control.

Terms and Conditions

Please initial your answer and sign on page 2 or 2 of this section

Indemnification

The Tidehaven ISD is a Texas Political Subdivision and a local governmental entity; therefore, is prohibited from indemnifying third parties pursuant to the Texas Constitution (Article 3, Section 52) except as specifically provided by law or as ordered by a court of competent jurisdiction. A provision in a contract to indemnify or hold a party harmless is a promise to pay for any expenses the indemnified party incurs, if a specified event occurs, such as breaching the terms of the contract or negligently performing duties under the contract. Article III, Section 49 of the Texas Constitution states that "no debt shall be created by or on behalf of the State ... " The Attorney General has counseled that a contractually imposed obligation of indemnity creates a "debt" in the constitutional sense. Tex. Att'y Gen. Op. No. MW-475 (1982). Contract clauses which require the System or institutions to indemnify must be deleted or qualified with "to the extent permitted by the Constitution and Laws of the State of Texas." Liquidated damages, attorney's fees, waiver of vendor's liability, and waiver of statutes of limitations clauses should also be deleted or qualified with "to the extent permitted by the Constitution and laws of State of Texas."

Not a negotiable term. Failure to agree will render your proposal non-responsive and it will not be considered. Do you agree to these terms? YES _____ NO _____

Remedies

The parties shall be entitled to exercise any right or remedy available to it either at law or in equity, subject to the choice of law, venue and service of process clauses limitations agreed herein. Nothing in this agreement shall commit the Tidehaven ISD to an arbitration resolution of any disagreement under any circumstances. Any Claim arising out of or related to the Contract, except for those specifically waived under the terms of the Contract, may, after denial of the Board of Trustees, be subject to mediation at the request of either party. Any issues not resolved hereunder must be referred to non-binding mediation to be conducted by a mutually agreed upon mediator as a prerequisite to the filing of any lawsuit over such issue(s). The parties shall share the mediator's fee and any associated filing fee equally. Mediation shall be held in Matagorda County, Texas. Agreements reached in mediation shall be reduced to writing, and will be subject to the approval by the District's Board of Trustees, signed by the Parties if approved by the Board of Trustees, and, if signed, shall thereafter be enforceable as provided by the laws of the State of Texas.

Do you agree to these terms? YES _____ NO _____ If you do not, please reference objection in Deviation form section

Choice of Law

This agreement and any addenda or other additions and all contracts or awards resulting from this procurement process, however described, shall be governed by, construed and enforced in accordance with the laws of the State of Texas, regardless of any conflict of laws principles.

Not a negotiable term. Failure to agree will render your proposal non-responsive and it will not be considered. Do you agree to these terms? YES _____ NO _____

Jurisdiction and Service of Process

Unless otherwise agreed by the parties in writing, any Proceeding arising out of or relating to this procurement process or any contract resulting from or any contemplated transaction shall be brought in a court of competent jurisdiction in Matagorda County, Texas and each of the parties irrevocably submits to the exclusive jurisdiction of said court in any such proceeding, waives any objection it may now or hereafter have to venue or to convenience of forum, agrees that all claims in respect of the Proceeding shall be heard and determined only in any such court, and agrees not to bring any proceeding arising out of or relating to this procurement process or any contract resulting from or any contemplated transaction in any other court. The parties agree that either or both of them may file a copy of this paragraph with any court as written evidence of the knowing, voluntary and freely bargained for agreement between the parties irrevocably to waive any objections to venue or to convenience of forum. Process in any Proceeding referred to in the first sentence of this Section may be served on any party anywhere in the world.

Not a negotiable term. Failure to agree will render your proposal non-responsive and it will not be considered. Do you agree to these terms? YES _____ NO _____

Alternative Dispute Resolution

Prior to filing of litigation, the parties may select non-binding mediation as a method of conflict resolution for issues arising out of or relating to this procurement process or any contract resulting from or any contemplated transaction. The parties agree that if non-binding mediation is chosen as a resolution process, the parties must agree to the chosen mediator(s) and that all mediation venue shall be at a location in Matagorda, County, Texas agreed by the parties. The parties agree to share equally the cost of the mediation process and venue cost.

Do you agree to these terms? YES _____ NO _____ If you do not, please reference objection in Deviation form section

Infringement(s)

The successful vendor will be expected to indemnify and hold harmless the Tidehaven ISD and its employees, officers, agents, representatives, contractors, assignees and designees from any and all third party claims and judgments involving infringement of patent, copyright, trade secrets, trade or service marks, and any other intellectual or intangible property rights in connection with the vendor's proposal or ultimate contracts awarded and approved.

Do you agree to these terms? YES _____NO _____If you do not, please reference objection in Deviation form section

Acts or Omissions

The successful vendor will be expected to indemnify and hold harmless the Tidehaven ISD, its officers, employees, agents, representatives, contractors, assignees and designees from and against any and all liability, actions, claims, demands or suits, and all related costs, attorney's fees and expenses arising out of, or resulting from any acts or omissions of the vendor or its agents, employees, subcontractors, or suppliers in the execution or performance of any agreements ultimately made by Tidehaven ISD and the vendor.

Do you agree to these terms? YES _____NO _____If you do not, please reference objection in Deviation form section

Contract Governance

Any contract made or entered into by the Tidehaven ISD is subject to and is to be governed by Section 271.151 *et seq*, Tex Loc Gov't Code. Otherwise, Tidehaven ISD does not waive its governmental immunities from suit or liability except to the extent expressly waived by other applicable laws in clear and unambiguous language.

Not a negotiable term. Failure to agree will render your proposal non-responsive and it will not be considered. Do you agree to these terms? YES _____NO _____Not a negotiable term.

Payment Terms

Tidehaven ISD pays net 30 or at point of sale and complies with the State of Texas payment law, Texas Government Code, Chapter 2251. See statute for specifics or consult your legal counsel. These are minimum terms required of the Tidehaven ISD by law and the parties may negotiate custom payment terms as desired provided they do not exceed the statutory requirements.

Signature below certifies accuracy of answers to all sections on page 1 and 2 of this document.

Authorized Signature _____

Printed Name _____

Company Name and address:

Telephone Number _____ Date _____

TISD RCSP for Construction of an Old High School Parking Lot and Blessing Elementary School Parking Lot

Fingerprint Requirements

FINGERPRINT

It is possible that a vendor may be subject to Chapter 22 of the Texas Education Code. The Texas Education Code, Chapter 22, Section 22.0834. Statutory language may be found at: <http://www.statutes.legis.state.tx.us/>

If the vendor has staff that meet both of these criterion-

(1) will have continuing duties related to the contracted services;
and

(2) has or will have direct contact with students

Then you have "covered" employees for purposes of completing the attached form.

Tidehaven ISD recommends all vendors consult their legal counsel for guidance in compliance with this law. If you have questions on how to comply, see below. If you have questions on compliance with this code section, contact the Texas Department of Public Safety Non-Criminal Justice Unit, Access and Dissemination Bureau, FAST-FACT at NCJU@txdps.state.tx.us and you should send an email identifying you as a contractor to a Texas Independent School District. Texas DPS phone# is 512-424-2474

See form below to complete entitled:

Texas Education Code Chapter 22 Contractor Certification for Contractor Employees

All Contractors and subcontractors must agree to follow the following statutory requirements if awarded a contract as a result of this solicitation

Sec. 22.08341. CRIMINAL HISTORY RECORD INFORMATION REVIEW BY CERTAIN PUBLIC WORKS CONTRACTORS. (a) In this section:

(1) "Contracting entity" means an entity that contracts directly with a school district, open-enrollment charter school, or shared services arrangement to provide engineering, architectural, or construction services to the district, school, or arrangement.

(2) "Instructional facility" has the meaning assigned by Section [46.001](#).

(3) "Subcontracting entity" means an entity that contracts with another entity that is not a school district, open-enrollment charter school, or shared services arrangement to provide engineering, architectural, or construction services to a school district, open-enrollment charter school, or shared services arrangement.

(b) This subsection applies to a person who is not an applicant for or holder of a certificate under Subchapter B, Chapter [21](#), and who is employed by a contracting or subcontracting entity on a project to design, construct, alter, or repair a public work if the person has or will have:

(1) continuing duties related to the contracted services; and

(2) the opportunity for direct contact with students in connection with the person's continuing duties.

(c) For purposes of Subsection (b), a person does not have the opportunity for direct contact with students if:

(1) the public work does not involve the construction, alteration, or repair of an instructional facility;

(2) for a public work that involves construction of a new instructional facility, the person's duties related to the contracted services will be completed not later than the seventh day before the first date the facility will be used for instructional purposes; or

(3) for a public work that involves an existing instructional facility:

(A) the public work area contains sanitary facilities and is separated from all areas used by students by a secure barrier fence that is not less than six feet in height; and

(B) the contracting entity adopts a policy prohibiting employees, including subcontracting entity employees, from interacting with students or entering areas used by students, informs employees of the policy, and enforces the policy at the public work area.

(d) A contracting entity or subcontracting entity may not permit an employee to whom Subsection (b) applies to provide services at an instructional facility if the employee, during the preceding 30 years,

was convicted of any of the following offenses and the victim was under 18 years of age or was enrolled in a public school:

- (1) a felony offense under Title 5, Penal Code;
- (2) an offense on conviction of which a defendant is required to register as a sex offender under Chapter [62](#), Code of Criminal Procedure; or
- (3) an offense under the laws of another state or federal law that is equivalent to an offense under Subdivision (1) or (2).

(e) For a person to whom Subsection (b) applies, the contracting entity or subcontracting entity that employs the person shall:

- (1) send or ensure that the person sends to the department information that is required by the department for obtaining national criminal history record information, which may include fingerprints and photographs;
- (2) obtain all criminal history record information that relates to the person through the criminal history clearinghouse as provided by Section [411.0845](#), Government Code; and
- (3) certify to the school district, open-enrollment charter school, shared services arrangement, or contracting entity, as applicable, that the contracting entity or subcontracting entity that employs the person has received all criminal history record information relating to the person.

(f) A contracting entity shall certify to the school district, open-enrollment charter school, or shared services arrangement, as applicable, that the contracting entity has obtained written certifications from any subcontracting entity that the subcontracting entity has complied with Subsection (e) as it relates to the subcontracting entity's employees.

(g) On receipt of information described by Subsection (e)(1), the department shall obtain the person's national criminal history record information and report the results through the criminal history clearinghouse as provided by Section [411.0845](#), Government Code.

(h) A school district, open-enrollment charter school, or shared services arrangement may directly obtain the criminal history record information of a person to whom Subsection (b) applies through the criminal history clearinghouse as provided by Section [411.0845](#), Government Code.

(i) If a contracting entity or subcontracting entity determines that Subsection (b) does not apply to an employee, the contracting or subcontracting entity shall make a reasonable effort to ensure that the conditions or precautions that resulted in the determination that Subsection (b) does not apply to the employee continue to exist throughout the time that the contracted services are provided.

(j) In the event of an emergency, a school district, open-enrollment charter school, or shared services arrangement may allow a person to whom Subsection (b) applies to enter an instructional facility if the person is accompanied by an employee of the district, school, or arrangement. A school district, open-enrollment charter school, or shared services arrangement may adopt a policy regarding an emergency for purposes of this subsection.

(k) The commissioner may adopt rules necessary to implement this section.

Added by Acts 2017, 85th Leg., R.S., Ch. 1070 (H.B. [3270](#)), Sec. 2, eff. September 1, 2017.

Texas Education Code Chapter 22 Contractor Certification for Contractor Employees
TISD RCSP for Construction of an Old High School Parking Lot and a Blessing Elementary Parking Lot

Introduction: Texas Education Code Chapter 22 requires entities that contract with school districts to provide services to obtain criminal history record information regarding covered employees. Contractors must certify to the district that they have complied. Covered employees with disqualifying criminal histories are prohibited from serving at a school district.

Definitions: *Covered employees*: Employees of a contractor or subcontractor who have or will have continuing duties related to the service to be performed at the District and have or will have direct contact with students. The District will be the final arbiter of what constitutes direct contact with students. *Disqualifying criminal history*: Any conviction or other criminal history information designated by the District, or one of the following offenses, if at the time of the offense, the victim was under 18 or enrolled in a public school:

(a) a felony offense under Title 5, Texas Penal Code; (b) an offense for which a defendant is required to register as a sex offender under Chapter 62, Texas Code of Criminal Procedure; or (c) an equivalent offense under federal law or the laws of another state.

On behalf of _____ ("Contractor"), I certify that

[check one below]:

None of the employees of Contractor and any subcontractors are *covered employees*, as defined above. If this box is checked, I further certify that Contractor has taken precautions or imposed conditions to ensure that the employees of Contractor and any subcontractor will not become *covered employees*. Contractor will maintain these precautions or conditions throughout the time the contracted services are provided.

Or

Some or all of the employees of Contractor and any subcontractor are *covered employees*. If this box is checked, I further certify that:

(1) Contractor has obtained all required criminal history record information regarding its covered employees. None of the covered employees has a disqualifying criminal history.

(2) If Contractor receives information that a covered employee subsequently has a reported criminal history, Contractor will immediately remove the covered employee from contract duties and notify the District in writing within 3 business days.

(3) Upon request, Contractor will provide the District with the name and any other requested information of covered employees so that the District may obtain criminal history record information on the covered employees.

(4) If the District objects to the assignment of a covered employee on the basis of the covered employee's criminal history record information, Contractor agrees to discontinue using that covered employee to provide services at the District.

Noncompliance or misrepresentation regarding this certification may be grounds for contract termination.

Company name _____

Printed name of Company Representative: _____

Signature _____ .Date _____

NON-COLLUSIVE BIDDING CERTIFICATE

**TISD RCSP for Construction of an Old High
School Parking
Lot and a Blessing Elementary Parking Lot**

By submission of this bid or proposal, the Bidder certifies that:

1. This bid or proposal has been independently arrived at without collusion with any other Bidder or with any Competitor;
2. This bid or proposal has not been knowingly disclosed and will not be knowingly disclosed, prior to the opening of bids, or proposals for this project, to any other Bidder, Competitor or potential competitor;
3. No attempt has been or will be made to induce any other person, partnership or corporation to submit or not to submit a bid or proposal;
4. The person signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties being applicable to the Bidder as well as to the person signing in its behalf.

Signature below certifies accuracy of answers to all sections on this page.

Authorized Signature _____

Printed Name _____

Company Name and address:

Telephone Number _____

Date _____

**CERTIFICATION BY CORPORATE
OFFERER To Tidehaven ISD RCSP for
Construction of an Old High School Parking Lot and
a Blessing Elementary Parking Lot**

IF OFFERER IS A CORPORATION,

**THE FOLLOWING CERTIFICATE SHOULD BE EXECUTED AND INCLUDED AS PART OF
PROPOSAL FORM/PROPOSAL FORM.**

OFFERER: _____
(Name of Corporation)

I, certify that I am the Secretary of _____
(Name of Corporate Secretary)

the Corporation named as OFFERER herein above; that

(Name of person who completed proposal document)

who signed the foregoing proposal on behalf of the corporation offerer is the authorized person that is acting as

(Title/Position of person signing proposal/offer document within the corporation)

of the said Corporation; that said proposal/offer was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

CORPORATE SEAL

SIGNATURE

DATE

Construction Specifications for
**CONSTRUCTION OF AN OLD HIGH
SCHOOL PARKING LOT**

for the

TIDEHAVEN INDEPENDENT SCHOOL DISTRICT

October 10, 2018

CONSTRUCTION SCOPE OF WORK

Project Title: Tidehaven ISD – High School Parking Lot Construction

Project Location: TISD Old High School, El Maton, TX

Document No.: CSOW-1438.025-HS

Date / Revision: October 1, 2018 / 0



Detailed Scope of Work

This construction scope of work is for the demolition of necessary items and installation of two (2) new parking lots and associated construction. The contract work will consist of the following:

BASE BID

1. Furnish all necessary equipment, materials and labor for the demolition and disposal of approximately 2,000 SF of *concrete sidewalk* in accordance with the Contract Drawings and Technical Specifications.
2. Furnish all necessary equipment, materials and labor for the demolition and disposal of the remaining *concrete tank foundation* in accordance with the Contract Drawings and Technical Specifications.
3. Furnish all necessary equipment, materials and labor for the demolition and disposal of the remaining *electrical infrastructure* in accordance with the Contract Drawings and Technical Specifications.
4. Furnish all necessary equipment, materials and labor for the demolition and disposal of approximately 4,240 SF of *asphalt pavement* in accordance with the Contract Drawings and Technical Specifications.
5. Furnish all necessary equipment, materials and labor for the demolition and disposal of approximately 105 LF of *fencing* in accordance with the Contract Drawings and Technical Specifications.
6. Furnish all necessary equipment, materials and labor for the demolition and disposal of approximately 110 LF of *storm sewer pipe* in accordance with the Contract Drawings and Technical Specifications.
7. Furnish all necessary equipment, materials and labor for the demolition and disposal of approximately 248 SF of *concrete pavilion pavement* in accordance with the Contract Drawings and Technical Specifications.
8. Furnish all necessary equipment, materials and labor for the disposal of existing grease trap and necessary capping of abandoned pipes in accordance with the Contract Drawings and Technical Specifications.

9. Furnish all necessary equipment, materials and labor to adjust necessary utility boxes and manholes in accordance with the Contract Drawings and Technical Specifications
10. Furnish all necessary equipment, materials and labor for the installation of approximately 5,735 SY of *limestone pavement* in accordance with the Contract Drawings and Technical Specifications.
11. Furnish all necessary equipment, materials and labor for the installation of approximately 383 SY of *reinforced concrete pavement* in accordance with the Contract Drawings and Technical Specifications.
12. Furnish all necessary equipment, materials and labor for the installation of one (1) each of *sidewalk drain* in accordance with the Contract Drawings and Technical Specifications.
13. Furnish all necessary equipment, materials and labor for the grading and/or regrading of approximately 300 LF of *ditches and rip-rap* identified and in accordance with the Contract Drawings and Technical Specifications.
14. Furnish all necessary equipment, materials and labor for the installation of *striping* in accordance with the Contract Drawings and Technical Specifications.
15. Furnish all necessary equipment, materials and labor for the installation of approximately seven (7) EA of *bollards* in accordance with the Contract Drawings and Technical Specifications.
16. Furnish all necessary equipment, materials and labor for the installation of approximately 51 LF of storm sewer culvert in accordance with the Contract Drawings and Technical Specifications.
17. Furnish all necessary equipment, materials and labor for the installation of fencing & gates approximately 55 LF with two (2) 6 Foot wide gates in accordance with the Contract Drawings and Technical Specifications
18. Furnish all necessary equipment, materials and labor for the installation of approximately 112 EA of curb stops in accordance with the Contract Drawings and Technical Specifications.
19. Furnish all necessary equipment, materials and labor to move the ticket booth in accordance with the Contract Drawings and Technical Specifications.
20. Furnish all necessary equipment, materials and labor to regrade areas around buildings to ensure positive drainage away from existing buildings in accordance with the Contract Drawings and Technical Specifications.

ALTERNATE BID A

- A1. Furnish all necessary equipment, materials and labor for the installation of approximately 5,735 SY of *two course surface pavement* in accordance with the Contract Drawings and Technical Specifications in lieu of Item 10 of the base bid.
- A2. Furnish all necessary equipment, materials and labor for the installation of additional *striping* in accordance with the Contract Drawings and Technical Specifications.

ALTERNATE BID B

- B1. Furnish all necessary equipment, materials and labor for the installation of approximately 5,735 SY of *asphalt (HMAC) surface pavement* in accordance with the Contract Drawings and Technical Specifications in lieu of Item 10 of the base bid.
- B2. Furnish all necessary equipment, materials and labor for the installation of additional *striping* in accordance with the Contract Drawings and Technical Specifications.

ALTERNATE BID C

- C1. Furnish all necessary equipment, materials and labor for the installation of approximately 5,735 SY of *concrete surface pavement* in accordance with the Contract Drawings and Technical Specifications in lieu of Item 10 of the base bid.
- C2. Furnish all necessary equipment, materials and labor for the installation of additional *striping* in accordance with the Contract Drawings and Technical Specifications.

Reference Design Documentation

Drawing Index:

Civil Site Plans

- C1.0 Cover Sheet & Notes; Issue: 10-01-2018
- C2.1 Tidehaven High School Demolition Plan; Issue: 10-01-2018
- C3.1 Tidehaven High School Parking Lot #1 Site Plan; Issue: 10-01-2018
- C3.2 Tidehaven High School Parking Lot #2 Site Plan; Issue: 10-01-2018
- C4.1 Tidehaven High School Parking Lot #1 Grading Plan; Issue: 10-01-2018
- C4.2 Tidehaven High School Parking Lot #2 Grading Plan; Issue: 10-01-2018
- C5.1 Standard Details; Issue: 10-01-2018
- C5.2 Standard Details; Issue: 10-01-2018
- C5.3 Standard Details; Issue: 10-01-2018

Structural Plans and Details

- S1.0 Site Parking Plan; Issue: 10-01-2018
- S1.1 Enlarged Plans; Issue: 10-01-2018
- S1.2 Concrete Sections and Details; Issue: 10-01-2018
- S1.3 Fence Section and Details; Issue: 10-01-2018

Reference Technical Specifications

Division 1 - General Requirements:

- 01025 Application for Payment Requirements
- 01340 Shop Drawings, Product Data, and Samples
- 01410 Inspection, Testing, and Guarantee
- 01500 Temporary Facilities
- 01700 Contract Closeout Requirements

Division 2 - Site Work:

- 02050 Demolition
- 02111 Clearing, Rough Grading, Compaction and Finish Grading
- 02200 Pipe Trench Earthwork
- 02220 Structural Earthwork
- 02500 Concrete Pavement
- 02507 Crushed Limestone Area
- 02510 Asphaltic Pavement
- 02725 Storm Sewer Corrugated Polyethylene Pipe

DIVISION 3 - CONCRETE:

- 03100 Concrete Formwork
- 03200 Concrete Reinforcement
- 03300 Cast-In-Place Concrete
- 03342 Finishing, Quality Control, and Tolerances

DIVISION 5 - METALS:

- 05500 Miscellaneous Metal

Equipment / Materials to be furnished by Contractor

1. All required equipment / materials required

Equipment / Materials to be furnished by Others

1. None

Insurance Requirements

Per contract requirements

Bonding Requirements

Per contract requirements

End of Document

DOCUMENT NO. 00300

**Requests for Competitive Sealed Proposals (RCSP) for
Construction of an Old High School Parking Lot**

_____, hereinafter called "BIDDER",
(Legal Firm Name)

is submitting this Proposal for Furnishing and Performing the Work specified herein as the
TIDEHAVEN ISD - HIGH SCHOOL PARKING LOT CONSTRUCTION.

This PROPOSAL is Submitted to TISD, hereinafter called "OWNER".

1. Terms used in this PROPOSAL are defined in the General Conditions or Document No. 00120 - Instructions to Bidders and shall have the meanings indicated in the General Conditions or Instructions.
2. BIDDER proposes and agrees, if this BID is accepted, to enter into an Agreement with OWNER in the form included in the Contract Documents to furnish and perform all Work as specified or indicated in the Contract Documents for the Bid Price and within the Bid Times indicated in this BID and in accordance with the other terms and conditions of the Contract Documents.
3. BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid Security. This BID will remain subject to acceptance for Sixty (60) Calendar Days after the Bid Opening. BIDDER shall sign and deliver the required number of counterparts of the Agreement, including all required documents indicated by the Bidding Requirements, within Fifteen (15) Calendar Days after the date of OWNER's Notice of Award.
4. In submitting this BID, BIDDER represents, as more fully set forth in the Agreement, that:
 - a. BIDDER has examined and carefully studied the Bidding Documents and the following Addenda, receipt of all which is hereby acknowledged: (List Addenda by Addendum Number and Date):
Addendum No: _____
Date Received: _____
 - b. BIDDER has visited the site and is familiar and satisfied with the general, local and site conditions that may affect cost, progress, and furnishing and performing the Work.

- c. BIDDER is familiar and satisfied with all federal, state and local Laws and Regulations that may affect cost, progress, and furnishing and performing the Work.
 - d. BIDDER is aware of the general nature of work, if any, to be performed by OWNER (or others) at the site in relation to the Work for which this BID is submitted.
 - e. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
 - f. BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that BIDDER has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to BIDDER, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing and performing the Work for which this BID is submitted.
 - g. This BID is GENUINE and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation. BIDDER has not directly or indirectly induced or solicited any other BIDDER to submit a false or sham BID. BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding. BIDDER has not sought by collusion to obtain for itself any advantage over any other BIDDER or over OWNER.
5. BIDDER agrees to complete the Work in accordance with the Contract Documents.
- a. BIDDER acknowledges that the amounts are to be shown in both words and figures, and in case of discrepancy, the amount in words shall govern.
 - b. BIDDER acknowledges that the quantities are not guaranteed and final payment will be based on the actual quantities determined as provided in the Contract Documents.
 - c. BIDDER acknowledges that, at OWNER's option and/or at OWNER's request, any of the quantities may be deleted, reduced, or increased based upon the respective Unit Prices.
 - d. BIDDER acknowledges that Unit and Lump Sum Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.
 - e. BIDDER agrees to furnish all necessary labor, superintendence, plant, machinery, equipment, tools, materials, insurance, services and all other requirements deemed necessary to complete the items of Work indicated on the following pages for the specific dollar amounts stated.

BASE BID

BID ITEM	BID QTY.	UNIT	DESCRIPTION OF ITEM WITH PRICE WRITTEN IN WORDS	AMOUNT
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1.	1	LS	Furnishing labor, equipment, materials, mobilization, permitting and insurance costs for the demolition and disposal of necessary items and installation of two new parking lots and associated improvements as per the contract drawings and technical specifications (specified Work is called out in the Construction Scope of Work) for a lump sum price of	
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_____ Dollars
 and _____ Cents. \$ _____

Total Equipment Cost: \$ _____

Total Material Cost: \$ _____

Total Labor Cost: \$ _____

Total Project Cost (Less Taxes): \$ _____

Sales Taxes Included: \$ _____

ALTERNATE BID ITEMS

BID ITEM	BID QTY.	UNIT	DESCRIPTION OF ITEM WITH PRICE WRITTEN IN WORDS	AMOUNT
A.	1	LS	Furnishing labor, equipment, materials, mobilization, permitting and insurance costs for the installation of two course pavement and installation of additional striping as per the contract drawings and technical specifications (specified Work is called out in the Construction Scope of Work), being the "BASE BID + ALTERNATE A - ITEM 10 BASE BID = SUM" for a lump sum price of _____ _____ _____ Dollars and _____ Cents.	\$ _____
B.	1	LS	Furnishing labor, equipment, materials, mobilization, permitting and insurance costs for the installation of asphalt pavement and installation of additional striping as per the contract drawings and technical specifications (specified Work is called out in the Construction Scope of Work), being the "BASE BID + ALTERNATE B - ITEM 10 BASE BID = SUM" for a lump sum price of _____ _____ _____ Dollars and _____ Cents.	\$ _____
C.	1	LS	Furnishing labor, equipment, materials, mobilization, permitting and insurance costs for the installation of concrete pavement and installation of additional striping as per the contract drawings and technical specifications (specified Work is called out in the Construction Scope of Work), being the "BASE BID + ALTERNATE C - ITEM 10 BASE BID = SUM" for a lump sum price of _____ _____ _____ Dollars and _____ Cents.	\$ _____

6. BIDDER agrees that the Work shall be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within _____ **Calendar Days** after the date when the Contract Times commences to run.

BIDDER accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.

7. The following documents are attached to and made a condition of this BID:

- a. 00410 - Required Bid Security in the form of _____
- b. 00415 - Contractor's Corporate Resolution
- c. 00416 - Noncollusion Affidavit
- d. 00420 - Bidder Qualification Statement

8. Communications about this BID shall be directed to BIDDER's address indicated below.

SUBMITTED this _____ day of _____, 2018.

Authorized Signature: _____

Name: _____

Title: _____

Attesting Signature: _____

Name: _____

Title: _____

Legal Firm Name: _____

Business Address: _____

Phone Number: _____

Facsimile Number: _____

E-Mail Address (optional) _____

State of Incorporation, if applicable: _____

State Contractor License No.: _____

END OF DOCUMENT

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01025 - APPLICATION FOR PAYMENT REQUIREMENTS

In order for CONTRACTOR to receive Progress Payments under the Contract, the following items shall be submitted to ENGINEER for review.

- a. An Application for Payment, certified and sworn as correct by CONTRACTOR, in accordance with Article 14.02.A.1 of the General Conditions, unless otherwise amended by the Supplementary Conditions,
- b. A sworn certification of no claims and appropriate waivers of liens in accordance with Article 14.02.A.2 of the General Conditions, unless otherwise amended by the Supplementary Conditions.

Such certification and waivers shall be as found herein as the "CONTRACTOR'S CONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT", and if applicable, the "SUBCONTRACTOR'S CONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT".

CONTRACTOR'S CONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT

THE STATE OF TEXAS §
COUNTY OF _____ §

Project: **TIDEHAVEN ISD – HIGH SCHOOL PARKING LOT CONSTRUCTION**

Job No. **1438.025**

On receipt by the signer of this document of a check from **TIDEHAVEN INDEPENDENT SCHOOL DISTRICT (TISD)** (*maker of check*) in the sum of \$ _____ payable to _____ (*payee or payees of check*) and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the property or easements of the **TISD** (*owner*) located at **Tidehaven High School, FM 1095, El Maton, TX** (location) to the following extent: **TIDEHAVEN ISD – HIGH SCHOOL PARKING LOT CONSTRUCTION** (*job description*).

This release covers a progress payment for all labor, services, equipment, or materials furnished to the property or to **TISD** (*person with whom signer contracted*) as indicated in the attached statement(s) or progress payment request(s), except for unpaid retention, pending modifications and changes, or other items furnished.

Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this progress payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project in regard to the attached statement(s) or progress payment request(s).

(CONTRACTOR'S NAME)

Signed By: _____
Print Name: _____
Title: _____

SUBSCRIBED AND SWORN TO BEFORE ME by _____, on
_____, 20____, to certify which witness my hand and seal of office.

Notary Public, State of Texas

SUBCONTRACTOR'S CONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT

THE STATE OF TEXAS §
COUNTY OF _____ §

Project: **TIDEHAVEN ISD – HIGH SCHOOL PARKING LOT CONSTRUCTION**

Job No. **1438.025**

On receipt by the signer of this document of a check from _____ (*maker of check*) in the sum of \$ _____ payable to _____ (*payee or payees of check*) and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the property or easement of the **TIDEHAVEN INDEPENDENT SCHOOL DISTRICT (TISD)** (*owner*) located at **Tidehaven High School, FM 1095, El Maton, TX** (location) to the following extent **TIDEHAVEN ISD – HIGH SCHOOL PARKING LOT CONSTRUCTION** (*job description*).

This release covers a progress payment for all labor, services, equipment, or materials furnished to the property or to _____ (*person with whom signer contracted*) as indicated in the attached statement(s) or progress payment request(s), except for unpaid retention, pending modifications and changes, or other items furnished.

Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this progress payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project in regard to the attached statement(s) or progress payment request(s).

(SUBCONTRACTOR'S NAME)

Signed By: _____
Print Name: _____
Title: _____

SUBSCRIBED AND SWORN TO BEFORE ME by _____, on
_____, 20____, to certify which witness my hand and seal of office.

Notary Public, State of Texas

END OF SECTION

01025-5

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

.01 GENERAL:

- a. Submit shop drawings, product data and samples required by specification sections.
- b. Shop drawings, product data and samples are not considered a part of Contract Documents.
- c. Schedule submissions at least 10 days before reviewed submittals will be needed.

.02 CONTRACTOR RESPONSIBILITIES:

- a. Review shop drawings, project data and samples prior to submission.
- b. Verify:
 1. Field measurements.
 2. Field construction criteria.
 3. Catalog numbers and other data.
 4. Conformance with submission requirements.
- c. Coordinate each submittal with Contract Documents and the work requirements to prevent any delay in the work.
- d. CONTRACTOR's responsibility for errors and omissions is not relieved by ENGINEER's review of submittals.
- e. At time of submission and in writing, notify ENGINEER of submittal deviations from Contract Documents.
- f. CONTRACTOR's responsibility for deviations from Contract Documents is not relieved by ENGINEER's review of submittals, unless ENGINEER gives written acceptance of specific deviations.
- g. Begin no Work related to submittals until return of submittals with ENGINEER's stamp and initials or signature indicating review.
- h. Distribute copies after ENGINEER's review.

.03 ENGINEER'S DUTIES:

- a. Review submittals with reasonable promptness to prevent any delay in the Work.
- b. Review for conformance with:
 - 1. Design concept of project.
 - 2. Contract Documents.
- c. Review of a separate item does not constitute review of an assembly in which the item functions.
- d. Return to CONTRACTOR those submittals which do not meet the requirements and require correction and resubmission.
- e. Affix stamp and initials or signature certifying review of submittal.
- f. Return reviewed submittals to CONTRACTOR for distribution.

.04 PREPARATION REQUIREMENTS:

- a. Shop Drawings:
 - 1. Preparation by a qualified detailer.
 - 2. Sheet size same as Contract Drawings.
 - 3. Identify details by reference to sheet and detail numbers on Contract Drawings.
 - 4. Include on the drawing all information required for submission or prepare a transmittal letter.
 - 5. Prepare one reproducible transparency and one opaque print of each shop drawing.
- b. Product Data:
 - 1. Modify manufacturer's standard schematic drawings to delete or supplement information as applicable.
 - 2. For manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other descriptive data:
 - (a) Clearly mark each copy to identify pertinent materials, products or models.

- (b) Show dimensions and clearances required.
 - (c) Show performance characteristics and capacities.
 - (d) Show wiring diagrams and controls.
3. Include on the data all information required for submission or prepare a transmittal letter.
 4. Prepare number of copies which the CONTRACTOR requires for distribution plus two copies to be retained by ENGINEER.

c. Samples:

1. Obtain office samples of sufficient size and quantity to clearly illustrate:
 - (a) Functional characteristics of products or materials with integrally related parts and attachment devices.
 - (b) Full range of color samples.
2. Erect field samples and mock-ups at the project site in an acceptable location. Construct each sample complete, including work of all trades required in finished work.
3. Include on transmittal letter all information required for submission.
4. Prepare the number of samples specified in specification sections.

.05 SUBMISSION REQUIREMENTS:

- a. Submit shop drawings, product data and samples in the form and quantity specified.
- b. Accompany submittals with a transmittal letter in duplicate, as required.
- c. Include the following information for each submittal:
 1. Date and revision dates.
 2. Project title and number.
 3. The names of:
 - (a) ENGINEER
 - (b) CONTRACTOR
 - (c) Subcontractor
 - (d) Supplier
 - (e) Manufacturer
 - (f) Separate detailer when pertinent.

4. Identification of product or material.
5. Relation to adjacent structure of materials.
6. Field dimensions clearly identified as such.
7. Specification section number.
8. Applicable standards, such as ASTM number or Federal Specification.
9. A blank space, 4" x 4", for ENGINEER's review stamp.
10. Identification of deviations from Contract Documents.
11. CONTRACTOR's stamp, initialed or signed, certifying review of submittal, verification of field measurements and compliance with Contract Documents.

.06 RESUBMISSION REQUIREMENTS:

a. Shop Drawings:

1. Revise initial drawings as required and resubmit as specified for initial submittal.
2. Indicate on drawings any changes which have been made other than those requested by ENGINEER.

b. Product Data and Samples:

Submit new data and samples as required for initial submission.

.07 DISTRIBUTION AFTER REVIEW:

- a. Distribute copies of shop drawings and product data which carry ENGINEER's stamp to:
 1. CONTRACTOR's file
 2. Job site file
 3. Record document file
 4. Other prime CONTRACTORS
 5. Subcontractors
 6. Supplier
 7. Fabricator
- b. Distribute samples as directed. After review, samples may be used in construction.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01410 - INSPECTION, TESTING AND GUARANTEE

.01 GENERAL:

These requirements supplement those provided under Article 13 of the General Conditions.

.02 INSPECTION:

- a. Inspector: A representative of ENGINEER or OWNER will be assigned authority to observe and inspect the Work.
- b. Working Days: Inspectors are not required to work on Saturdays, Sundays or legal holidays. If CONTRACTOR plans work on a Saturday, Sunday or legal holiday, prior arrangements should be made for an inspector not later than 2:00 p.m. on the working day before the Saturday, Sunday or legal holiday.
- c. Uninspected Work: Any Work performed on Saturday, Sunday, or a legal holiday without benefit of any inspection may require removal and replacement if directed by ENGINEER. Removal and replacement will be completed at no additional cost.

.03 TESTING:

- a. The cost of preparing and testing, and the cost of other laboratory services required for establishing the concrete mix, and redesigning the mix, if necessary, shall be borne by CONTRACTOR.
- b. CONTRACTOR shall furnish at his own expense, suitable evidence that all the materials he proposes to incorporate into the Work are in accordance with the Specifications. Mill tests for reinforcing steel and cement will be acceptable if it is definite that the test sheets apply to the material being furnished. Manufacturer's or supplier's test results will be acceptable for such items as pipe and fittings, when it is definite that the materials being furnished is that to which the test results apply. Should CONTRACTOR fail to provide the above information, ENGINEER shall have the right to require tests to be made by OWNER's laboratory to obtain the information and the cost therefore shall be borne by CONTRACTOR.
- c. In any event, ENGINEER may have further tests made by commercial laboratory, or may make tests himself, to insure that the Specifications are complied with by CONTRACTOR. Costs of these tests will be borne by OWNER.

.04 GUARANTEE:

- a. CONTRACTOR shall deliver to ENGINEER upon completion of all Work under the Contract his written guarantee, in the form of SECTION 01700 - CONTRACT CLOSEOUT REQUIREMENTS, made out to OWNER, guaranteeing all of the Work under the Contract to be free from faulty materials in every particular and free from improper workmanship; and against injury from proper and usual wear; and agreeing to replace or to re-execute without cost to OWNER such Work as may be found to be improper or imperfect; and to make good all damage caused to other Work or materials, due to such required replacement or re-execution. This guarantee shall be made to cover a period of one (1) year from the date of completion of all Work under this Contract, as evidenced by ENGINEER's final certificate. This guarantee must be furnished to ENGINEER and approved by him before acceptance and final payment is made.
- b. CONTRACTOR shall provide OWNER with copies of all guarantees or warranties which have been made to CONTRACTOR by suppliers or subcontractors as required hereunder, together with an assignment of such warranties and guarantees to OWNER; however, such assignment shall not relieve CONTRACTOR of the responsibility (stated in subparagraph a. above) in case of failure of subcontractors or suppliers to fulfill the provisions of such warranties or guarantees.
- c. Neither the final certificate, nor payment, nor any provision in the Contract Documents shall relieve CONTRACTOR of responsibility for neglect of faulty materials or workmanship during the period covered by the guarantee.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01500 - TEMPORARY FACILITIES

.01 FIELD OFFICE:

If CONTRACTOR is required (or is so inclined) to provide a Temporary Field Office, said office shall be placed, unless otherwise approved in writing, at a site selected by CONTRACTOR and approved by ENGINEER. The building shall be weatherproof and be provided with doors and locks, electric illumination and adequate ventilation. The floor of the building shall be raised above the ground. A complete set of Contract Drawings and Specifications shall be kept in the temporary office throughout the construction period and shall be accessible for use by OWNER and ENGINEER. The building shall be maintained in a clean condition throughout the Contract period and shall be removed from the site upon completion of all Work.

.02 SANITARY FACILITIES:

CONTRACTOR shall make all arrangements and furnish all materials required to obtain any needed sanitary facilities and to satisfy the requirements of local or state health authorities, ordinances, and laws.

.03 STORAGE OF MATERIALS:

- a. No materials shall be stored nor shall any equipment be parked on adjacent property without the expressed consent of owner of the property concerned.
- b. Secure and watertight storage facilities of suitable size with floors raised above the ground shall be provided for materials liable to damage from exposure to the weather. Other materials shall be stored on blocks off the ground. Materials shall be so placed as to permit easy access for inspection and identification. Any material which has deteriorated, become damaged, or otherwise unfit for use, shall not be used in the Work, and shall be immediately removed from the site by CONTRACTOR. Upon completion of all Work or when directed, CONTRACTOR shall remove storage facilities from the site.

.04 TEMPORARY UTILITIES:

CONTRACTOR shall arrange for and secure all temporary connections for water, electricity, gas and other services needed by him for the proper execution of his operations. Costs for these services shall be paid for by CONTRACTOR.

.05 BARRICADES AND WARNINGS:

- a. The safety of the public shall of primary importance during construction. In all respects provisions for public safety shall be CONTRACTOR's responsibility.
- b. Should conditions be such that the public safety is involved, the Contractor shall provide warning lights which shall be kept burning between the hours of sunset and sunrise. Barricades and warnings shall be in accordance with Item 502, "Barricades, Signs and Traffic Handling" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

END OF SECTION

01500-2

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01700 - CONTRACT CLOSEOUT REQUIREMENTS

Before final acceptance by OWNER, the following items must be submitted and accepted by ENGINEER:

- a. Final Inspection completed
- b. Bound manuals of servicing or operating instructions with recommended lubricants for all equipment
- c. One (1) set of constructions plans, with variations from originals and as-built conditions duly noted
- d. CONTRACTOR's Guarantee.

CONTRACTOR shall deliver to OWNER, upon completion of all Work, his written guarantee, found herein as "CONTRACTOR'S GUARANTEE".

This guarantee shall be made to cover a period of one (1) year from the date of completion of all Work, and must be furnished to and approved by OWNER before acceptance and final payment is made.

Neither the final payment, nor any provision stated above, shall relieve CONTRACTOR of responsibility for neglect of faulty materials or workmanship during the period covered by the guarantee.

- e. All other guarantees and warranties properly assigned to OWNER

CONTRACTOR shall provide OWNER with copies of all guarantees or warranties which have been made to CONTRACTOR by suppliers or subcontractors, together with an assignment of such warranties and guarantees to OWNER; however, such assignment shall not relieve CONTRACTOR of the responsibility (stated in his guarantee) in case of failure of subcontractors or suppliers to fulfill the provisions of such warranties or guarantees.

Neither the final payment, nor any provision stated above, shall relieve CONTRACTOR of responsibility for neglect of faulty materials or workmanship during the period covered by the guarantee.

- f. CONTRACTOR's Conditional Waiver and Release on Final Payment

CONTRACTOR shall deliver to OWNER, upon completion of all Work, a final sworn certification of no claims and waiver of liens in accordance with Article 14.07 of the General Conditions, unless otherwise amended by the Supplementary Conditions.

Such certification and waiver shall be found herein as the "CONTRACTOR'S CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT", and if applicable, the "SUBCONTRACTOR'S CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT".

- g. Final Application for Payment.

CONTRACTOR'S GUARANTEE

I, _____, being _____ of _____ (hereinafter called "CONTRACTOR"), do hereby make the following statements to the **TIDEHAVEN INDEPENDENT SCHOOL DISTRICT**, (hereinafter called "OWNER") in relation to the completed project known as **TIDEHAVEN ISD – HIGH SCHOOL PARKING LOT CONSTRUCTION**.

I guarantee...

That all of the completed Work is free from faulty materials in every particular,

That all of the completed Work is free from improper workmanship, and

That no injury will occur from proper and usual wear,

That OWNER has been assigned all guarantees and/or warranties originally made to CONTRACTOR by suppliers and subcontractors, if any. (Such assignment does not relieve CONTRACTOR of the responsibility stated in each guarantee and/or warranty in case of failure of suppliers or subcontractors to fulfill the provisions of such guarantees and/or warranties.)

I agree...

That the execution of the final certificate or the receipt of the final payment does not relieve CONTRACTOR of the responsibility for neglect of faulty materials or workmanship during the period covered by this Guarantee,

To replace or to re-execute without cost to OWNER such Work as may be found to be improper or imperfect, and

To make good all damage caused to other Work or materials, due to such required replacement or re-execution.

This Guarantee is in effect as of the _____ day of _____, 20____, and shall cover a period of **ONE (1) FULL YEAR** from said effective date.

(CONTRACTOR)

Signed By: _____
Print Name/Title: _____
Date: _____

**CONTRACTOR'S CONDITIONAL WAIVER AND
RELEASE ON FINAL PAYMENT**

THE STATE OF TEXAS §
COUNTY OF _____ §

Project: **TIDEHAVEN ISD – HIGH SCHOOL PARKING LOT CONSTRUCTION**

Job No. **1438.025**

On receipt by the signer of this document of a check from **TIDEHAVEN INDEPENDENT SCHOOL DISTRICT (TISD)** (*maker of check*) in the sum of \$ _____ payable to _____ (*payee or payees of check*) and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the property or easements of the **TISD (owner)** located at **Tidehaven High School, FM 1095, El Maton, TX** (*location*) to the following extent: **TIDEHAVEN ISD – HIGH SCHOOL PARKING LOT CONSTRUCTION** (*job description*).

This release covers the final payment to the signer for all labor, services, equipment, or materials furnished to the property or to **TISD** (*person with whom signer contracted*).

Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this final payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project up to the date of this waiver and release.

(CONTRACTOR)

Signed By: _____
Print Name: _____
Title: _____

SUBSCRIBED AND SWORN TO BEFORE ME by _____, on
_____, 20___, to certify which witness my hand and seal of office.

Notary Public, State of Texas
My Commission Expires: _____

**SUBCONTRACTOR'S CONDITIONAL WAIVER AND
RELEASE ON FINAL PAYMENT**

THE STATE OF TEXAS §
COUNTY OF _____ §

Project: **TIDEHAVEN ISD – HIGH SCHOOL PARKING LOT CONSTRUCTION**

Job No. **1438.025**

On receipt by the signer of this document of a check from _____
(*maker of check*) in the sum of \$ _____ payable to
_____ (*payee or payees of check*) and when
the check has been properly endorsed and has been paid by the bank on which it is drawn,
this document becomes effective to release any mechanic's lien right, any right arising
from a payment bond that complies with a state or federal statute, any common law
payment bond right, any claim for payment, and any rights under any similar ordinance,
rule, or statute related to claim or payment rights for persons in the signer's position that
the signer has on the property or easements of the **TIDEHAVEN INDEPENDENT
SCHOOL DISTRICT (TISD)** (*owner*) located at **Tidehaven High School, FM 1095, El
Maton, TX** (*location*) to the following extent: **TIDEHAVEN ISD – HIGH SCHOOL
PARKING LOT CONSTRUCTION** (*job description*).

This release covers the final payment to the signer for all labor, services,
equipment, or materials furnished to the property or to _____
(*person with whom signer contracted*).

Before any recipient of this document relies on this document, the recipient should
verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received
from this final payment to promptly pay in full all of the signer's laborers, subcontractors,
materialmen, and suppliers for all work, materials, equipment, or services provided for or
to the above referenced project up to the date of this waiver and release.

(SUBCONTRACTOR)

Signed By: _____
Print Name: _____
Title: _____

SUBSCRIBED AND SWORN TO BEFORE ME by _____, on
_____, 20___, to certify which witness my hand and seal of office.

Notary Public, State of Texas
My Commission Expires: _____

**END OF SECTION
END OF DIVISION**

DIVISION 2 - SITE WORK
SECTION 02050 - DEMOLITION

.01 GENERAL:

The Work covered under this Section shall be as indicated on the Drawings and as specified herein. Demolition required for this Work includes, but is not limited to:

- a. Constructing temporary barriers around objects designated to remain.
- b. Demolition and removal of structures.
- c. Disconnecting and removing existing utility lines on the site except those designated to remain.
- d. Removal of debris.

.02 JOB CONDITIONS:

a. Burning:

On-site burning will not be permitted.

b. Protection:

Use all means necessary to protect existing objects designed to remain and, in the event of damage, immediately make all repairs and replacements necessary to the approval of ENGINEER at no additional cost to OWNER.

.03 MATERIALS:

All materials, required for proper completion of the Work of this Section, shall be selected by CONTRACTOR subject to the approval of ENGINEER.

.04 PREPARATION:

a. Notification:

Notify ENGINEER at least two full working days prior to commencing the Work of this Section.

b. Site Inspection:

1. Prior to all Work of this Section, carefully inspect the entire site and all objects designated to be removed and to be preserved.

2. Locate all existing utility lines and determine requirements for disconnecting and capping.
3. Locate existing active utility lines traversing the site and determine the requirements for their protection.

c. Clarification:

1. The Drawings do not purport to show all objects existing on the site.
2. Before commencing the Work of this Section, verify with ENGINEER all objects to be removed and all objects to be preserved.

d. Scheduling:

1. Schedule all Work in a careful manner with all necessary consideration for neighbors and the public.
2. Avoid interference with the use of, and passage to and from, adjacent buildings and facilities.

e. Disconnection of Utilities:

Before starting site operations, disconnect or arrange for the disconnection of all utility services designated to be removed; performing all such Work in accordance with the requirements of the utility company or agency involved.

f. Protection of Utilities:

Preserve in operating condition all active utilities traversing the site and designated to remain.

.05 DEMOLITION OF STRUCTURES:

Demolish all buildings designated for demolition, pulling out all foundations and concrete slabs; remove all existing pavement designated to be removed.

.06 OTHER DEMOLITION:

Pull out all existing utility lines designated for abandonment, and all other objects designated to be removed.

.07 CONSTRUCTION OF BARRICADES:

a. Materials:

Unless otherwise specifically approved by ENGINEER, use only new and solid lumber of Utility grade (or better) to construct temporary barricades around the objects designated to remain.

b. Layout:

1. At all objects designated to be preserved, construct a temporary barricade.
2. Make barricades at least three (3) feet high, consisting of 2" X 4" (or larger) posts, set at least 18 inches into the ground at not more than six (6) feet on centers, joined at the top by 1" X 6" (or larger) boards firmly nailed to the posts.

c. Protection:

1. Take special care, in setting posts, to not damage tree roots.
2. Do not permit stockpiling of materials or debris within the barricaded area, nor permit the earth's surface to be changed in any way except as specifically approved by ENGINEER.

.08 REMOVAL OF DEBRIS:

CONTRACTOR shall be responsible for removal and disposal of all debris from the site, and leave the site in a neat and orderly condition to the approval of ENGINEER.

END OF SECTION

02050-3

DIVISION 2 - SITE WORK

SECTION 02111 – CLEARING, ROUGH GRADING, COMPACTION AND FINISH GRADING

.01 GENERAL:

The Work covered under this section of the Specifications shall include furnishing all labor, materials and equipment and performing all operations necessary to complete all clearing and grubbing, disposal of surplus materials, rough grading, compaction of embankments, finish grading, and the performance of all other miscellaneous sitework operations required to complete the project as shown on the drawings and specified herein.

.02 SITE CLEARING:

- a. Clearing: All areas of new construction shall be cleared of all brush, weeds, rubbish, wire, debris and all other objectional matter to a line five (5) feet outside the proposed Work.
- b. Stripping: Remove all topsoil and organic materials within areas to be excavated and/or areas to receive embankment, for a depth of at least six (6) inches, or until bottom of existing topsoil layer is reached. Topsoil material shall be stockpiled separately and spread at locations and finished to grade.
- c. Grubbing: Remove all stumps, roots, etc., within the areas to be excavated to a depth of at least one (1) foot below the existing ground surface. In areas to receive embankment, remove all stumps, roots, etc., to a depth of at least one (1) foot below the existing ground surface. All holes remaining after clearing and grubbing shall be backfilled and the entire area bladed to prevent ponding of water and to provide drainage, unless otherwise directed.

.03 PROCESSING OF CLEARED, STRIPPED AND GRUBBED MATERIAL:

- a. Stockpiling: Excavated material which is to be used for backfilling and grading may be deposited in storage piles at points convenient for rehandling. Location of storage piles shall not endanger the Work, obstruct roads and driveways, or restrict drainage channels, and will be acceptable to ENGINEER. Topsoil to be used for finish grading shall be stockpiled separately from other materials.
- b. Disposal of Excess and Unsuitable Materials: All suitable excavated materials in excess of that needed in the formation of embankments shall be disposed of at designated spoil disposal areas within the limits of the project. Material shall be placed in a uniform layer not to exceed twelve (12) inches thick over the entire

designated area, graded and shaped to drain. Unsuitable unclassified excavation shall be known as "waste" and shall be disposed of by CONTRACTOR. The waste shall be disposed of in such manner as to not create a public nuisance, and disposal shall conform to State laws. CONTRACTOR may not utilize any public rights-of-way or public lands for waste disposal.

.04 ROUGH GRADING AND COMPACTION:

a. Material

Furnish approved material capable of forming stable fill from required excavation within the agreed mitigation ponding area.

b. Construction

Backfill tree-stump holes or other minor excavations with approved material and tamp. Restore the ground surface, including any material disked loose or washed out, to its original slope. Compact the ground surface by sprinkling in accordance with the current TxDOT Item 204, "Sprinkling," and by rolling using equipment complying with the current TxDOT Item 210, "Rolling," when directed.

Scarify and loosen the unpaved surface areas, except rock, to a depth of at least 6 inches, unless otherwise shown on the plans. Bench slopes before placing material. Begin placement of material at the toe of slopes. Do not place trees, stumps, roots, vegetation, or other objectionable material in the embankment. Simultaneously re-compact scarified material with the placed embankment material. Do not exceed the layer depth specified in "Compaction" herein.

Earth fill is mainly composed of material other than rock. Construct fill in successive layers, evenly distributing materials in lengths suited for sprinkling and rolling. Construct the fill in layers approximately parallel to the finished grade for the full width of the area, unless otherwise shown on the plans. Construct the fill to the grades shown on the plans. Ensure that each section of the fill conforms to the detailed sections or slopes, if any.

Move the material dumped in piles or windrows by blading or by similar methods and incorporate it into uniform layers. Featheredge or mix abutting layers of dissimilar material for at least 100 ft. to ensure there are no abrupt changes in the material. Break down clods or lumps of material and mix embankment until a uniform material is attained. Apply water free of industrial wastes and other objectionable matter to achieve the uniform moisture content specified for compaction. Roll and sprinkle each layer in accordance with "Compaction" herein.

c. **Compaction**

Compaction of the material shall be provided by sheep-foot rollers or other approved method. Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least 1/2 the width of the roller. Alternate roller trips to attain slightly different lengths. Do not allow the loose depth of any layer to exceed 8 inches, unless otherwise approved.

Provide a uniform compaction of 95% modified density in accordance with ASTM Standard 1557 at a moisture content between optimum moisture and five (5) percent above optimum moisture.

.05 FINISH GRADING:

- a. Grade all areas indicated on drawings or as required to suit construction operations.
- b. Grading shall be carefully finished at elevations shown against building and other structures.
- c. In ungraded areas, backfill shall be placed around outside of structures to approximate level of adjacent ground but modified to assure positive drainage away from structures.
- d. A qualified engineer shall set lines, batterboards and grades.
- e. Grading changes shall be even between indicated finish elevations and contours, without sharp breaks, low spots, etc., to provide positive drainage.

.06 UNDERGROUND UTILITIES:

Determine location of underground utilities before doing any excavation work. If a live utility line is damaged, the proper utility shall be notified immediately for required action. CONTRACTOR is responsible for repair to the line, at no cost to OWNER.

.07 CLEANUP:

Prior to final acceptance of the complete project, CONTRACTOR shall remove all tools, scaffolding, temporary structures and debris from the site and areas of the Work. Any washes, ruts or other depressions that have occurred shall be leveled to give all areas where the Work was accomplished a smooth finish and neat appearance.

END OF SECTION

DIVISION 2 - SITE WORK

SECTION 02200 - PIPE TRENCH EARTHWORK

.01 GENERAL:

This Work includes furnishing all plant, labor, equipment and materials, and performing of all operations required for proper completion of excavation, backfill, trenching, shoring and bracing as required, dewatering of excavations as required, rough and finish grading, compacting, and disposal of surplus earth, together with all other miscellaneous site work and earthwork operations required to complete all pipe trench earthwork as shown on drawings and specified herein other than vacuum sewer trench earthwork.

.02 EXCAVATION:

- a. General: Excavation shall be unclassified and shall include the removal of all types of materials encountered, without exception. All excavations shall be made to the lines and grades indicated on the drawings, the completed excavations shall be within the tolerances hereinafter specified. All silt, muck and similar unsuitable materials and excess materials encountered in excavating shall be removed and disposed of by CONTRACTOR.
- b. Shoring, Bracing and Dewatering: All shoring, bracing and dewatering of excavations, required to properly and safely complete the Work as shown on the drawings, shall be provided by CONTRACTOR. Shoring and bracing shall be provided as required to prevent the excavation from extending beyond the specified or indicated limits and as required to protect workmen. Excavations shall be kept dewatered while construction therein is in progress. In pipe trenches, water shall be removed sufficiently ahead of pipe-laying operation to insure dry, firm bed on which to place pipe, and dewatering operations shall be continued until after joints have been observed by ENGINEER. Shoring, bracing and sheeting shall be removed as the excavations are backfilled in a manner to prevent injurious caving.
- c. Pipe Trenches:
 1. Open Cut - All pipe trench excavation shall be done by open cut methods unless otherwise noted. The sides of the trench shall be made and maintained as nearly vertical as practical and shoring shall be provided where necessary to maintain the sides of the ditch in a vertical position or to protect workmen. The trench shall be completed and shaped to provide free working space and to permit thorough tamping of backfill around the pipe.

Bottom of trenches shall be accurately graded to provide a uniform bearing on firm soil or compacted fill along the entire length of each pipe section as detailed on the drawings. Rubbish, rock or debris encountered at grade shall be removed to a depth of at least six (6) inches below the bottom of pipe, and the trench bottom shall be reshaped and compacted. Bell holes shall be provided where required for making proper connections at joints.

2. Trench Depths - Where pipe grades or elevations are not definitely fixed by the contract drawings, trenches shall be excavated to a depth sufficient to provide a minimum depth of backfill cover over the top of the pipe of 36 inches. Greater pipe cover depths may be necessary on vertical curves or to provide necessary clearance beneath pipe, conduits, drains, drainage structures or other obstructions encountered at normal pipe grades.
 3. Open Trench - ENGINEER may limit the amount of trench opened in advance of completed pipelaying operations, and the amount of trench left unfilled. No more than 500 feet of trench shall be opened at one time.
 4. Trench Widths and Pipe Clearances - The sides of all trenches shall be cut as nearly vertical as possible. Trenches shall be excavated to a width which will provide adequate working space and pipe clearances for proper installation, jointing and embedment. However, the limiting trench widths below an elevation of six (6) inches above the top of the installed pipe shall be as follows:
 - (a) Maximum trench width for all piping materials shall be equal to outside diameter of pipe, plus a one (1) foot clearance on each side.
 - (b) Minimum trench width for all piping materials shall be not less than six (6) inches between outside of pipe and side of trench.
 5. Protection, Restoration, Repair - All utilities, structures, shrubs, trees and other obstructions encountered during this operation shall be protected by CONTRACTOR at all times. Any damage to these obstructions shall be repaired immediately at the sole expense of CONTRACTOR. No trees or shrubs shall be removed without the consent of the property owner and ENGINEER. All signs, posts, mailboxes, culverts, pavement, surfaces, driveways, sidewalks, fences, private property, etc., disturbed during construction shall be restored by CONTRACTOR to a condition equal to or better than those existing prior to construction.
- d. Borings: Provide a pit for boring equipment and workmen. Obtain approval for the location of the pit. Excavate the pit and install shoring. Securely sheet and brace pit, as necessary, to prevent earth caving.

- e. Stockpiling: Excavated material which is to be used for backfilling and grading may be deposited in storage piles at points convenient for rehandling. Location of storage piles shall not endanger the Work, obstruct roads and driveways, or restrict drainage channels, and will be acceptable to ENGINEER. Topsoil to be used for finish grading shall be stockpiled separately from other materials.
- f. Disposal of Excess and Unsuitable Materials: All suitable excavated materials in excess of that needed in the formation of embankments shall be disposed of at designated spoil disposal areas within the limits of the project. Material shall be placed in a uniform layer not to exceed twelve (12) inches thick over the entire designated area, graded and shaped to drain. Unsuitable unclassified excavation shall be known as "waste" and shall be disposed of by CONTRACTOR.

.03 FILL AND BACKFILL:

- a. General: Complete fill and backfill to lines and grades indicated on drawings or elsewhere specified. Fill and backfill shall conform to requirements specified. Suspend backfill operations during times of inclement weather or other unsatisfactory conditions in field when desired results cannot be obtained.
- b. Use of Excavated Materials: Suitable materials from the excavation may be used as fill and backfill, except where special materials are indicated on the drawings or herein specified. Any objectionable material which may be encountered, such as peat, silt, muck, topsoil, organic materials, debris or other extraneous material, will be rejected.
- c. Selected (Sand) Backfill: The select (sand) backfill shall be a sandy material with not more than 25% be material by weight passing the 200-mesh sieve, and with a plasticity index not greater than six.
- d. Backfill of Pipe Trenches: Backfilling of pipe trenches shall not be started until pipe joints have been inspected by ENGINEER and all testing operations have been approved. Shoring and bracing, if used, shall be removed before backfilling of trench. Backfill shall be free of large lumps, clods, or debris which might prevent compaction, cause damage to pipe coating, etc., or result in improper bedding of the pipe.
 - 1. Initial Backfill: Placing pipe in the trench shall be done in such a manner to insure proper bedding as detailed on the drawings. All lines shall be bedded on a minimum of a six (6) inches (sand) backfill, shaped to fit the lowest 90 degrees; 45 degrees on each side of the centerline of the pipe circumference, taking care to secure an extra firm and smooth bearing along the outer edges of the 90 degree strip; taking special care to provide depressions for bell ends. The initial backfill shall be select (sand) backfill placed equally on both sides of the pipe in six (6) inches layers (loose measurement), moistened and compacted in successive layers to a height of six (6) inches above the top of the pipe to a density of 95% Standard (ASTM D698).

2. Final Backfill (other than "flowable" backfill): Final backfill which starts at a point six (6) inches above the top of the pipe shall not contain any rocks larger than three (3) inches in diameter. Placement shall be by one of two methods:
 - (a) Successive six (6) inches lifts shall be moistened and compacted to 95% Standard Density (ASTM D698) until backfill is brought up to required grade.
 - (b) If excavation is performed with a trenching machine, to insure that excavated material will be in small particles, the following backfill procedures may be used. Place material in trench up to grade. Water jet material from the bottom upward in order to dissolve the clay particles and compact material. Place and compact additional material into any deficiencies resulting from this process. Pipe shall be filled with water during the jetting operation. After final settlement of the trench, CONTRACTOR shall level the trench to the surrounding grade.
3. Final Backfill ("flowable"): Where indicated on the Drawings, "flowable backfill" shall be in accordance with Item 401, "Flowable Backfill" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.04 COMPACTION:

- a. General: Backfill, except as may otherwise be specified, shall be placed in uniform layers, dried or moistened as required to obtain approximate optimum moisture content, and compacted to the density shown on the drawings or specified herein. Backfill shall be rolled, tamped with mechanical hand tampers or any combination of these methods, as required to obtain the required density.
- b. Compaction Equipment: Compaction equipment shall conform to the requirements of Item 210, "Rolling" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

END OF SECTION

DIVISION 2 - SITE WORK

SECTION 02220 - STRUCTURAL EARTHWORK

.01 GENERAL:

This Work includes furnishing all plant, labor, equipment and materials, and performing of all operations required for proper completion of excavation, backfill, stripping, shoring and bracing as required, dewatering of excavations as required, rough and finish grading, compacting, and disposal of surplus earth, together with all other miscellaneous site work and earthwork operations required to complete the project as shown on drawings and specified herein.

.02 PROTECTION OF EXISTING FACILITIES:

Prior to any operations, existing facilities and/or permanent objects including trees and shrubs shall be adequately protected. Any costs resulting from damage to any property due to negligence and/or lack of adequate protection shall be borne by CONTRACTOR.

.03 EXCAVATION:

- a. General: Excavation shall be unclassified and includes removal of all types of materials encountered without exception. Make all excavation to lines and grades indicated on drawings. Completed excavations shall be within tolerances hereinafter specified.
- b. Shoring, Bracing and Dewatering: All shoring, bracing and dewatering of excavations required to properly and safely complete the Work as shown on the drawings, shall be provided by CONTRACTOR. Shoring and bracing shall be provided as required to prevent the excavation from extending beyond the specified or indicated limits and as required to protect workmen. Excavations shall be kept dewatered while construction therein is in progress. Shoring, bracing and sheeting shall be removed as the excavations are backfilled in a manner to prevent injurious caving.
- c. Excavation for Structures: Excavation shall extend sufficient distance from walls, beams and footings to allow for placing and removing forms, installation of facilities and for inspection. No excavation shall be made outside vertical plane three (3) feet beyond footing, beam or wall line, except where specified or shown otherwise on drawings, and no excavation shall be made beyond the lines indicated on drawings. Excavation for slabs, beams or footings that bear on earth shall not be carried below elevation indicated; if carried below indicated elevation, thickness of footing or height of wall shall be increased as directed. Perform excavation of last four (4) inches of material to grade for bottom of slabs,

beams or footings immediately prior to placing compacted sand beds or other base material. Protect open excavations from excessive rainfalls or drying. After completion of excavation and prior to commencement of the Work on structure, excavation will be inspected to insure that suitable foundation surfaces have been reached and that surfaces have been properly prepared to receive concrete walls, piers, slabs or other parts of structure.

- d. Stockpiling: Excavated material which is to be used for backfilling and grading may be deposited in storage piles at points convenient for rehandling. Location of storage piles shall not endanger the Work, obstruct roads and driveways, or restrict drainage channels, and will be acceptable to ENGINEER. Topsoil to be used for finish grading shall be stockpiled separately from other materials.
- e. Disposal of Excess and Unsuitable Materials: All suitable excavated materials in excess of that needed in the formation of embankments shall be disposed of at designated spoil disposal areas within the limits of the project. Material shall be placed in a uniform layer not to exceed twelve (12) inches thick over the entire designated area, graded and shaped to drain. Unsuitable unclassified excavation shall be known as "waste" and shall be disposed of by CONTRACTOR.

.04 FILL AND BACKFILL:

- a. General: Complete fill and backfill to lines and grades indicated on drawings or elsewhere specified. Fill and backfill shall conform to requirements specified herein. Suspend backfill operations in field during times of inclement weather or other unsatisfactory conditions when desired results cannot be obtained.
- b. Use of Excavated Materials: Suitable materials from the excavation may be used as fill and backfill except where select materials are indicated on drawings or herein specified. Any objectionable material which may be encountered, such as peat, silt, muck, topsoil, organic materials, debris or other extraneous material, will be rejected.
- c. Sand Beds: Under slabs shall be a clean bank sand suited to purpose and obtained from an approved off-site source. Material shall be free of clay lumps or other foreign material, plasticity index shall not exceed 3.0 and not more than 10% of the material by weight shall pass the 200-mesh sieve.
- d. Backfill at Structures: Place backfill as far as practicable as the Work progresses. Remove forms, shoring, bracing, etc., before backfilling is started. No backfill shall be placed against concrete until directed. Take care to prevent wedging action of backfill against a structure. Step slopes bounding excavation or serrate to prevent such wedge action. Place backfill in successive horizontal layers of not more than eight (8) inches when rolling equipment is used and not more than four (4) inches when mechanical hand tampers are used.

- e. Cement Stabilized Material: Material for Cement Stabilized Backfill, where designated, shall be in accordance with the requirements of Item 275, "Cement Treatment (Road-Mixed)" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.05 COMPACTION:

- a. General: Place all fill and backfill in uniform layers not to exceed 8" and compact to 95% of Standard Density (ASTM D 698) at not less than 100% of optimum moisture content. Methods to secure the optimum moisture content shall be CONTRACTOR's responsibility and shall be such that uniform density will be obtained over entire area and depth of material being compacted. Fill material shall be thoroughly broken up before being spread into uniform layers.
- b. Compaction Equipment: Compaction equipment shall conform to the requirements of Item 210, "Rolling" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

END OF SECTION

DIVISION 2 - SITE WORK

SECTION 02500 - CONCRETE PAVEMENT

.01 GENERAL:

This Work includes the furnishing of all plant, labors, equipment, and materials and performing all operations required for placement of concrete pavement as indicated on the drawings and specified herein.

.02 MATERIALS:

- a. Concrete: shall be Type 1 Portland Cement with minimum 3500 psi 28 day compressive strength, unless otherwise stated. Ref. Section 03300 - Cast-in-Place Concrete.
- b. Reinforcement: shall be minimum 60 KSI yield strength, ASTM 615 of the sizes as indicated on the plans; all lap splices shall be min. 30 bar diameters unless otherwise approved.
- c. Paving Cap Seal: Greenstreak G-Seal™ 605 or equal. Install per manufacture's recommendations.

.03 CONSTRUCTION METHODS:

- a. All concrete construction shall comply with the latest Edition of ACI-318.
- b. Moisture Conditioned Subgrade – Exposed subgrade soils shall be scarified and moisture conditioned to between optimum and plus four (+4) percentage points of optimum to a depth of at least six (6) inches. The soils shall then be compacted to at least 95% of the maximum laboratory dry density as determined by ASTM D698. The degree of compaction and moisture content shall be maintained until the surface is paved. Density testing and proofrolling shall be performed under the observation of the geotechnical testing personnel to assess insitu density and overall stability prior to continued construction of the pavement section.
- c. Contractor shall verify pavement elevations and obtain approval prior to placement of pavement. Contractor shall notify Engineer immediately with any conflicts or discrepancies noted.
- d. Expansion Joints and Contraction Joints shall be provided at intervals as indicated on the drawings, and in conformance with the recommendations of ACI for joint spacing in reinforced pavements.
- f. The finished surface of the concrete pavement shall be given a “light broom” finish to provide a non-slip surface.

END OF SECTION

02500-1

DIVISION 2 - SITE WORK

SECTION 02507 - CRUSHED LIMESTONE AREA

.01 GENERAL:

This Work includes the performance of all operations necessary for the placement and compaction of a crushed limestone surfaced area at locations designated on Contract Drawings.

.02 MATERIALS:

Surface material for the area shall be crushed stone or crushed produced from oversize quarried aggregate, sized by crushing and produced from a naturally occurring single source and shall be Type A, Grade 2 material conforming to Item 247, "Flexible Base" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.03 CONSTRUCTION METHODS:

- a. Entire area to be surfaced shall be stripped in accordance with Section 02110 - Clearing and Finish Grading of these Specifications.
- b. Cut and fill as required to bring stripped surface to appropriate subgrade to accept surface material. All fill material shall be approved By ENGINEER. Compact entire area over which surface material is to be placed by sheep-foot rollers or other approved method to provide a uniform compaction of 95% modified density in accordance with ASTM Standard 1557.
- c. Surface material deposited upon subgrade shall be spread and shaped the same day. Surface material shall be deposited, mixed and shaped in such a manner as to prevent "nests" of segregated coarse or fine material. Thickness of the finished surface material shall be not less than eight inches (8") compacted in place. Material shall be compacted by approved methods to obtain uniform compaction of 95% modified density. Material shall be watered or dried to provide a moisture content between optimum moisture and five percent (5%) above optimum moisture during compaction process. Finished surface shall be a smooth, graded surface satisfactory to ENGINEER and shall transition to existing surrounding surface elevations.

END OF SECTION

02507-1

DIVISION 2 - SITEWORK

SECTION 02510 - ASPHALTIC PAVEMENT

.01 GENERAL:

This Work includes the furnishing of all plant, labor, equipment and materials and performing all operations required for the placement of asphaltic pavement as indicated on the Contract Drawings and specified herein.

.02 MATERIALS:

a. Subbase

All subbase for asphaltic pavement with a plasticity index greater than fifteen (15) shall be stripped of all existing vegetation and lime stabilized to a depth of six (6) inches with six (6) percent by weight lime unless laboratory tests indicate that less than six (6) percent lime will reduce the plasticity index to less than fifteen (15). Any subbase with a plasticity index less than fifteen (15) shall be stripped of all existing vegetation, roots etc., prior to compaction.

b. Base

Flexible base material shall be durable particles of processed gravel mixed with approved binder. Flexible base material shall be Grade 2 in conformance with Item 247, "Flexible Base" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition). Material shall be deposited, mixed and shaped to provide a uniform mixture without segregation of fine and course material.

c. Primer Coat

Primer coat material shall be type MC-30 Cut-Back Asphalt as defined in Item 300, "Asphalts, Oils, and Emulsions" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

d. Aggregate

Aggregate for surface treatment for other than Hot-Mix Cold-Laid applications shall be precoated natural limestone Type PE conforming to Item 302, "Aggregates for Surface Treatments" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition). If Hot-Mix Cold-Laid application is utilized, the aggregate for surface treatment shall conform to the applicable requirements for a Type D paving system as defined in Item 334, "Hot-Mix Cold-Laid Asphalt Concrete Pavement" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

e. Asphalt

Asphalt material for surface treatment shall be AC-5 in accordance with Item 300, "Asphalts, Oils, and Emulsions" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition), and if Hot-Mix Cold-Laid application is utilized, asphaltic material shall conform to the applicable requirements of Item 334, "Hot-Mix Cold-Laid Asphalt Concrete Pavement" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.03 INSTALLATION:

a. Subbase

Lime stabilization of subbase shall conform to Item 260, "Lime Treatment (Road-Mixed)" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition) with all lime being added dry unless otherwise approved. Compaction of subbase material shall be provided by sheep-foot rollers or other approved methods to provide a uniform compaction of 95% modified density in accordance with ASTM Standard 1557 at a moisture content between optimum moisture and five (5) percent above optimum moisture.

b. Base

Flexible base material deposited upon the subgrade shall be spread and shaped the same day. Flexible base material shall be deposited, mixed and shaped in such a manner to prevent "nests" of segregated coarse or fine material. Thickness of the base material shall be not less than six (6) inches compacted in place. Material shall be compacted by approved methods to obtain a uniform compaction of 95% modified density and a smooth, graded surface satisfactory to ENGINEER. Base Material shall be watered or dried to provide a moisture content between optimum moisture and five (5) percent above optimum moisture during the compaction process.

c. Primer Coat

Before the application of primer coat, the surface of flexible base shall be cleaned by sweeping or other approved methods. Primer coat shall be applied when, in the opinion of ENGINEER, the base is thoroughly dry and satisfactory to receive prime coat. Asphaltic material for primer coat shall be applied at a rate of 0.20 to 0.30 gallons per square yard conforming to Item 310, "Prime Coat" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

d. Two Course Surface Treatment

Asphaltic pavement, for other than Hot-Mix Cold-Laid applications, shall consist of a two course surface treatment conforming to the applicable requirement of Item 316, "Surface Treatment" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition). Surface shall be broomed prior to rolling.

Application rates shall be as indicated below:

	<u>First Course</u>	<u>Second Course</u>
Gallons of Asphalt Per Square Yard	0.30	0.24
Gallons of Emulsified Asphalt per Square Yard	0.36	0.32
Aggregate Grade	No. 3PE	No. 4PE
Cubic Yards Aggregate to Square Yard Ratio	1:75	1:95

Emulsion rates shall be the AC rate divided by the residual Asphalt Content of emulsion (usually .65) x .80.

e. Hot-Mix Cold-Laid Surface Treatment

For Hot-Mix Cold-Laid applications, the asphaltic pavement shall consist of a Type D Hot-Mix Cold-Laid asphaltic concrete with a mat thickness of not less than 1½ inches conforming to the applicable requirements of Item 334, "Hot-Mix Cold-Laid Asphalt Concrete Pavement" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.04 TESTING:

CONTRACTOR shall provide for the services of an independent soil testing laboratory to perform those compaction tests indicated above. Tests shall be performed every five hundred (500) feet at the centerline of the road and two (2) feet from the outer edge of the subbase and base and at all intersections.

Test results shall be submitted to ENGINEER by the testing laboratory.

No compaction testing failing by more than 5% will be acceptable and 95% of all tests shall pass the compaction requirements.

END OF SECTION

02510-3

DIVISION 2 - SITE WORK

SECTION 02725 - STORM SEWER CORRUGATED POLYETHYLENE PIPE

.01 DESCRIPTION:

The work covered under this section of the specifications shall include installing storm sewer pipe, inlets and appurtenances, complete, to the dimensions, sizes, types and classes indicated on the drawings and specified herein.

.02 TRENCHING AND BACKFILLING:

All earthwork in connection with storm sewer construction including trenching, dewatering, backfilling and other earthwork operations required shall conform to the applicable requirements of Section 02200 "Pipe Trench Earthwork".

.03 STANDARDS:

- a. AASHTO M252: Specification for Corrugated Polyethylene Drainage Tubing, 3-inch to 10-inch Diameter.
- b. AASHTO M294: Specification for Corrugated Polyethylene Pipe, 12-inch to 36-inch Diameter.
- c. ASTM D1056: Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
- d. ASTM D1248: Specification for Polyethylene Plastics Molding and Extrusion Materials.
- e. ASTM D3350: Specification for Polyethylene Plastics Pipe and Fittings Materials.
- f. ASTM D2321: Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe.

.04 STORM SEWER LINES AND PIPE CULVERTS:

- a. General:
 1. All pipe shall be of the sizes and lengths indicated on the Drawings.
 2. The sizes of pipe indicated on the Drawings are nominal inside diameter.
 3. All pipe shall be smooth interior, corrugated polyethylene pipe.

b. Materials:

1. Smooth Interior Corrugated Polyethylene Pipe:

The product supplied under this specification shall be high density polyethylene corrugated exterior/smooth interior pipe. Four-inch through 10-inch diameters shall meet all the requirements of AASHTO M252 with the addition that the pipe have a smooth interior liner. Twelve to 36-inch diameters shall conform to AASHTO M294 Type S. Forty-two and 48-inch diameters shall have minimum pipe stiffness of 20 and 17 psi, respectively, at 5% deflection; and shall meet all other requirements of AASHTO M294.

Material shall meet ASTM D1248 Type III, Category 4, Grade P33, Class C; or ASTM D3350 Cell Classification 324420C.

Minimum conveyance factors shall be based on a Manning "n" value of 0.010 and shall be as shown in Table 1.

Table 1
Conveyance Factors

Nominal Diameter <u>(in.)</u>	Conveyance <u>Factor</u>	Nominal Diameter <u>(in.)</u>	Conveyance <u>Factor</u>
4	2.5	18	136.4
6	7.3	24	293.9
8	15.7	30	532.9
10	28.5	36	866.6
12	46.3	42	1307.2
15	83.9	48	1866.4

2. Coupling Bands and Fittings:

- A. Coupling bands shall cover at least one full corrugation on each section of pipe. When gasketed coupling bands are required, the gasket shall be made of closed-cell synthetic expanded rubber meeting the requirements of ASTM D1056, Type 2. Gaskets shall be installed on the coupling band by the pipe manufacturer. All coupling bands shall meet or exceed the soil-tightness requirement of the AASHTO Standard Specification for Highway Bridges, Section 23, Paragraph 23.3.1.5.4 (e).

B. Pipe fittings shall conform to AASHTO M252 or AASHTO M294. Fittings approved by ENGINEER are also acceptable.

c. Laying Sewer Lines:

1. Unloading Pipe: The pipe supplier and the Contractor shall use extreme care in unloading pipe at the job site to avoid damage which might not be noticed visually.
2. Fine Grading: Placing pipe in the trench shall be done in such a manner to insure proper bedding as detailed on the drawings. All sewer lines shall be bedded on a minimum of 4" in select (sand) backfill, shaped to fit the lowest 90 degrees, 45 degrees on each side of the centerline of the pipe, circumference, taking care to secure an extra firm and smooth bearing along the outer edges of the 90 degree strip. The select (sand) backfill shall be placed equally on both sides of the pipe to a height equal to the centerline of the pipe.
3. Laying Pipe: No pipe shall be laid in the trench until the condition of the trench has been accepted by the Engineer. The trench shall be free of water and maintained in that condition until the pipe has been laid. Pipe shall be matched, fitted together and the barrel of each joint shall rest on firm, even ground.

The completed sewer should have a smooth and uniform flow line and conform accurately to the grade and alignment indicated on the drawings. Pipe shall be laid from downstream end, progressing upstream. The interior of the sewer shall, as the work progresses, be cleaned of all dirt and superfluous material of every description.

.05 HEADWALLS AND INLETS:

Materials:

- a. Concrete: Reinforced concrete shall be Grade 1 = 4000 psi (f_c) at 28 days in accordance with Division 3 - Concrete.
- b. Grates, Frames and Covers shall be constructed in accordance with the details shown on the drawings.

END OF SECTION

02725-3

DIVISION 3 - CONCRETE

SECTION 03100 - CONCRETE FORMWORK

.01 GENERAL:

a. Description

This section shall govern all formwork for cast-in-place concrete with shoring, bracing and anchorage, openings for other work, form accessories and form stripping.

b. References

1. ACI 347, Recommended Practice for Concrete Formwork
2. ACI 301, Specifications for Structural Concrete for Buildings, Chapter 4
3. ACI 318, Building Code Requirements for Reinforced Concrete
4. PS-1, Construction and Industrial Plywood

c. Design Requirements

Design, engineer and construct formwork, shoring and bracing to conform to code requirements listed in references; resultant concrete to conform to required shape, line and dimension.

d. Submittals

1. Submit under provisions of Section 01340, Shop Drawings, Product Data, and Samples.
2. Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties on Shop Drawings.

e. Quality Assurance

1. Perform Work in accordance with ACI 301, 318, and 347.
2. Maintain one copy of each document on site.

f. Regulatory Requirements

Conform to applicable code for design, fabrication, erection and removal of formwork.

.02 PRODUCTS:

a. Wood Form Materials

1. Plywood

Douglas Fir species; APA high density overlaid or APA B-B Plyform Class I Panels; sound, undamaged sheets with clean, true edges.

2. Lumber

Southern Pine species; No. 2 grade; with grade stamp clearly visible.

b. Prefabricated Forms - Preformed Steel Forms

Minimum gage matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.

c. Formwork Accessories

1. Form Ties

Snap-off type, galvanized metal, adjustable length, cone type, with waterproofing washer, 1 in. back break dimension, free of defects that could leave holes larger than 1¼ in. in the concrete surface; Penta-Tie manufactured by Burke or approved equal.

2. Form Release Agent

Colorless mineral oil which will not stain concrete, absorb moisture or leave a film which will inhibit subsequent finish work; Burke Release manufactured by Burke or approved equal.

3. Corners

Chamfered, wood strip type; 3/4 x 3/4 in. maximum possible lengths.

4. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages

Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.

.03 EXECUTION:

a. Examination

Verify lines, levels, and centers before proceeding with formwork. Ensure that dimensions agree with Drawings.

b. Erection - Formwork

1. Erect formwork, shoring, and bracing to achieve design requirements in accordance with requirements of ACI 301 and 347.
2. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to over-stressing by construction loads.
3. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. permit removal of remaining principal shores.
4. Align joints and make watertight. Keep form joints to a minimum.
5. Obtain approval before framing openings in structural members which are not indicated on Drawings.
6. Provide chamfer strips on external corners of pile caps, retaining walls and other exposed corners.

c. Application - Form Release Agent

1. Apply form release agent on formwork in accordance with manufacture's recommendations.
2. Apply prior to placement of reinforcing steel, anchoring devices and embedded items.
3. Do not apply form release agent where concrete surfaces will receive applied coverings which are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

d. Inserts, Embedded Parts, And Openings

1. Provide form openings where required for items to be embedded in or passing through concrete work.
2. Locate and set in place items which will be cast directly into concrete.
3. Coordinate Work of other sections in forming and placing openings, slots, reglets, recesses, chases, sleeves, bolts, anchors, and other inserts.
4. Install accessories in accordance with manufacturer's instruction, straight, level, and plumb. Ensure items are not disturbed during concrete placement.
5. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.

6. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.
- e. Form Cleaning
1. Clean and remove foreign matter within forms as erection proceeds.
 2. Clean formed cavities of debris prior to placing concrete.
 3. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
- f. Formwork Tolerances
- Construct formwork to maintain tolerances required by ACI 301 and Section 03342, Finishing, Quality Control, Tolerances
- g. Field Quality Control
1. Inspect erected formwork, shoring, and bracing to ensure that supports, fastenings, wedges, ties, and items are secure.
 2. Do not reuse wood formwork more than three times for concrete surfaces to be exposed to view without written approval from OWNER. Do not patch formwork.
- h. Form Removal
1. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
 2. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
 3. Store removed forms in such manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.
 4. Forms and supports shall remain in place under pile caps for at least seven days and on the sides of pile caps, rail pads and walls for at least three days.

END OF SECTION

03100-4

DIVISION 3 - CONCRETE

SECTION 03200 - CONCRETE REINFORCEMENT

.01 GENERAL:

a. Description

This section shall govern the furnishing and placing of all reinforcing steel bars, wire fabric and accessories for concrete incorporated in the Work.

b. References

1. ACE 301, Structural Concrete for Buildings.
2. ACI 318, Building Code Requirements for Reinforced Concrete.
3. ACI SP-66, American Concrete Institute, Detailing Manual.
4. ANSI/ASTM A 82, Cold Drawn Steel Wire for Concrete Reinforcement.
5. ANSI/ASTM A 185, Welded Steel Wire Fabric for Concrete Reinforcement.
6. ANSI/AWS D1.4, Structural Welding Code for Reinforcing Steel.
7. ASTM A 615, Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
8. ASTM A 706, Low-Alloy Steel Deformed Bars for Concrete Reinforcement.
9. ASTM A 775, Epoxy-Coated Reinforcing Steel Bars.
10. CRSI, Concrete Reinforcing Steel Institute Manual of Practice.
11. CRSI 63, Recommended Practice for Placing Reinforcing Bars.
12. CRSI 65, Recommended Practice for Placing Bar Supports, Specifications, and Nomenclature.

c. Submittals

1. Submit under provisions of Section 01340, Shop Drawings, Product Data, and Samples.
2. Shop Drawings

Indicate bar sizes, spacings, locations, and quantities of reinforcing steel and wire fabric; bending and cutting schedules; and supporting and spacing devices.

3. Submit mill certificates for each heat of steel to be furnished indicating strength and chemistry.
 4. Submit qualified welding procedure for welding of reinforcing steel. Include in submittal all items contained in Appendix A of AWS D1.4.
 5. Submit copies of manufacturer's data for bar chairs, bolsters, spacers, etc.
- d. Quality Assurance
1. Perform work in accordance with CRSI 63, 65, and Manual of Practice, ACI 301, ACI Sp-66, and ACI 318.
 2. All welding procedures and welders shall be qualified in accordance with AWS D1.4 by an AWS-certified welding inspector approved by OWNER. Full section tension and macro-etch tests shall be conducted in accordance with AWS D1.4, Chapter 6.
 3. Production welding shall not commence until a qualified welding procedure has been established and approved by OWNER.

.02 PRODUCTS:

a. Reinforcement

1. Typical Reinforcing Steel
ASTM A 615, 60 ksi, yield grade, deformed steel bars, plain finish.
2. Reinforcing Steel for Welding
ASTM A 706, 60 ksi, yield grade, deformed low-alloy steel bars, plain finish.
3. Epoxy Coating
Scotchkote Brand Fusion Bonded Epoxy Coating 213, manufactured by 3M, St. Paul, Minnesota, applied by electrostatic spray method in strict accordance with ASTM A 775, except that the thickness of the coating shall be not less than 6 mils (150 microns) nor greater than 11 mils (275 microns).

b. Accessory Materials

1. Tie Wire
Minimum 16 gauge, annealed type. Use plastic coated wire with epoxy coated reinforcing.
2. Chairs, Bolsters, Bar Supports, Spacers
Sized and shaped for strength and support of reinforcement during concrete placement conditions.

3. Special Chairs, Bolsters, Bar Supports, and Spacers

Adjacent to Epoxy-Coated Reinforcement or Weather Exposed Concrete Surfaces, use plastic coated, steel type or plastic type; size and shape as required.

c. Fabrication

1. Fabricate concrete reinforcing in accordance with ACI 318.
2. Weld reinforcement in accordance with ANSI/AWS D1.4.
3. No splices in reinforcing, except where specially called for on the drawings, will be permitted without prior written approval from OWNER.
4. Sheared ends of epoxy coated reinforcing and/or epoxy coating that is damages shall be repaired with a compatible epoxy coating conforming to ASTM A 775 in accordance with the manufacturer's recommendations prior to installation.

d. Delivery

1. Bundles of reinforcing bars shall be delivered to the site with tags showing quantity, grade, size, and suitable identification to allow checking, sorting and placing.
2. Store all reinforcing steel off ground on protective cribbing and protect from oil, grease, dirt, or other deleterious materials.
3. Epoxy coated reinforcing shall be covered after delivery to prevent exposure to sunlight until needed for use.

.03 EXECUTION:

a. Placement

1. Place, support and secure reinforcement against displacement. Do not deviate from required position.
2. Accommodate placement of formed openings.
3. Where epoxy-coated reinforcing is required by the drawings, all handling and hoisting shall be done by nylon lifting slings or padded wire rope slings; bundles of bars shall be lifted to prevent bar-to-bar abrasion; spreader bars shall be used for lifting bundles, or the bundles shall be lifted at the third points with nylon or padded slings. Bundling bands shall be padded or made of nylon. Coated bars shall be padded or made of nylon. Coated bars shall be stored on padded or wooden cribbing bars or bundles of bars shall not be dragged over the ground or over other bars.
4. Plastic coated tie wire shall be used for tying epoxy coated rebar.

5. Vertical stirrups shall always pass around the main reinforcement and be attached securely thereto.
6. Reinforcing steel shall be spaced its required distance from the form surface by means of approved hot dip galvanized metal spacers with plastic coated tips or plastic spacers.
7. All reinforcing steel shall be tied at all intersections; except that where spacing is less than 1 ft. in each direction, alternate intersections only need be tied.
8. Reinforcement shall be supported and tied in such a manner that a sufficiently rigid cage of steel is provided. If the cage is not adequately supported to resist settlement or floating upward of the steel, overturning of truss bars or movement in any direction during concrete placement, permission to continue concrete placement will be withheld until corrective measure are taken.

Sufficient measurements shall be made during concrete placement to ensure that the reinforcement remains in the proper position.

9. Mats of wire fabric shall overlap each other sufficiently to maintain a uniform strength and shall be fastened securely at the ends and edges. Lap ends and edges a minimum of one square.

b. Tolerances

1. Unless otherwise shown on Drawings, dimensions shown for reinforcement are to the centers of the bars.
2. In the plane of the steel parallel to the nearest surface of concrete, bars shall not vary from plan placement by more that $1/12$ of the spacing between bars.
3. In the plane of the steel perpendicular to the nearest surface of concrete, bars shall not vary from plan placement by more than $1/4$ in.
4. Cover of concrete to the nearest surface of steel shall meet the above requirement but shall never be less that 3 in. unless otherwise shown on Drawings.

c. Welding

1. All welding of reinforcing steel shall be performed in accordance with AWS D1.4.
2. Welding process used to place welds shall be either shielded metal arc (SMAW) or flux cored arc (FCAW) welding.

- d. Cleaning Reinforcement
 - 1. Reinforcement shall be cleaned of all rust, mill scale, oil, paint or other deleterious materials prior to placing concrete.
 - 2. All damaged epoxy coating shall be repaired with a compatible epoxy coating conforming to ASTM A775 prior to pouring concrete.

- e. Field Quality Control
 - 1. Testing
 - (a) CONTRACTOR shall provide, at no cost to OWNER, one welded connection sample for full section tension tests in accordance with AWS D1.4 for every 200 production connections. OWNER will pay for all tests which pass. Failure of production weld samples to meet tension test requirement shall be cause for automatic rejection.
 - (b) All rebar welds shall be inspected and tested by OWNER before acceptance. CONTRACTOR shall remove all slag from each weld at no cost to OWNER. Any rebar weld which, in the opinion of OWNER, appears faulty shall be removed and the bar rewelded at no cost to OWNER. CONTRACTOR, at his option, may choose to have such rejected welds examined by a certified testing agency. If examination indicates acceptable quality, the defective welds shall be removed and replaced by CONTRACTOR at no additional cost to OWNER.
 - 2. Reinforcement shall be inspected by OWNER's representative prior to placing concrete. Provide a minimum of 24 hours advance notice of completion of reinforcement placement to OWNER for scheduling of field inspection.

END OF SECTION

03200-5

DIVISION 3 - CONCRETE

SECTION 03300 - CAST-IN-PLACE CONCRETE

.01 GENERAL:

a. Description

This Section shall govern all work necessary for providing materials, mixing, proportioning, testing, placing, finishing, and curing of all plain and reinforced cast-in-place normal weight concrete.

b. Quality Assurance

Material and Work shall conform to the requirements of standards, codes, and recommended practices required in this Section. In conflicts between industry standards, required standards and this specification or this specification and the local building code, the more stringent requirement shall govern.

c. Applicable Standards and Test Methods

The following documents are referred to in this Section and shall be available at the project site:

1. ACI 301-84(R-88), Specifications For Structural Concrete For Buildings
2. ACI 304 R-85, Guide For Measuring, Mixing, Transporting, And Placing Concrete
3. ACI 305 R-77 (82), Placing Concrete In Hot Weather
4. ACI 306 R-88, Placing Concrete In Cold Weather
5. ACI 309 R-89, Guide For Consolidation Of Concrete
6. ACI 318-89 (R-89), Building Code Requirement For Reinforced Concrete
7. ASTM C 31-84, Making And Curing Concrete Test Specimens In The Field
8. ASTM C 33-86, Standard Specifications For Concrete Aggregates
9. ASTM C 39-86, Standard Test Method For Comprehensive Strength Of Cylindrical Specimens
10. ASTM C 94-86, Standard Specifications For Ready-Mixed Concrete

11. ASTM C 138-81, Standard Test Method For Unit Weight, Yield, And Air Content (Gravimetric) Of Concrete
12. ASTM C 143-78, Standard Test Method For Slump Of Portland Cement Concrete
13. ASTM C 150-85, Standard Specification For Portland Cement
14. ASTM C 171-69el, (Reapproved 1980) Standard Specifications For Sheet Materials For Curing Concrete
15. ASTM C 173-78, Standard Test Method For Air Content Of Freshly Mixed Concrete By The Volumetric Method
16. ASTM C 231-81el, Standard Test Method For Air Content Of Freshly Mixed Concrete By The Pressure Method
17. ASTM C 260-86, Standard Specification For Air-Entraining Admixtures For Concrete
18. ASTM C 309-81, Liquid Membrane-Forming Compounds For Curing Concrete
19. ASTM C 494-86, Standard Specification For Chemical Admixtures For Concrete

d. Submittals

1. Concrete Mixing Design
 - (a) CONTRACTOR shall submit, at least ten working days in advance of placing concrete, a mix design for each type and strength of concrete specified which is prepared by a reputable testing laboratory.
 - (b) Include copies of test reports showing that the mix has been successfully tested to produce concrete with the properties specified and will be suitable for the job conditions.
2. Submit name and location of sources of cement, aggregates, chemical admixtures and fly ash propose for use on this project.
3. Submit independent laboratory reports or manufacturer's certification that all other concrete materials proposed for used on this project meet the requirements of Article .02 of this Section.

.02 PRODUCTS:

a. Concrete Materials

1. Portland Cement

- (a) Portland cement Type I or Type II conforming to ASTM C 150, including the low alkali provisions of Table 1A of that specification. In addition, the tricalcium aluminate content of Type I cement shall not exceed 12 percent.
- (b) Type I or Type II cement, at CONTRACTOR's option, may be used for nonhydraulic abovegrade structures.
- (c) For all hydraulic and belowgrade structures and sewers, use Type II cement. At CONTRACTOR's option, fly ash may be used in combination with any cement as long as all requirements of these Specifications are met. The fly ash may be combined at the batch plant or during the production of the cement (Type IP cement). For the combination fly ash and cement, the cement and fly ash shall comply with these Specifications.

2. Fly Ash

- (a) The pozzolan to be used in combination with cement, as previously specified for use in all hydraulic and belowgrade structures and sewers, or in combination with cement or other structures, shall be Class F fly ash conforming to ASTM C 618-87.
- (b) Pozzolan shall be tested in conformance with ASTM C 311. The analysis shall show those items pertinent to this Specification. Source acceptance shall be at the discretion of ENGINEER based on data submitted. Continuing quality analysis shall be submitted throughout the life of the project from the source approved. Under no circumstances shall the pozzolan source be changed without the retesting and providing of new submittals for ENGINEER's review. The Supplier shall certify that all shipments meet the conditions of this Specification.

3. Aggregates shall conform to ASTM C 33-86, "Standard Specification for Concrete Aggregates".

4. Water shall be clean and free from deleterious materials, drinkable.

5. Air-Entraining Admixtures

- (a) Conforming to the requirement of ASTM C 260-86,
- (b) "Standard Specification for Air-Entraining Admixtures for Concrete", "Micro Air" or "MB-VR", manufactured by Master Builders shall be used.
- (c) The air-entraining admixture shall provide a total air content as specified in Article .02 of this Section.

b. Selection Of Proportions

Concrete shall be composed of portland cement, fly ash fine aggregate, coarse aggregate, water and, as specified, Master Builders' Micro-Air or MB-VR air-entraining admixture. Proportions of ingredients shall produce concrete that will work readily into corners and angles of forms, bond to reinforcement, without segregation or excessive bleed water forming on the surface. Proportioning of materials shall be in accordance with ACI 211.1-89, "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete", except as modified herein.

c. Concrete Qualities Required

- 1. All concrete incorporated in the Work shall have the minimum 28-day compressive strength of 4000 pounds per square inch (PSI). Unless otherwise noted on the drawings.
- 2. Minimum cement or combined cement plus fly ash content when fly ash is used for performance and durability, regardless of design strength, shall be 517 pounds per cubic yard for concrete with 1-1/2-inch maximum size aggregate, 540 pounds per cubic yard for 1-inch maximum size aggregate. CONTRACTOR shall increase cement content or the combined cement plus fly ash content, when fly ash is used, as required to meet strength requirements.
- 3. The amount of fly ash used shall not exceed 25 percent or be less than 15 percent of the total weight of fly ash plus cement.
- 4. Minimum cementitious material requirements shall be as follows:
 - (a) For 4000 PSI (f_c) at 28 days
 - (1) Maximum water/cementitious ratio = .48
 - (2) Minimum cementitious - 517#

- (b) For 5000 PSI (f_c) at 28 days
 - (1) Maximum water/cementitious ratio = .40
 - (2) Minimum cementitious - 611#
- (c) For 6000 PSI (f_c) at 28 days
 - (1) Maximum water/cementitious ratio = .40
 - (2) Minimum cementitious - 658#

- 5. Proportions of ingredients shall be selected by past field experience or in lieu of past performance, laboratory trial mixes to produce placability, slump, specified strength and properties specified.
- 6. Determinations of required average strength (f_{cr}) shall be in accordance with ACI 318-89, "Building Code Requirements for Reinforced Concrete", and evaluations of compressive strength results of field concrete shall be in accordance with ACI 214-77 (Reaffirmed 1989), "Recommended Practice for Evaluation of Strength Test Results of Concrete".
- 7. Average strength shall exceed specified compressive strength as required in accordance with ACI 318-89.
- 8. Concrete shall be air-entrained and the total air content required (air-entrained and entrapped air) shall be:

<u>Nominal Max. Size Coarse Aggregate</u>	<u>Total Air Content</u>
1-1/2"	4-1/2% +/- 1%

NOTE: Air-entrainment shall not be required when Class "F" fly ash is used in the concrete mix design on projects south of IH-20, Texas Department of Transportation Standard Specifications, Item 420.

- 9. The Concrete shall be proportioned and produced to yield the following slumps when placed:

<u>Type of Construction</u>	<u>Slump</u>	<u>Tolerance</u>
Reinforced Foundation Walls & Footings	3 in.	± 1 in.
Columns, Beams, Walls, Structural Slabs	2 in.	± 1 in.
Slabs-On-Grade Roadways	2 in.	± 1 in.
Heavy Mass Construction	1½ in.	± ½ in.
Drilled Piers	6 in.	± 1 in.

.03 EXECUTION:

a. Production Of Concrete

1. Concrete shall be ready-mixed, batched, mixed and transported in accordance with ASTM C 94-86, "Specification for Ready-Mixed Concrete".
2. Plant equipment and facilities shall conform to the "Checklist for Certification of Ready-Mixed Concrete Production Facilities" of the National Ready Mixed Concrete Association.

b. Placing

1. Preparation

CONTRACTOR shall provide access for delivery provide sufficient equipment and manpower to rapidly place all concrete.

- (a) Work shall be in accordance with ACI 304R-89 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete".
- (b) Formwork shall be completed and snow, ice, water, and debris removed from within forms.
- (c) Expansion joint material, anchors, and all embedded items shall have been positioned.
- (d) Subgrades shall be sprinkled sufficiently to eliminate water loss from concrete.
- (e) Concrete shall not be placed on frozen ground.

2. Conveying

Concrete shall be placed rapidly by methods to prevent segregation or loss of quality.

3. Placement

- (a) Concrete shall be deposited continuously or when continuous placement is not possible, construction joints shall be located as approved by OWNER. Concrete shall be placed as nearly as possible to its final position. Avoid rehandling.
- (b) Concrete shall be consolidated by vibration, spading, rodding or tamping, as stated in ACI 309R-87, "Guide for Consolidation of Concrete". Work concrete around reinforcement, embedded items and into corners; eliminate air or stone pockets and other causes of honeycombing, pitting, or planes of weakness.

c. Weather Conditions

1. Cold Weather

Concrete shall conform to ACI 306R-88 "Standard Specifications for Cold Weather Concreting". A non-chloride accelerator may be used with ENGINEER's approval. Non-chloride accelerator shall be Pozzutec 20, manufactured by Master Builders.

2. Hot Weather

Concrete shall conform with ACI 305R-89 on "Hot Weather Concreting". A maximum concrete temperature of 95°F for normal concrete is specified.

(a) Provisions shall be made for windbreaks, shading, fog spraying, sprinkling or wet cover when necessary.

(b) Use an evaporation retardant and finishing aid, "Confilm", by Master Builders.

(c) Maximum concrete placing temperature when used in a bridge slab or in top slab of a direct traffic culvert shall be 85° F and the maximum concrete placing temperature when used in other applications shall be 95° F, Texas Department of Transportation Standard Specifications, Item 420.

d. Finishing

1. Finish concrete materials as specified in Section 03342, Finishing, Quality Control, Tolerances.

2. For curing methods, field quality control, and tolerances, refer to Section 03342, Finishing, Quality Control, Tolerances.

END OF SECTION

03300-7

DIVISION 3 - CONCRETE

SECTION 03342 - FINISHING, QUALITY CONTROL, AND TOLERANCES

.01 GENERAL:

a. Description

This Section shall govern all work with respect to finishing, quality control, and tolerances for all concrete surfaces of the type and grade of concrete being placed.

b. Applicable Standards and Test Methods

The following documents are referred to in this Section and shall be available at the project site:

1. ACI 301-84(R-88), Specifications For Structural Concrete For Buildings
2. ACI 318-83 (R-86), Building Code Requirement For Reinforced Concrete
3. ASTM C 31-84, Making And Curing Concrete Test Specimens In The Field
4. ASTM C 39-86, Standard Test Method For Comprehensive Strength Of Cylindrical Specimens
5. ASTM C 138-81, Standard Test Method For Unit Weight, Yield, And Air Content (Gravimetric) Of Concrete
6. ASTM C 143-78, Standard Test Method For Slump Of Portland Cement Concrete
7. ASTM C 171-69e1, (Reapproved 1980) Standard Specifications For Sheet Materials For Curing Concrete
8. ASTM C 173-78, Standard Test Method For Air Content Of Freshly Mixed Concrete By The Volumetric Method
9. ASTM C 231-81e1, Standard Test Method For Air Content Of Freshly Mixed Concrete By The Pressure Method
10. ASTM C 260-86, Standard Specification For Air-Entraining Admixtures For Concrete
11. ASTM C 309-81, Liquid Membrane-Forming Compounds For Curing Concrete

.02 EXECUTION:

a. General Finish Requirements

1. Unless otherwise specified, the finish of all exposed concrete surfaces shall be what is generally termed a plywood finish, which means a finish which will normally be obtained when well-designed, mortar-tight plywood forms are used. Repairing of surface defects and hand rubbing will be required on all exposed surfaces only where patching of honeycomb is necessary or where form design or construction or general workmanship produce gradual surface defects exceeding 1/4 in. in a 10-ft. straightedge or abrupt defects exceeding 1/8 in. Offsets caused by displaced or misplaced form sheathing or form sections, by loose knots in forms, or by otherwise defective form lumber will be considered as abrupt surface defects.
2. Concrete surfaces, both above and below the backfill, shall have all metal form ties removed not less than 3/4 in. back from the faces of the concrete. The holes shall be cleaned and wire brushed to remove laitance, form oil, and other foreign material; and then shall be filled with non-shrink grout.
3. Slabs-on-grade shall have a broom finish, unless otherwise specified, and formed sides. This finish shall be applied immediately behind the bull float operation. Curing shall begin immediately after texturing.
4. Dusting freshly placed concrete surfaces with cement or a mixture of sand and cement before or during the finishing operations is strictly prohibited.

b. Pier, Foundation, and Wall Top Finishes

1. Unless otherwise specified, the tops of column piers, small equipment foundations and similar foundations are to be grouted, scored, and all laitance, grease, dirt, or other deleterious materials removed.
2. The surface elevation shall be checked and additional concrete removed, if necessary, to allow for the specified thickness of grout.
3. The tops of all concrete walls shall be given a wood float finish.
4. In areas where a greater degree of finish is specified, it will be necessary to allow the concrete to begin to set before finishing.

c. Concrete Curing and Protection

1. General

The freshly placed concrete shall be protected from premature drying and excessive cold or hot temperatures. Curing shall start immediately after placing and finishing, and shall continue for not less than 28 days.

2. Curing Methods

- (a) Perform curing of concrete by use of curing compound, by moist curing, by moisture-retaining cover, or by combinations thereof. Material and method of curing shall be approved by ENGINEER.
- (b) Apply curing compound as soon as finish is completed.
- (c) On formed surfaces a curing method shall begin immediately upon form removal.
- (d) Approved methods for Rheoplastic Concrete include: Ponding or continuous sprinkling, continuous wet mats, sand kept continuously wet and liquid membrane-forming compounds.
 - (1) Application of waterproof sheet material shall conform to ASTM C 171-69 (Reapproved 1986), "Standard Specification for Sheet Materials for Curing Concrete".
 - (2) Applications of membrane-forming compounds shall conform to ASTM C 309-81, "Standard Specification for Liquid Membrane-Forming Compounds Curing Concrete".
- (e) The type of curing and procedure utilized shall be verified in the Preconstruction Meeting.

d. Field Quality Control

- 1. Materials and operations shall be tested and inspected by CONTRACTOR as work progresses. Failure to detect defective work shall not prevent rejection when defect is discovered, nor shall it obligate OWNER for final acceptance.
- 2. The following testing services shall be performed by a testing service selected by OWNER: All costs associated with these testing services shall be borne by CONTRACTOR unless otherwise noted.
 - (a) Secure composite samples in accordance with "Standard Method of Sampling Fresh Concrete", ASTM C 172-82.
 - (b) Mold and cure four specimens from each test required in accordance with standard "Method of Making and Curing Concrete Test Specimens in the Field", ASTM C 31-85.
 - (c) Test specimens in accordance with "Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens," ASTM C 39-86. Two specimens shall be tested at 28 days for acceptance and two shall be tested at 7 days for information.
 - (d) Make one strength test for each 50 cu. yd. or fraction thereof, and for each mix design of concrete placed in any one day.

- (e) Determine slump of normal-weight concrete sample for each strength test in accordance with "Standard Test Method for Slump of Portland Cement Concrete", ASTM C 143-76.
 - (f) Determine total air content of normal-weight concrete sample for each strength test in accordance with "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method", ASTM C 231-82 or "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method", ASTM C 173-78.
3. CONTRACTOR shall provide an area of protection for the test specimens free from damage or vibration at the job-site for the first 24 hours.
 4. CONTRACTOR shall provide an enclosed, insulated box for immediate test cylinder storage after manufacture at the job site.
 5. The manufacturer of (3) 6" X 12" test cylinder may be required by ENGINEER. Utilize procedure for manufacture according to ASTM C 31-84. The time of test and frequency shall be dictated by ENGINEER. These specimens shall be used to perform AASHTO T-277-83, "Standard Method of Test for Rapid Determination of the Chloride Permeability of Concrete".

e. Tolerances

Formwork shall be constructed in such a manner as to produce concrete surfaces that conform to the established dimensions, grades, and lines within the limits specified in Table below:

TOLERANCES FOR FORMED SURFACES

Variation from the plumb:

i.	In the lines and surface of columns, walls and in equipment foundations.	In 10 ft.	1/4 in.
		In any story of 20 ft. max	3/8 in.
		Maximum for entire height	1 in.
ii.	For exposed corner columns, control joint grooves, and other conspicuous lines	In 10 ft.	1/4 in.
		In any bay of 20 ft. max.	1/2 in.
	Variation from the level or from grades shown on Drawings, except for grout caps and slabs	In 10 ft.	1/4 in.
		In any bay of 20 ft. max.	3/8 in.
		Maximum for entire length	3/4 in.
	Variation from the level or from grades shown on Drawings for grout caps.		1/16 in.

TOLERANCES FOR FORMED SURFACES (cont.)

Variation of the linear building lines, or equipment foundations, from established position in plan and related position of columns, walls and partitions.	In any bay of 20 ft. max.	1/2 in.
	Maximum for entire length	1 in.
Variation in cross-sectional dimensions of columns and beams, equipment foundations, and in the thickness of slabs and walls.		-1/4 in. +1/2 in.
Footings:		
i. Variation of plan dimensions	Concrete only. (Does not apply to anchor bolts, dowels, or reinforcing.)	-1/2 in. +2 in.
ii. Misplacement or eccentricity	2% of footing width in the direction of misplacement but not more than 2 in. max. (concrete only). Does not apply to anchor bolts, dowels, or reinforcing.	
iii. Reduction in thickness	Portion of specified -5% thickness.	
Variation in the sizes and locations of floor openings and wall openings.		±1/4 in.
Variation in location of sleeves, waterstops, expansion joints, and other inserts.		±1/4 in.
Variation in steps:		
i. In a flight of stairs	Riser Tread	±1/8 in. ±1/4 in.
ii. In consecutive steps	Riser Tread	±1/16 in. ±1/8 in.

Unless otherwise specified, anchor bolt centers may vary up to 1/8 in. from the locations shown on Drawings; however, the variation in the dimension measured from center to center of any two bolts in an anchor bolt group may not vary more than 1/8 in. An anchor bolt group is defined as the set of anchor bolts which receive a complete equipment base assembly or a single fabricated steel shipping piece.

The location of inserts, such as waterstops, and expansion joints, may deviate from that shown on the drawing by 1/4 inch.

Tolerances shown on Drawings shall take precedence over the tolerances specified in this Section.

Permissible surface defects of exposed concrete surfaces are specified in Article .02 this Section and are to be distinguished from the tolerances described above.

**END OF SECTION
END OF DIVISION**

03342-6

DIVISION 5 - METALS

SECTION 05500 - MISCELLANEOUS METAL

.01 GENERAL:

This work includes furnishing all materials and equipment, and performing all operations necessary as indicated on the drawings and as specified herein.

- a. Scope: Include fabricated steel items of thickness greater than 18 ga. sheet metal that are not part of other metal systems. Include non-ferrous items listed, and light gauge structural framing.
- b. Shop Drawings: Submit for review. Completeness shall be sufficient to indicate compliance with the Contract Documents and to correlate with other materials.

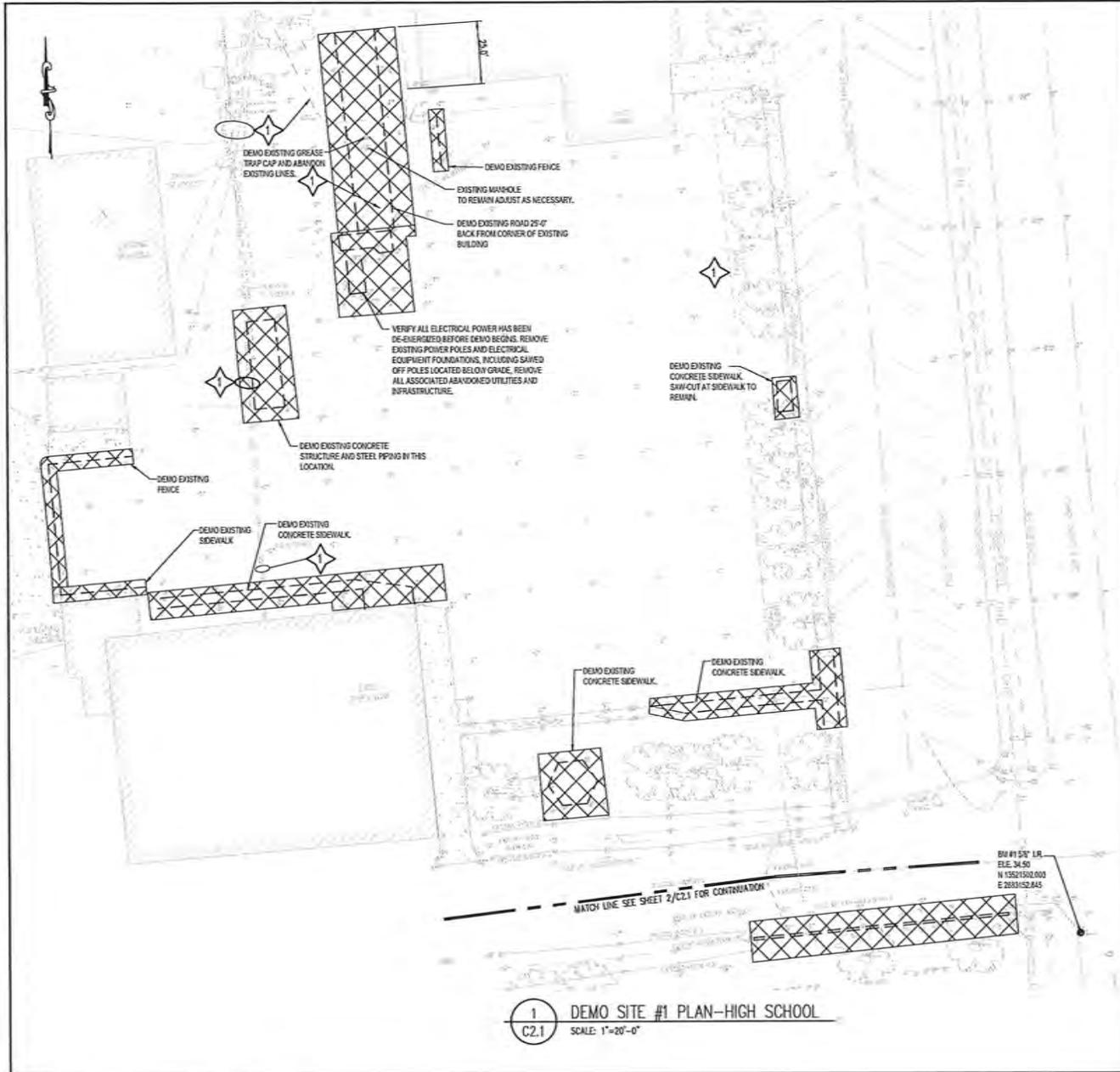
.02 MATERIALS: (STEEL)

- a. Structural Shapes, Bars: New billet, medium grade ASTM A 36.
- b. Bars, Plates: Same except cold-rolled, ASTM A 180.
- c. Structural Tubular: Square or rectangular, ASTM A 501; pipe, ASTM A 120.
- d. Sheets: Cold-rolled, ASTM A 366.
- e. Bar-Size: Hot rolled, ASTM A 575.
- f. Tubing: Cold-Drawn, ASTM A 512.
- g. Steel Joists: As indicated on drawings.

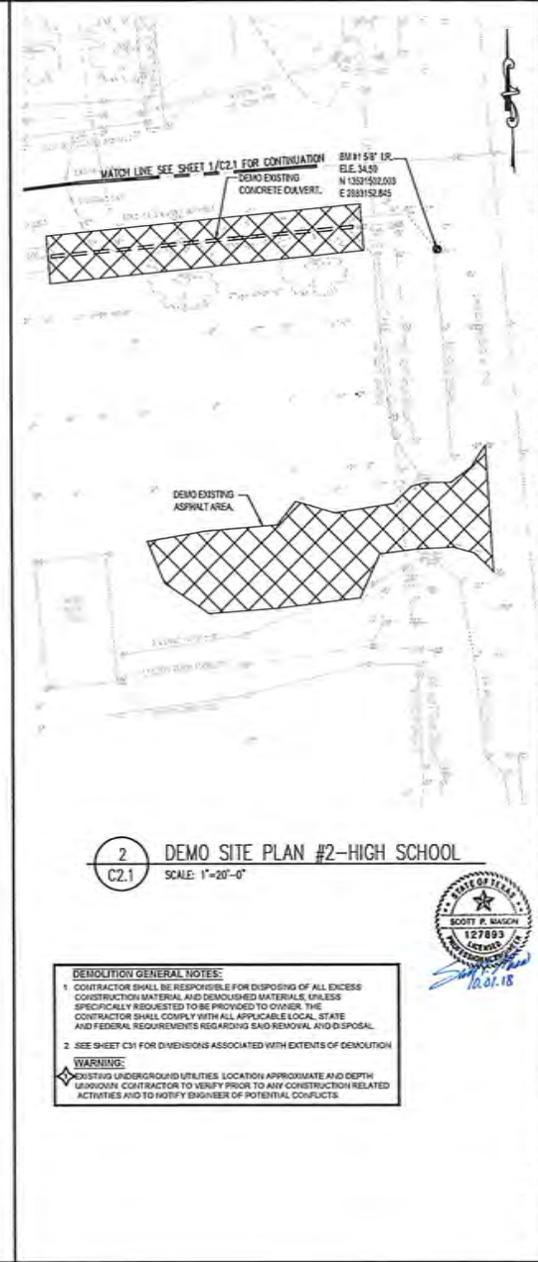
.03 STEEL SHOP PRIMER:

- a. Locations: Typical. Unless otherwise noted on the drawings.
- b. Minimum Preparation: Remove loose mill scale, loose rust and other foreign materials to the standards SSPC SP-2 and SP-1.
- c. Acceptable Primers: Any primer that meets Federal or SSPC specifications for use over the specified preparation. Two such primers are Fed. Spec. TT-P-86 Type I or Type II, SSPC-Paint 4-64T or TT-P-636c iron oxide zinc chromate alkyd primer.
- d. Primer Thickness: 2.0 mils dry film thickness, except for minor deficiencies.

**END OF SECTION
END OF DIVISION**



1 DEMO SITE #1 PLAN-HIGH SCHOOL
C2.1 SCALE: 1"=20'-0"



2 DEMO SITE PLAN #2-HIGH SCHOOL
C2.1 SCALE: 1"=20'-0"

DEMOLITION GENERAL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF ALL EXCESS CONSTRUCTION MATERIAL AND DEMOLISHED MATERIALS, UNLESS SPECIFICALLY REQUESTED TO BE PROVIDED TO OWNER. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS REGARDING SAID REMOVAL AND DISPOSAL.
2. SEE SHEET C31 FOR DIMENSIONS ASSOCIATED WITH EXTENTS OF DEMOLITION.

WARNING:

EXISTING UNDERGROUND UTILITIES, LOCATION APPROXIMATE AND DEPTH UNKNOWN. CONTRACTOR TO VERIFY PRIOR TO ANY CONSTRUCTION RELATED ACTIVITIES AND TO NOTIFY ENGINEER OF POTENTIAL CONFLICTS.

PROJECT NO. 1438-025	DATE 08/07/18	BY DM
SCALE: 1"=20'	DATE 10/20/18	DESCRIPTION APPROVED FOR CONSTRUCTION
DRAWN BY: DM	REV.	DATE
CHECK BY: SM		
DATE: 08/07/18		
SHEET NO. C2.1		

Texas Registered Engineering Firm P-0408

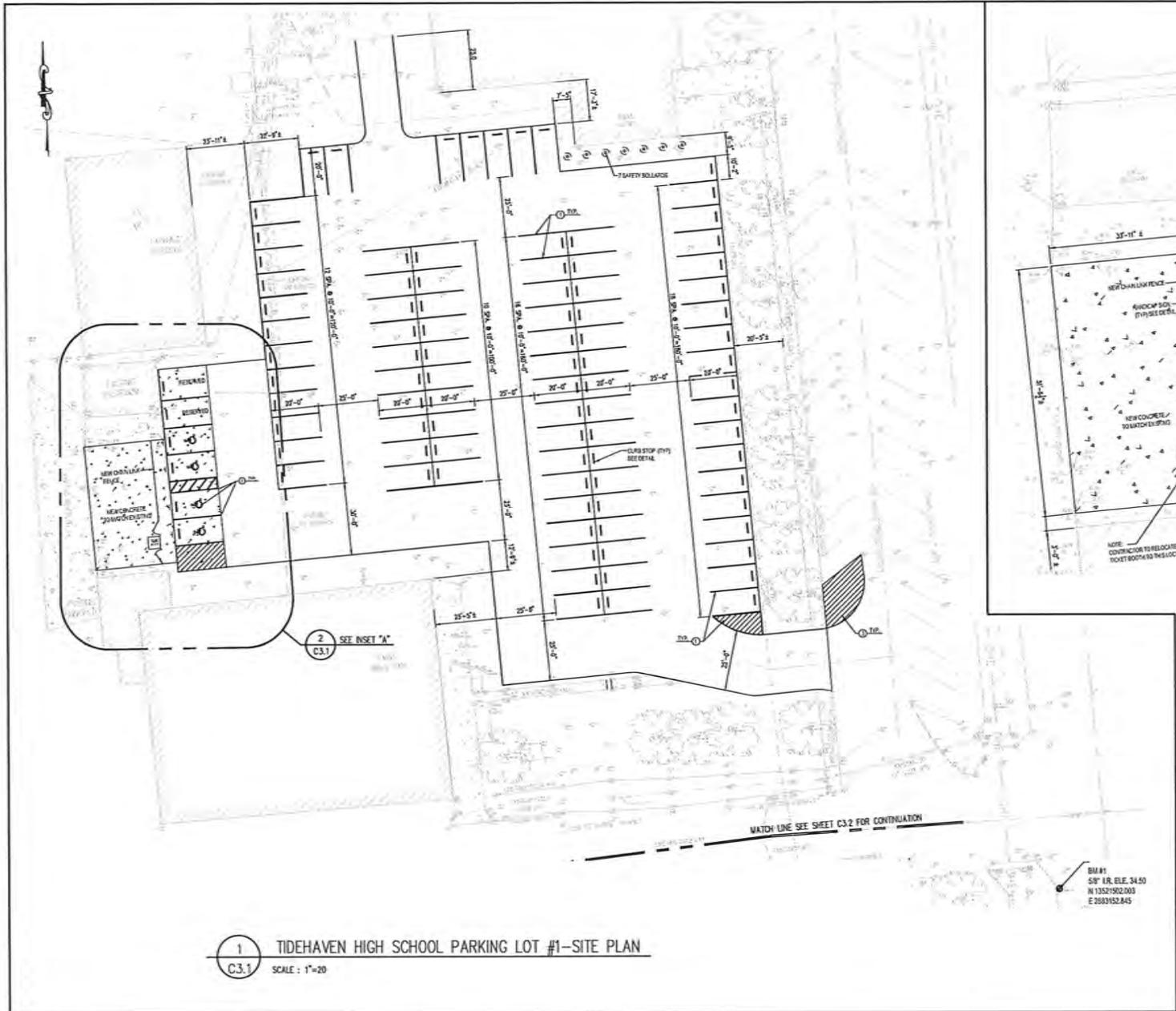
G & W ENGINEERS, INC.
PLANNING
SURVEYING
ENGINEERING

503 W. Live Oak St., Fort Worth, Texas 77179 (817)552-4509
1801 7th St., Suite 800 Bay City Texas 77414 (979) 323-7100

TIDEHAVEN ISD - HIGH SCHOOL
PARKING LOT CONSTRUCTION
MATAGORDA COUNTY, TEXAS
DEMOLITION SITE PLAN

STATE OF TEXAS
SCOTT P. HANSON
127893
PROFESSIONAL ENGINEER
10.01.18

TIDEHAVEN ISD
PO Box 129
Elgin, Texas 77440
979-844-3300



2 INSET A
C3.1 SCALE: 1"=10'

PARKING SUMMARY	
TOTAL PARKING SPACES	90 SPACES
STANDARD PARKING SPACES	90 SPACES
HANDICAP PARKING	4 SPACES
RESERVED PARKING	2 SPACES

- NOTES:
- ① PARKING LOT STRIPING SHOWN FOR CLARITY. SHOULD OWNER SELECT ALTERNATE BID OF EITHER ASPHALTING SURFACE OR CONCRETE THEN STRIPING SHALL BE REQUIRED.
 - ② ADA COMPLIANT STRIPING SHALL BE REQUIRED AT SPECIFIED CONCRETE HANDICAP PARKING AND ARE INCLUDED IN BASE BID.
 - ③ INDICATES REQUIRED STRIPING AND INCLUDED IN BASE BID.

BM #1
58' I.R. ELE. 34.50
N 1352192.203
E 2883152.845

1 TIDEHAVEN HIGH SCHOOL PARKING LOT #1-SITE PLAN
C3.1 SCALE: 1"=20'

MATCH LINE SEE SHEET C3.2 FOR CONTINUATION

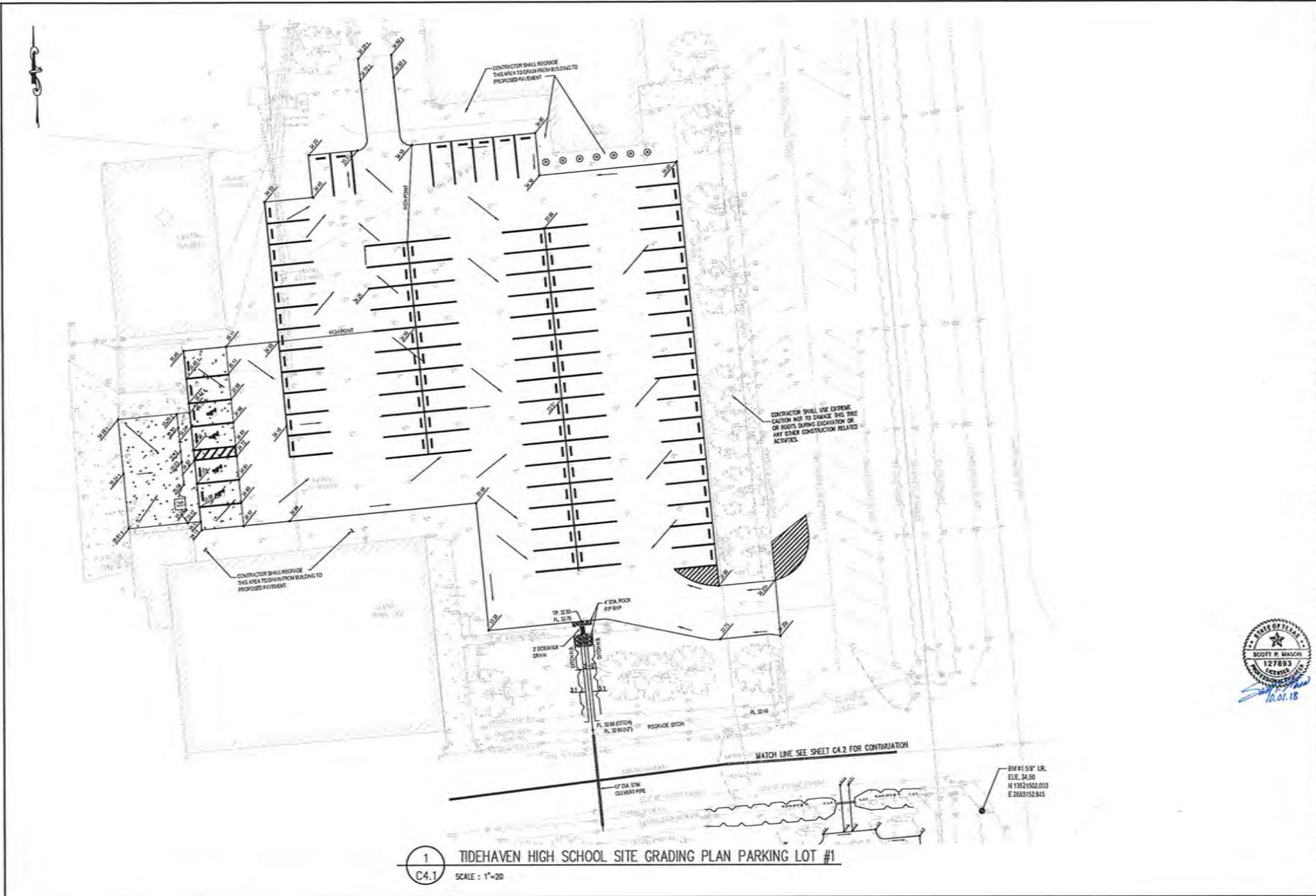
Texas Registered Engineering Firm P-44108	
G & W ENGINEERS, INC.	
ENGINEERING	PLANNING
200 W. LIVE OAK BL. FORT LAWREN, TEXAS 77778 (501)555-4509	10/30/18 APPROVED FOR CONSTRUCTION
1801 7th St. Suite 800 Bay City Texas 77416 (870) 333-7100	REV. DATE DESCRIPTION
	BY: DHC

TIDEHAVEN ISD - HIGH SCHOOL
PARKING LOT CONSTRUCTION
MATAGORDA COUNTY, TEXAS
PARKING LOT #1 - SITE PLAN

TIDEHAVEN ISD
PO Box 139
1100 N. Loop 7740
77464-0139

PROJECT NO. 1438 025
SCALE: AS SHOWN
DWG. BY: SD
CHK. BY: SM
DATE: 09/11/18
SHT. NO. C3.1

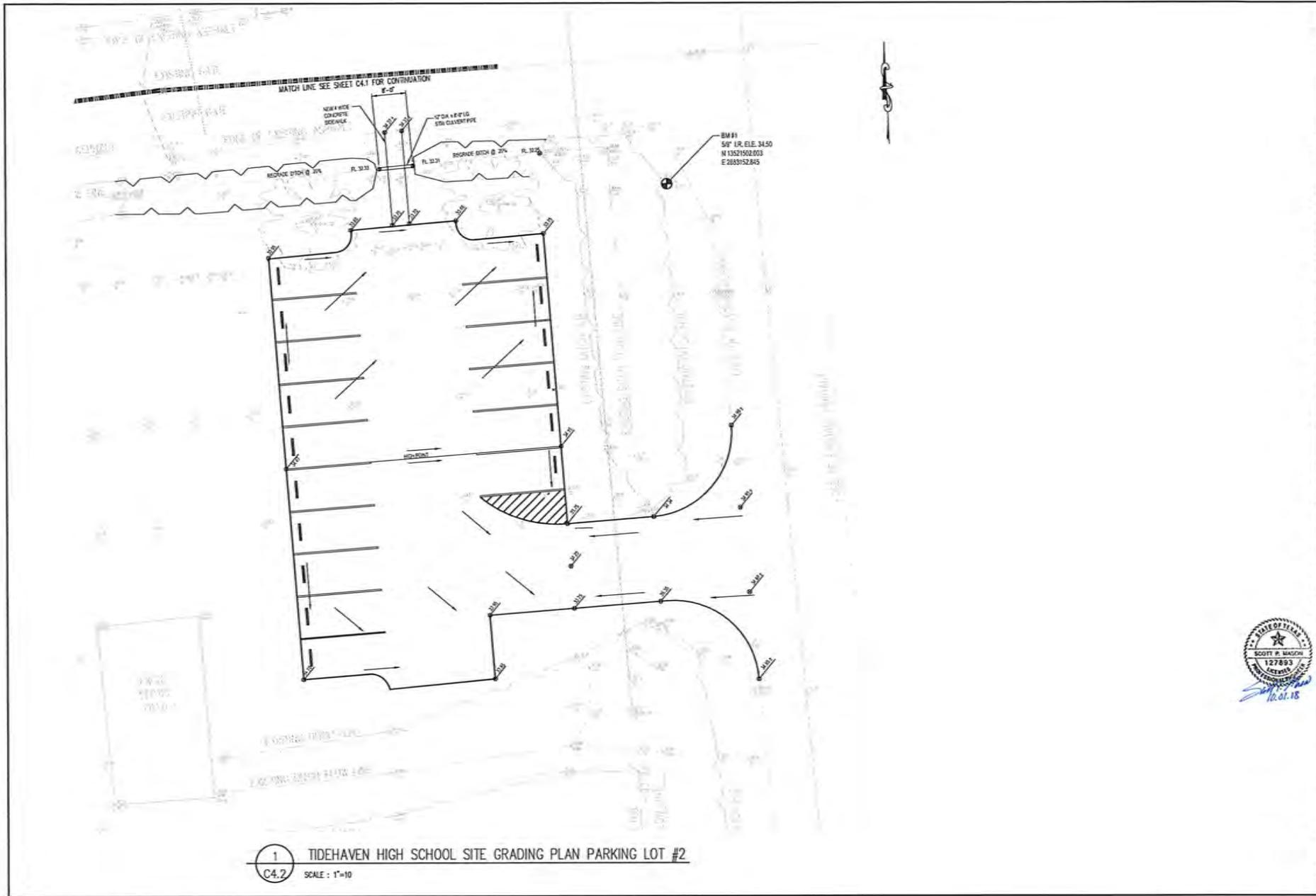




1 TIDEHAVEN HIGH SCHOOL SITE GRADING PLAN PARKING LOT #1
 C4.1 SCALE: 1"=20'



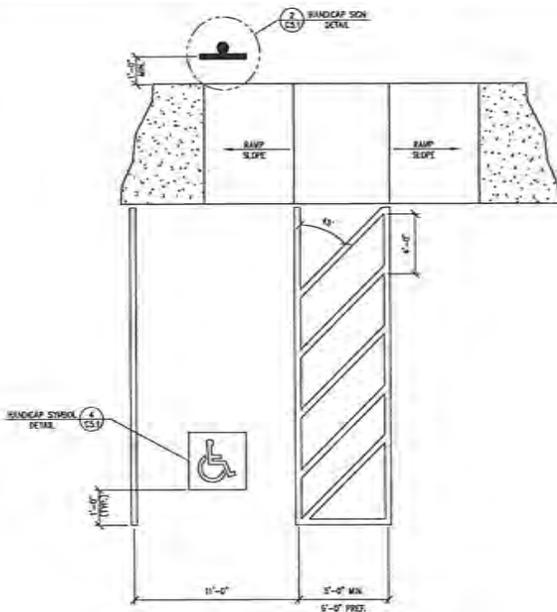
TIDEHAVEN ISD PO Box 139 El Paso, Texas 79140 978-943-400		PROJECT NO. 1438-025 SCALE: AS SHOWN DATE: 09/11/18 SHEET NO. C4.1	
TIDEHAVEN ISD - HIGH SCHOOL PARKING LOT CONSTRUCTION MATAGORDA COUNTY, TEXAS SITE GRADING PLAN PARKING LOT #1		APPROVED FOR CONSTRUCTION 10/30/18 DATE	
TIDEHAVEN ISD 1203 W. Live Oak St. Fort Laven, Texas 77778 (817)552-4509 1001 7th St., Suite 200 Bay City Texas 77414 (979) 333-7100		G & W ENGINEERS, INC. PLANNING SURVEYING 10/30/18	
Texas Registered Engineering Firm P-04108		G & W ENGINEERS, INC. PLANNING SURVEYING 10/30/18	



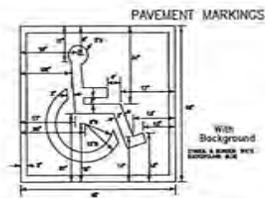
1 TIDEHAVEN HIGH SCHOOL SITE GRADING PLAN PARKING LOT #2
 C4.2 SCALE: 1"=10'



TIDEHAVEN ISD PO Box 139 Edinburg, Texas 77440 979-664-1300		TIDEHAVEN ISD - HIGH SCHOOL PARKING LOT CONSTRUCTION MATAGORDA COUNTY, TEXAS SITE GRADING PLAN PARKING LOT #2		Texas Registered Engineering Firm P-04188 G & W ENGINEERS, INC. PLANNING SURVEYING ENGINEERING 200 W. Live Oak St., Port Lavaca, Texas 77979 (501)552-4509 1801 7th St., Suite 200 Bay City Texas 77414 (979) 353-9100	
PROJECT NO.	1438-025	DATE	10/01/18	APPROVED FOR CONSTRUCTION	BD DM
SCALE	AS SHOWN	REV.		DESCRIPTION	BY
DRN. BY:	BD				
CHK. BY:	SM				
DATE:	09/11/18				
SHT. NO.	C4.2				

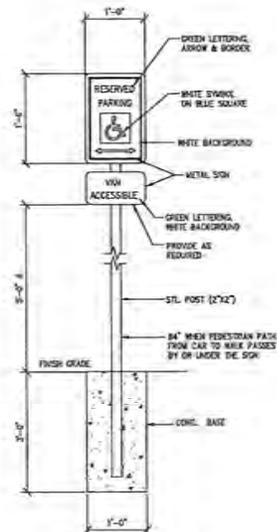


1 HANDICAP PARKING SPACE DETAIL
SCALE: 1/2"=1'-0"

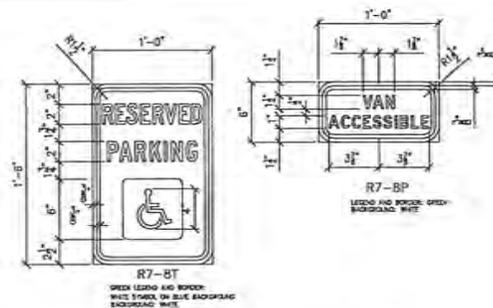


- GENERAL NOTES:
- All parking space limit lines shall be 4" solid white lines.
 - Allow markings shown are examples only. Other methods to indicate a NO PARKING area are acceptable. Allow markings shall be white.
 - Dimensions of limit lines, white markings, and symbol (with or without background) may vary ± 10%.
 - Pavement marking symbols (with background):
 - are REQUIRED unless stated elsewhere in the plans.
 - shall be placed toward the far end of the parking spaces so as to be visible to motorists in the travel lane.
 - may be painted or prefabricated material, and
 - shall be 30' x 30' minimum.
 - With approval of the Engineer, prefabricated pavement marking symbols with background of other dimensions exceeding the 30' x 30' minimum may be used. Alternative designs shall include a proportion sized symbol of accessibility, and shall conform to the illustrated colors for background, symbol and border.

4 HANDICAP PAVEMENT MARKING DETAIL
SCALE: 1/2"=1'-0"



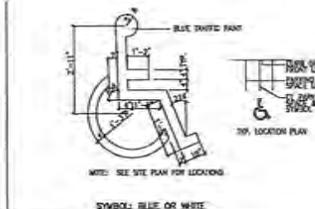
2 HANDICAP SIGN POST DETAIL
SCALE: 1"=1'-0"



SPECIFICATION REFERENCE TABLE	
MATERIALS AND TESTS DIVISION SPECIFICATIONS	D-9-7110
ALUMINUM SIGN BLANKS	D-9-8300
REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300

GENERAL SIGN NOTES:
The Alphabet and lateral spacing between letters and numerals shall conform with the Texas Manual on Uniform Traffic Control Devices for Streets and Highways, latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.
Legend shall be applied by screening process of black and/or transparent colored ink, cut-out black vinyl non-reflective sheet sheathing and/or reflective sheathing or combination thereof. Background shall be white reflective sheathing (Type C). Sign sheets shall be one piece 0.06 inch thick sheet aluminum alloy (Type A), unless otherwise noted elsewhere in the plans.

3 HANDICAP SIGN DETAIL
SCALE: 1"=1'-0"



NOTE: SEE SITE PLAN FOR LOCATIONS.

SYMBOL: BLUE OR WHITE

- An R7-B sign:
 - shall be REQUIRED for each accessible parking space.
 - shall NOT be placed between two accessible parking spaces.
 - shall NOT be placed in a location that restricts movement of wheelchairs within the adjacent sidewalk, and
 - shall have a minimum mounting height of 7 feet if mounted to wall or located so as not to be near pedestrian traffic; minimum mounting height may be 7 feet.
- Post mounted signs should be placed approximately 1 foot (or greater) behind the curb to prevent damage from vehicle overhang.
- Signs may be mounted directly to an adjacent wall of a building when post mounting is impractical.



TIDEHAVEN ISD - HIGH SCHOOL
PARKING LOT CONSTRUCTION
MATAGORDA COUNTY, TEXAS
SECTION AND DETAILS

TIDEHAVEN ISD
PO Box 150
El Mar, Texas 77440
979-943-4300



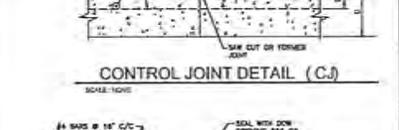
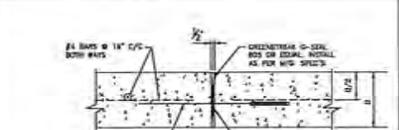
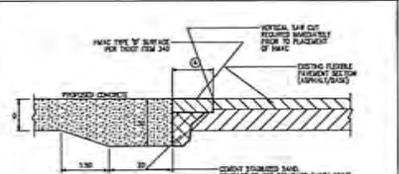
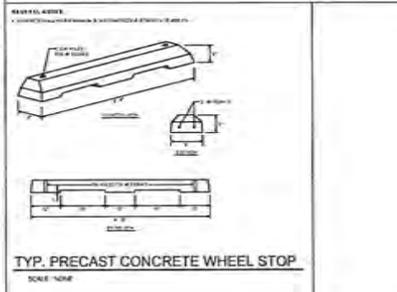
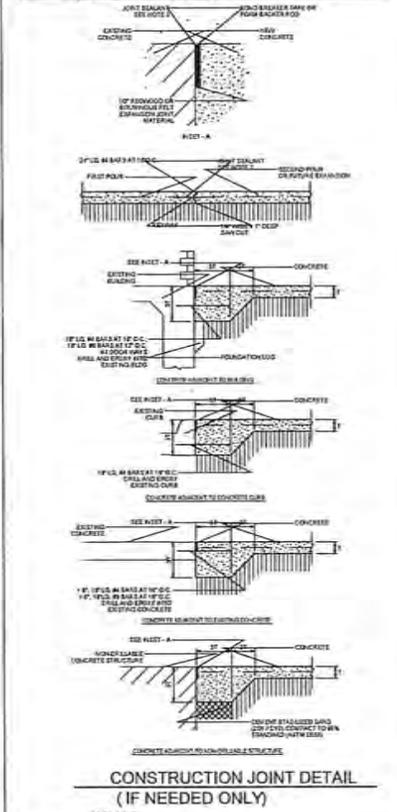
PROJECT NO. 1438.023
SCALE: AS SHOWN
DWN. BY: AS SHOWN
CHK. BY: S.1
DATE: 09/11/18
SHEET NO. C5.1

NO.	REV.	DATE	DESCRIPTION
1		10/01/18	APPROVED FOR CONSTRUCTION
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Texas Registered Engineering Firm F-04108
G & W ENGINEERS, INC.
PLANNING
SURVEYING
ENGINEERING
200 W. Line Oak St., Fort Laramie, Texas 77979 (409)552-6509
1801 7th St., Suite 200 Bay City Texas 77414 (817) 353-7100

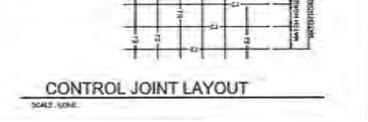
CONSTRUCTION JOINT GENERAL NOTES

1. CONSTRUCTION JOINTS SHALL BE LOCATED AT REGULAR INTERVALS AS INDICATED ON DRAWINGS. JOINTS SHALL BE SPACED TO BE 30 FT MAX.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF JOINTS. JOINTS SHALL BE SPACED TO BE 30 FT MAX.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF JOINTS. JOINTS SHALL BE SPACED TO BE 30 FT MAX.



GENERAL NOTES

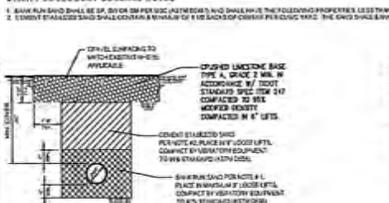
1. EXPANSION JOINTS SHALL BE LOCATED AT REGULAR INTERVALS AS INDICATED ON DRAWINGS. JOINTS SHALL BE SPACED TO BE 30 FT MAX.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF JOINTS. JOINTS SHALL BE SPACED TO BE 30 FT MAX.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF JOINTS. JOINTS SHALL BE SPACED TO BE 30 FT MAX.



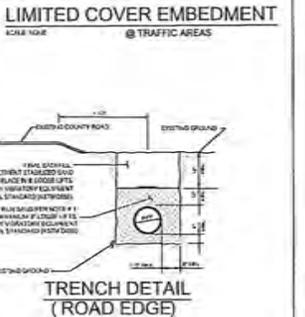
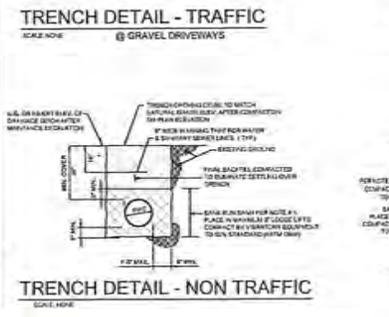
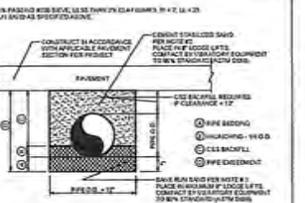
STORM SEWER GENERAL NOTES

1. STORM SEWER PIPE & STRUCTURE DESIGN TO HAVE CONCRETE STABILIZED SOIL/PAVEMENT TO BE EXPOSED TO CROSSING UNDER ANY ROAD OR ACCESS WAY & SHALL CONTAIN A MINIMUM OF 12 INCHES OF CONCRETE FOR CURB/PAVEMENT. SAND SHALL BE 20% FINESS PER ASTM D-2000. SHALL HAVE THE FOLLOWING PROPERTIES:
 - FINESSE PER ASTM D-2000
 - 100% FINE SAND
 - 100% FINE SAND
2. COMPACTED SAND BED SHALL BE A FREE DRAINING SAND OR GRAVEL WITH LESS THAN 5% FINES PER ASTM D-2000. SAND SHALL BE 20% FINESS PER ASTM D-2000.
3. CONCRETE
4. REINFORCED CONCRETE
5. REINFORCED CONCRETE SHALL CONFORM TO ASTM DESIGNATION A750 OR A750R.
6. REINFORCED CONCRETE SHALL BE SUPPORTED, SPACED & ACCURATELY DETAILING IN PLACE BY BOLTERS, SPACERS OR CHAIRS IN ACCORDANCE WITH SPECIFICATIONS FOR PLACING REINFORCEMENT & FOR PLACING ACCESSORIES. MEETING THE REQUIREMENTS OF THE ACHS MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.
7. ALL DIMENSIONS RELATING TO REINFORCING STEEL SHALL BE TO THE CENTER OF THE BAR, UNLESS NOTED OTHERWISE.
8. ALL REINFORCED CONCRETE PIPE SHALL BE CONSTRUCTED BY CAST-IN-PLACE REINFORCED CONCRETE PIPE AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

UTILITY EMBEDMENT GENERAL NOTES



LIMITED COVER EMBEDMENT

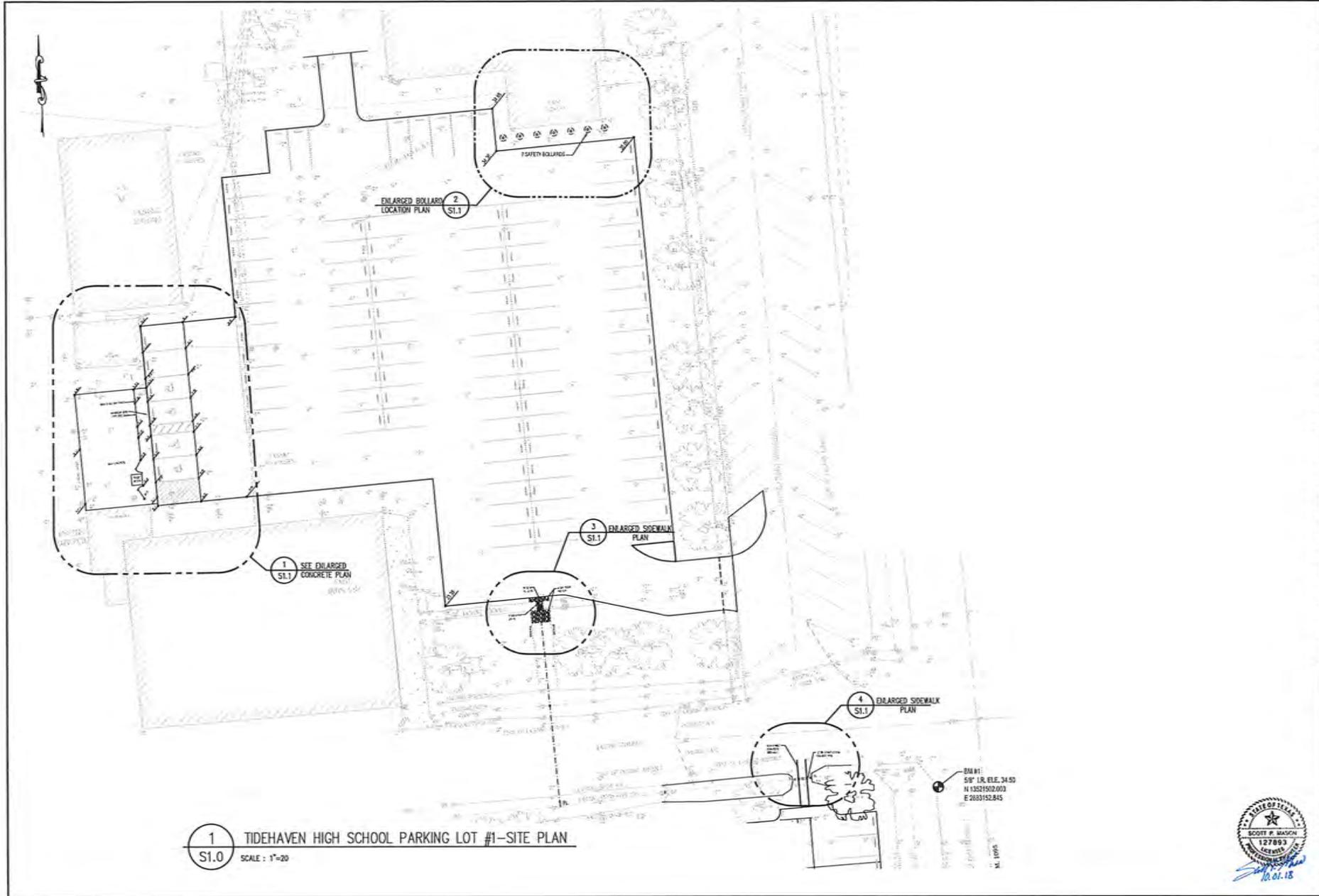


NO.	DATE	BY	CHK.	DESCRIPTION
1	10/01/18	SM	SM	APPROVED FOR CONSTRUCTION
2				
3				
4				
5				

TIDEHAVEN ISD - HIGH SCHOOL
PARKING LOT CONSTRUCTION
MATAGORDA COUNTY, TEXAS
STANDARD SECTIONS AND DETAIL

TIDEHAVEN ISD
PO Box 129
U. Marsh, Texas 77440
078-843-8300

PROJECT NO. 1438.025
SCALE: AS SHOWN
DRN. BY: SM
CHK. BY: SM
DATE: 09/11/18
SHT. NO. C5.3



1 TIDEHAVEN HIGH SCHOOL PARKING LOT #1-SITE PLAN
 S1.0 SCALE: 1"=20'



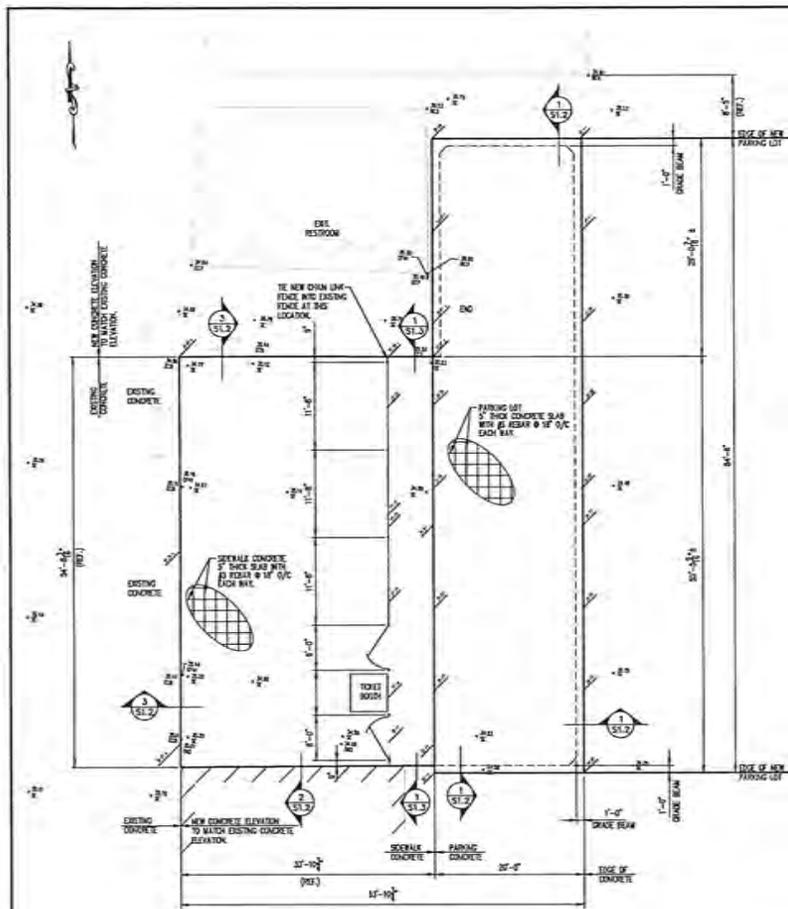
TIDEHAVEN ISD
 PO Box 139
 Upton, Texas 77440
 979-844-400

TIDEHAVEN ISD - HIGH SCHOOL
 PARKING LOT CONSTRUCTION
 MATAGORDA COUNTY, TEXAS
 PARKING LOT #1 - SITE PLAN

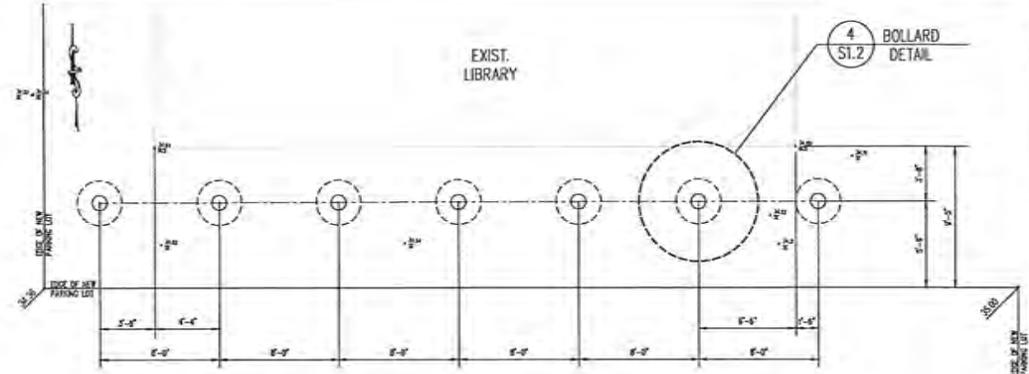
Texas Registered Engineering Firm F-0418
G & W ENGINEERS, INC.
 PLANNING
 ENGINEERING SURVEYING
 203 W. Live Oak St., Port Lavaca, Texas 77979 (501)552-4509
 1801 7th St., Suite 200 Bay City Texas 77414 (979) 323-7100

REV.	DATE	DESCRIPTION	BY	CHK.
1	10/01/18	APPROVED FOR CONSTRUCTION	BD	SM

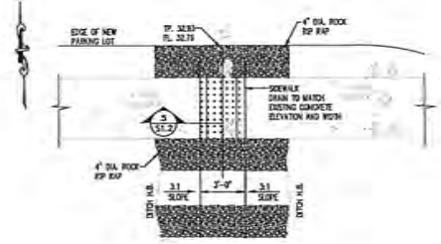
PROJECT NO. 1438-025
 SCALE: AS SHOWN
 DWN. BY: BD
 CHK. BY: SM
 DATE: 09/11/18
 SHE. NO. S1.0



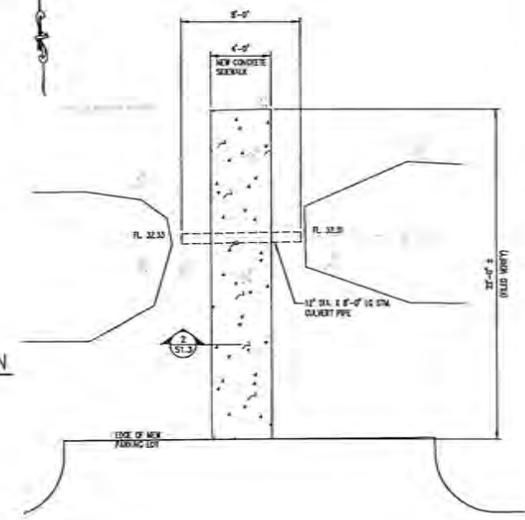
1 TIDEHAVEN HIGH SCHOOL CONCRETE PLAN
S1.1 SCALE: 1/8"=1'-0"



2 TIDEHAVEN HIGH SCHOOL BOLLARD LOCATION PLAN
S1.1 SCALE: 1/8"=1'-0"



3 TIDEHAVEN HIGH SCHOOL SIDEWALK DRAIN
S1.1 SCALE: 1/8"=1'-0"



4 TIDEHAVEN HIGH SCHOOL SIDEWALK PLAN
S1.1 SCALE: 1/8"=1'-0"

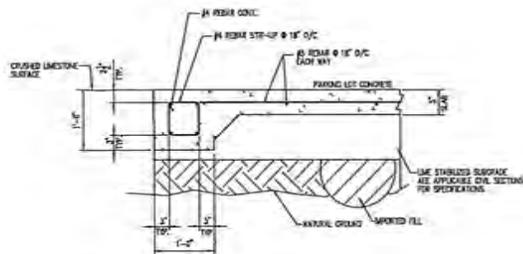


PROJECT NO.	1438-025
SCALE	AS SHOWN
DRAWN BY	SD
CHECK BY	SM
DATE	09/11/18
SHEET NO.	S1.1

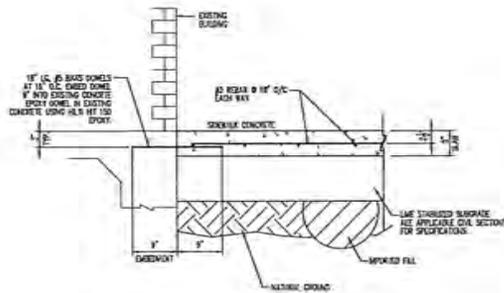
TIDEHAVEN ISD
PO BOX 139
BAYTOWN, TEXAS 77540
979-943-4300

TIDEHAVEN ISD - HIGH SCHOOL
PARKING LOT CONSTRUCTION
MATAGORDA COUNTY, TEXAS
ENLARGED PLANS

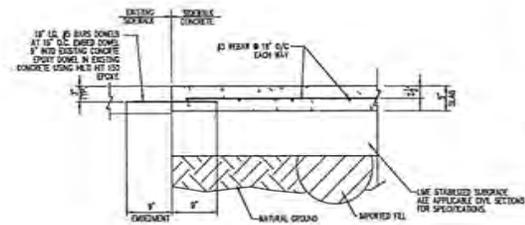
Texas Registered Engineering Firm F-04108
G & W ENGINEERS, INC.
ENGINEERING SURVEYING
303 W. Live Oak St., Fort Worth, Texas 77109 (817)552-4508
1001 7th St., Suite 200 Bay City Texas 77414 (877) 333-7105



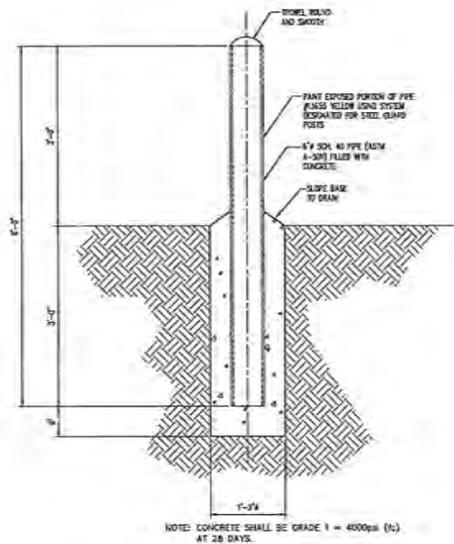
1 PARKING LOT CONCRETE SECTION
S1.2 SCALE: 1"=1'-0"



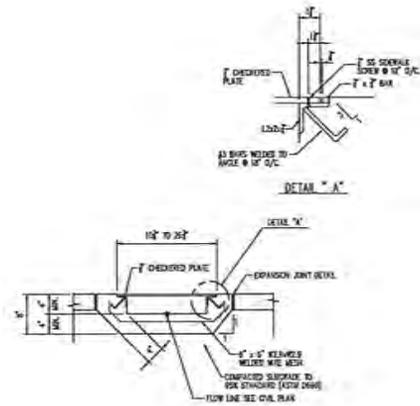
2 CONCRETE SIDEWALK SECTION @ BLDG.
S1.2 SCALE: 1"=1'-0"



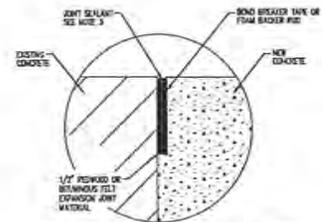
3 SIDEWALK CONCRETE SECTION
S1.2 SCALE: 1"=1'-0"



4 TYPICAL BOLLARD DETAIL
S1.2 SCALE: 1"=1'-0"



5 SIDEWALK DRAIN SECTION
S1.2 SCALE: N.T.S.



CONSTRUCTION JOINT GENERAL NOTES

1. CONSTRUCTION JOINTS ARE REQUIRED AT ANY LOCATION WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE PAVEMENT OR STRUCTURES. THIS INCLUDES BUILDINGS, PARKING LOTS, SIDEWALKS, PATIOS, CURBS, ISLETS, MANHOLES, HEADWALLS, LIGHT POLES, ETC. AND APPLIES TO CONCRETE THAT WAS PLACED EARLIER DURING THE PROJECT AND CONCRETE THAT WAS EXISTING PRIOR TO THE START OF THIS PROJECT.
2. CONSTRUCTION JOINTS WITH NEW PAVEMENT SHOULD BE PLANNED TO COINCIDE WITH EXPANSION JOINT LOCATIONS WHEN THIS IS NOT FEASIBLE. WHEN A KEYWAY STYLE CONSTRUCTION JOINT SHALL BE UTILIZED, THE LOCATION OF THE KEYWAY CONSTRUCTION JOINT SHALL COINCIDE WITH THE LOCATION OF A PLANNED CONSTRUCTION JOINT.
3. CONSTRUCTION JOINT SHALL BE SEALED WITH SCORNBORN BUILDING PRODUCTS, SCORNBORN BL-1, NONPRIMING ONE-PART, SELF-LEVELING POLYURETHANE SEALANT OR APPROVED EQUAL. JOINT CLEANING AND PREPARATION SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

6 EXPANSION JOINT DETAIL
S1.2 SCALE: N.T.S.

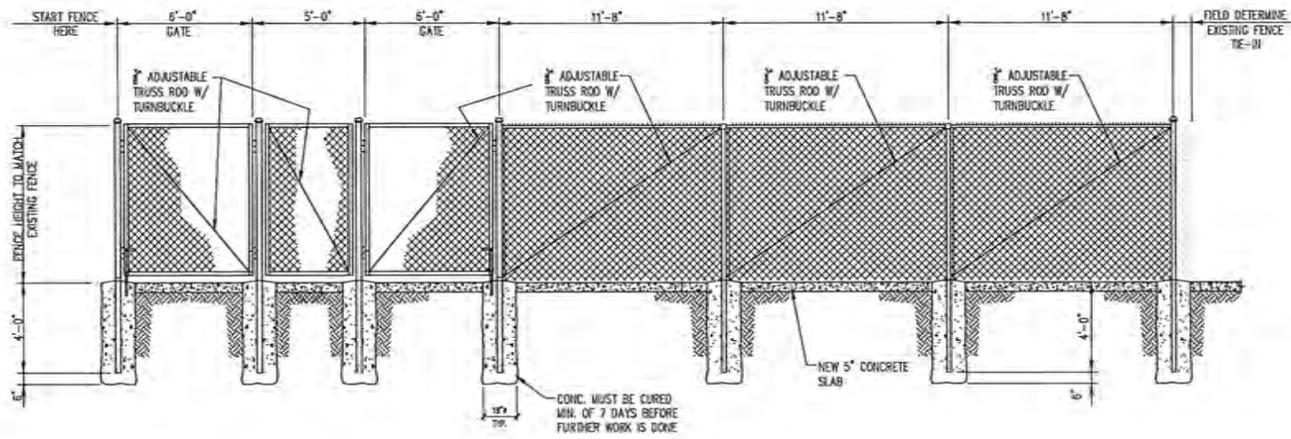


PROJECT NO.	1438-025	
SCALE	AS SHOWN	
OWN. BY	BO	
CHK. BY	SM	
DATE	09/11/18	
SHEET NO.	S1.2	
REV.	DATE	DESCRIPTION
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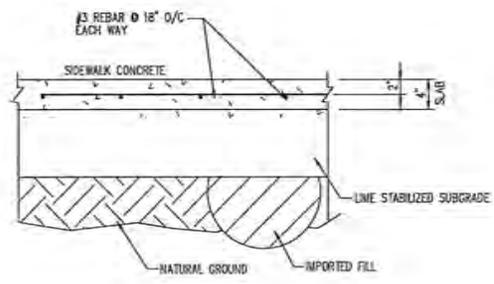
Texas Registered Engineering Firm P-0408
G & W ENGINEERS, INC.
 PLANNING
 SURVEYING
 202 W. Live Oak St., Fort Worth, Texas 76102-4509
 1001 7th St., Suite 300 Bay City Texas 75414 (817) 343-7100

TIDEHAVEN ISD
 PARKING LOT CONSTRUCTION
 MATAGORDA COUNTY, TEXAS
 SECTIONS AND DETAILS

PROJECT NO. 1438-025
 SCALE AS SHOWN
 OWN. BY: BO
 CHK. BY: SM
 DATE: 09/11/18
 SHEET NO. S1.2



1 FENCE DETAILS
S1.3 SCALE: N.T.S.



2 SIDEWALK DETAILS
S1.3 SCALE: N.T.S.

PLANNING	10/20/18	APPROVED FOR CONSTRUCTION	MD	SM
SURVEYING		REV. DATE		BY
ENGINEERING				
1881 1/2th Fl., Suite 800 Sky City Tower 77144 (979) 333-7100				

TIDEHAVEN ISD - HIGH SCHOOL
PARKING LOT CONSTRUCTION
MATAGORDA COUNTY, TEXAS
FENCE SECTIONS AND DETAILS

TIDEHAVEN ISD
10000 139
El Paso, Texas 77140
979-333-4200



PROJECT NO.	1438.025
SCALE:	AS SHOWN
OWN. BY:	ISD
CHK. BY:	SM
DATE:	09/11/18
SHT. NO.	S1.3

Construction Specifications for
CONSTRUCTION OF A BLESSING
ELEMENTARY PARKING LOT

for the

TIDEHAVEN INDEPENDENT SCHOOL DISTRICT

October 10, 2018

CONSTRUCTION SCOPE OF WORK

Project Title: Tidehaven ISD – Blessing Elementary Parking Lot Construction
Project Location: Blessing Elementary, Blessing, TX
Document No.: CSOW-1438.025-BE
Date / Revision: October 2, 2018 / 0



Detailed Scope of Work

This construction scope of work is for the demolition of necessary items and installation of a new parking lot and associated construction. The contract work will consist of the following:

BASE BID

1. Furnish all necessary equipment, materials and labor for the demolition and disposal of approximately 10 LF of *concrete curb* in accordance with the Contract Drawings and Technical Specifications.
2. Furnish all necessary equipment, materials and labor for the demolition and disposal of approximately 3,650 SF of *asphalt/gravel pavement* in accordance with the Contract Drawings and Technical Specifications.
3. Furnish all necessary equipment, materials and labor for the demolition and disposal of approximately 34 LF of *storm sewer pipe* in accordance with the Contract Drawings and Technical Specifications.
4. Furnish all necessary equipment, materials and labor for the demolition and disposal of three (3) EA trees in accordance with the Contract Drawings and Technical Specifications.
5. Furnish all necessary equipment, materials and labor for the installation of approximately 4,310 SY of *limestone pavement* in accordance with the Contract Drawings and Technical Specifications.
6. Furnish all necessary equipment, materials and labor for the installation of approximately 118 SY of *reinforced concrete pavement* in accordance with the Contract Drawings and Technical Specifications.
7. Furnish all necessary equipment, materials and labor for the installation of two (2) each of reinforced concrete *pedestrian sidewalk* in accordance with the Contract Drawings and Technical Specifications.
8. Furnish all necessary equipment, materials and labor for the grading and/or regrading of approximately 515 LF of *ditches and rip-rap* identified and in accordance with the Contract Drawings and Technical Specifications.

9. Furnish all necessary equipment, materials and labor for the installation of approximately 11 EA of *bollards* in accordance with the Contract Drawings and Technical Specifications.
10. Furnish all necessary equipment, materials and labor for the installation of approximately 62 LF of storm sewer culvert and safety end treatments in accordance with the Contract Drawings and Technical Specifications.
11. Furnish all necessary equipment, materials and labor for the installation of approximately 580 SF of *reinforced concrete drainage flume* in accordance with the Contract Drawings and Technical Specifications.
12. Furnish all necessary equipment, materials and labor for the installation of approximately 95 EA of curb stops in accordance with the Contract Drawings and Technical Specifications.
13. Furnish all necessary equipment, materials and labor for the installation of approximately 435 SY of 3" limestone for landscaping areas (non-traffic) in accordance with the Contract Drawings and Technical Specifications.

ALTERNATE BID A

- A1. Furnish all necessary equipment, materials and labor for the installation of approximately 4,310 SY of *two course surface pavement* in accordance with the Contract Drawings and Technical Specifications in lieu of Item 5 of the base bid.
- A2. Furnish all necessary equipment, materials and labor for the installation of additional *striping* in accordance with the Contract Drawings and Technical Specifications.

ALTERNATE BID B

- B1. Furnish all necessary equipment, materials and labor for the installation of approximately 4,310 SY of *asphalt (HMAC) surface pavement* in accordance with the Contract Drawings and Technical Specifications in lieu of Item 5 of the base bid.
- B2. Furnish all necessary equipment, materials and labor for the installation of additional *striping* in accordance with the Contract Drawings and Technical Specifications.

ALTERNATE BID C

- C1. Furnish all necessary equipment, materials and labor for the installation of approximately 4,310 SY of *concrete surface pavement* in accordance with the Contract Drawings and Technical Specifications in lieu of Item 5 of the base bid.
- C2. Furnish all necessary equipment, materials and labor for the installation of additional *striping* in accordance with the Contract Drawings and Technical Specifications.

ALTERNATE BID D

- D1. Furnish all necessary equipment, materials and labor for the installation of two (2) each of *galvanized steel pedestrian walkway* and all associated footings in accordance with the Contract Drawings and Technical Specifications in lieu of Item 7 of the base bid.

Reference Design Documentation

Drawing Index:

- C1.0 Cover Sheet & Notes; Issue: 10-02-2018
- C2.1 Blessing Elementary School Demolition Plan; Issue: 10-02-2018
- C3.1 Blessing Elementary School Parking Lot Civil Site Plan; Issue: 10-02-2018
- C4.1 Blessing Elementary School Parking Lot Grading Plan; Issue: 10-02-2018
- C5.1 Standard Details; Issue: 10-02-2018
- C5.2 Standard Details; Issue: 10-02-2018

Reference Technical Specifications

Division 1 - General Requirements:

- 01025 Application for Payment Requirements
- 01340 Shop Drawings, Product Data, and Samples
- 01410 Inspection, Testing, and Guarantee
- 01500 Temporary Facilities
- 01700 Contract Closeout Requirements

Division 2 - Site Work:

- 02050 Demolition
- 02111 Clearing, Rough Grading, Compaction and Finish Grading
- 02200 Pipe Trench Earthwork
- 02220 Structural Earthwork
- 02500 Concrete Pavement
- 02507 Crushed Limestone Area
- 02510 Asphaltic Pavement
- 02725 Storm Sewer Corrugated Polyethylene Pipe

DIVISION 3 - CONCRETE:

- 03100 Concrete Formwork
- 03200 Concrete Reinforcement
- 03300 Cast-In-Place Concrete
- 03342 Finishing, Quality Control, and Tolerances

DIVISION 5 - METALS:

- 05500 Miscellaneous Metal

Equipment / Materials to be furnished by Contractor

1. All required equipment / materials required

Equipment / Materials to be furnished by Others

1. None

Insurance Requirements

Per contract requirements

Bonding Requirements

Per contract requirements

End of Document

DOCUMENT NO. 00300

**Requests for Competitive Sealed Proposals (RCSP) for
Construction of a Blessing Elementary Parking Lot**

_____, hereinafter called "BIDDER",
(Legal Firm Name)

is submitting this Proposal for Furnishing and Performing the Work specified herein as the
TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT CONSTRUCTION.

This PROPOSAL is Submitted to TISD, hereinafter called "OWNER".

1. Terms used in this PROPOSAL are defined in the General Conditions or Document No. 00120 - Instructions to Bidders and shall have the meanings indicated in the General Conditions or Instructions.
2. BIDDER proposes and agrees, if this BID is accepted, to enter into an Agreement with OWNER in the form included in the Contract Documents to furnish and perform all Work as specified or indicated in the Contract Documents for the Bid Price and within the Bid Times indicated in this BID and in accordance with the other terms and conditions of the Contract Documents.
3. BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid Security. This BID will remain subject to acceptance for Sixty (60) Calendar Days after the Bid Opening. BIDDER shall sign and deliver the required number of counterparts of the Agreement, including all required documents indicated by the Bidding Requirements, within Fifteen (15) Calendar Days after the date of OWNER's Notice of Award.
4. In submitting this BID, BIDDER represents, as more fully set forth in the Agreement, that:
 - a. BIDDER has examined and carefully studied the Bidding Documents and the following Addenda, receipt of all which is hereby acknowledged: (List Addenda by Addendum Number and Date):
Addendum No: _____
Date Received: _____
 - b. BIDDER has visited the site and is familiar and satisfied with the general, local and site conditions that may affect cost, progress, and furnishing and performing the Work.

- c. BIDDER is familiar and satisfied with all federal, state and local Laws and Regulations that may affect cost, progress, and furnishing and performing the Work.
 - d. BIDDER is aware of the general nature of work, if any, to be performed by OWNER (or others) at the site in relation to the Work for which this BID is submitted.
 - e. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
 - f. BIDDER has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that BIDDER has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to BIDDER, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing and performing the Work for which this BID is submitted.
 - g. This BID is GENUINE and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation. BIDDER has not directly or indirectly induced or solicited any other BIDDER to submit a false or sham BID. BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding. BIDDER has not sought by collusion to obtain for itself any advantage over any other BIDDER or over OWNER.
5. BIDDER agrees to complete the Work in accordance with the Contract Documents.
- a. BIDDER acknowledges that the amounts are to be shown in both words and figures, and in case of discrepancy, the amount in words shall govern.
 - b. BIDDER acknowledges that the quantities are not guaranteed and final payment will be based on the actual quantities determined as provided in the Contract Documents.
 - c. BIDDER acknowledges that, at OWNER's option and/or at OWNER's request, any of the quantities may be deleted, reduced, or increased based upon the respective Unit Prices.
 - d. BIDDER acknowledges that Unit and Lump Sum Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.
 - e. BIDDER agrees to furnish all necessary labor, superintendence, plant, machinery, equipment, tools, materials, insurance, services and all other requirements deemed necessary to complete the items of Work indicated on the following pages for the specific dollar amounts stated.

BASE BID

BID ITEM	BID QTY.	UNIT	DESCRIPTION OF ITEM WITH PRICE WRITTEN IN WORDS	AMOUNT
-------------	-------------	------	--	--------

1.	1	LS	Furnishing labor, equipment, materials, mobilization, permitting and insurance costs for the demolition and disposal of necessary items and installation of one new parking lot and associated improvements as per the contract drawings and technical specifications (specified Work is called out in the Construction Scope of Work) for a lump sum price of
----	---	----	--

		Dollars	
	and	Cents.	\$

Total Equipment Cost: \$ _____

Total Material Cost: \$ _____

Total Labor Cost: \$ _____

Total Project Cost (Less Taxes): \$ _____

Sales Taxes Included: \$ _____

ALTERNATE BID ITEMS

BID ITEM	BID QTY.	UNIT	DESCRIPTION OF ITEM WITH PRICE WRITTEN IN WORDS	AMOUNT
A.	1	LS	Furnishing labor, equipment, materials, mobilization, permitting and insurance costs for the installation of two course pavement and installation of additional striping as per the contract drawings and technical specifications (specified Work is called out in the Construction Scope of Work), being the "BASE BID + ALTERNATE A - ITEM 5 BASE BID = SUM" for a lump sum price of _____ _____ _____ Dollars and _____ Cents.	\$ _____
B.	1	LS	Furnishing labor, equipment, materials, mobilization, permitting and insurance costs for the installation of asphalt pavement and installation of additional striping as per the contract drawings and technical specifications (specified Work is called out in the Construction Scope of Work), being the "BASE BID + ALTERNATE B - ITEM 5 BASE BID = SUM" for a lump sum price of _____ _____ _____ Dollars and _____ Cents.	\$ _____
C.	1	LS	Furnishing labor, equipment, materials, mobilization, permitting and insurance costs for the installation of concrete pavement and installation of additional striping as per the contract drawings and technical specifications (specified Work is called out in the Construction Scope of Work), being the "BASE BID + ALTERNATE C - ITEM 5 BASE BID = SUM" for a lump sum price of _____ _____ _____ Dollars and _____ Cents.	\$ _____

BID ITEM	BID QTY.	UNIT	DESCRIPTION OF ITEM WITH PRICE WRITTEN IN WORDS	AMOUNT
----------	----------	------	---	--------

D. 1 LS Furnish all necessary equipment, materials and labor for the installation of two (2) each of galvanized steel pedestrian walkway and all associated footings in accordance with the contract drawings and technical specifications in lieu of Item 7 of the base bid (specified Work is called out in the Construction Scope of Work), being the "BASE BID + ALTERNATE D - ITEM 7 BASE BID = SUM" for a lump sum price of

 _____ Dollars
 and _____ Cents. \$ _____

+++++

6. BIDDER agrees that the Work shall be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within _____ **Calendar Days** after the date when the Contract Times commences to run.

BIDDER accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.

7. The following documents are attached to and made a condition of this BID:
- a. 00410 - Required Bid Security in the form of _____
 - b. 00415 - Contractor's Corporate Resolution
 - c. 00416 - Noncollusion Affidavit
 - d. 00420 - Bidder Qualification Statement

8. Communications about this BID shall be directed to BIDDER's address indicated below.

SUBMITTED this _____ day of _____, 2018.

Authorized Signature: _____

Name: _____

Title: _____

Attesting Signature: _____

Name: _____

Title: _____

Legal Firm Name: _____

Business Address: _____

Phone Number: _____

Facsimile Number: _____

E-Mail Address (optional) _____

State of Incorporation, if applicable: _____

State Contractor License No.: _____

END OF DOCUMENT

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01025 - APPLICATION FOR PAYMENT REQUIREMENTS

In order for CONTRACTOR to receive Progress Payments under the Contract, the following items shall be submitted to ENGINEER for review.

- a. An Application for Payment, certified and sworn as correct by CONTRACTOR, in accordance with Article 14.02.A.1 of the General Conditions, unless otherwise amended by the Supplementary Conditions,
- b. A sworn certification of no claims and appropriate waivers of liens in accordance with Article 14.02.A.2 of the General Conditions, unless otherwise amended by the Supplementary Conditions.

Such certification and waivers shall be as found herein as the "CONTRACTOR's CONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT", and if applicable, the "SUBCONTRACTOR's CONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT".

CONTRACTOR'S CONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT

THE STATE OF TEXAS §
COUNTY OF _____ §

Project: **TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT CONSTRUCTION**

Job No. **1438.025**

On receipt by the signer of this document of a check from **TIDEHAVEN INDEPENDENT SCHOOL DISTRICT (TISD)** (*maker of check*) in the sum of \$ _____ payable to _____ (*payee or payees of check*) and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the property or easements of the **TISD (owner)** located at **Blessing Elementary, 616 Ave. B, Blessing, TX** (location) to the following extent: **TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT CONSTRUCTION** (*job description*).

This release covers a progress payment for all labor, services, equipment, or materials furnished to the property or to **TISD** (*person with whom signer contracted*) as indicated in the attached statement(s) or progress payment request(s), except for unpaid retention, pending modifications and changes, or other items furnished.

Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this progress payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project in regard to the attached statement(s) or progress payment request(s).

(CONTRACTOR'S NAME)

Signed By: _____
Print Name: _____
Title: _____

SUBSCRIBED AND SWORN TO BEFORE ME by _____, on
_____, 20____, to certify which witness my hand and seal of office.

Notary Public, State of Texas

SUBCONTRACTOR'S CONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT

THE STATE OF TEXAS §
COUNTY OF _____ §

Project: **TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT CONSTRUCTION**

Job No. **1438.025**

On receipt by the signer of this document of a check from _____ (*maker of check*) in the sum of \$ _____ payable to _____ (*payee or payees of check*) and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the property or easement of the **TIDEHAVEN INDEPENDENT SCHOOL DISTRICT (TISD)** (*owner*) located at **Blessing Elementary, 616 Ave. B, Blessing, TX** (location) to the following extent **TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT CONSTRUCTION** (*job description*).

This release covers a progress payment for all labor, services, equipment, or materials furnished to the property or to _____ (*person with whom signer contracted*) as indicated in the attached statement(s) or progress payment request(s), except for unpaid retention, pending modifications and changes, or other items furnished.

Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this progress payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project in regard to the attached statement(s) or progress payment request(s).

(SUBCONTRACTOR'S NAME)

Signed By: _____
Print Name: _____
Title: _____

SUBSCRIBED AND SWORN TO BEFORE ME by _____, on
_____, 20____, to certify which witness my hand and seal of office.

Notary Public, State of Texas

END OF SECTION

01025-5

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

.01 GENERAL:

- a. Submit shop drawings, product data and samples required by specification sections.
- b. Shop drawings, product data and samples are not considered a part of Contract Documents.
- c. Schedule submissions at least 10 days before reviewed submittals will be needed.

.02 CONTRACTOR RESPONSIBILITIES:

- a. Review shop drawings, project data and samples prior to submission.
- b. Verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and other data.
 - 4. Conformance with submission requirements.
- c. Coordinate each submittal with Contract Documents and the work requirements to prevent any delay in the work.
- d. CONTRACTOR's responsibility for errors and omissions is not relieved by ENGINEER's review of submittals.
- e. At time of submission and in writing, notify ENGINEER of submittal deviations from Contract Documents.
- f. CONTRACTOR's responsibility for deviations from Contract Documents is not relieved by ENGINEER's review of submittals, unless ENGINEER gives written acceptance of specific deviations.
- g. Begin no Work related to submittals until return of submittals with ENGINEER's stamp and initials or signature indicating review.
- h. Distribute copies after ENGINEER's review.

.03 ENGINEER'S DUTIES:

- a. Review submittals with reasonable promptness to prevent any delay in the Work.
- b. Review for conformance with:
 1. Design concept of project.
 2. Contract Documents.
- c. Review of a separate item does not constitute review of an assembly in which the item functions.
- d. Return to CONTRACTOR those submittals which do not meet the requirements and require correction and resubmission.
- e. Affix stamp and initials or signature certifying review of submittal.
- f. Return reviewed submittals to CONTRACTOR for distribution.

.04 PREPARATION REQUIREMENTS:

- a. Shop Drawings:
 1. Preparation by a qualified detailer.
 2. Sheet size same as Contract Drawings.
 3. Identify details by reference to sheet and detail numbers on Contract Drawings.
 4. Include on the drawing all information required for submission or prepare a transmittal letter.
 5. Prepare one reproducible transparency and one opaque print of each shop drawing.
- b. Product Data:
 1. Modify manufacturer's standard schematic drawings to delete or supplement information as applicable.
 2. For manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other descriptive data:
 - (a) Clearly mark each copy to identify pertinent materials, products or models.

- (b) Show dimensions and clearances required.
 - (c) Show performance characteristics and capacities.
 - (d) Show wiring diagrams and controls.
- 3. Include on the data all information required for submission or prepare a transmittal letter.
- 4. Prepare number of copies which the CONTRACTOR requires for distribution plus two copies to be retained by ENGINEER.
- c. Samples:
 - 1. Obtain office samples of sufficient size and quantity to clearly illustrate:
 - (a) Functional characteristics of products or materials with integrally related parts and attachment devices.
 - (b) Full range of color samples.
 - 2. Erect field samples and mock-ups at the project site in an acceptable location. Construct each sample complete, including work of all trades required in finished work.
 - 3. Include on transmittal letter all information required for submission.
 - 4. Prepare the number of samples specified in specification sections.

.05 SUBMISSION REQUIREMENTS:

- a. Submit shop drawings, product data and samples in the form and quantity specified.
- b. Accompany submittals with a transmittal letter in duplicate, as required.
- c. Include the following information for each submittal:
 - 1. Date and revision dates.
 - 2. Project title and number.
 - 3. The names of:
 - (a) ENGINEER
 - (b) CONTRACTOR
 - (c) Subcontractor
 - (d) Supplier
 - (e) Manufacturer
 - (f) Separate detailer when pertinent.

4. Identification of product or material.
5. Relation to adjacent structure of materials.
6. Field dimensions clearly identified as such.
7. Specification section number.
8. Applicable standards, such as ASTM number or Federal Specification.
9. A blank space, 4" x 4", for ENGINEER's review stamp.
10. Identification of deviations from Contract Documents.
11. CONTRACTOR's stamp, initialed or signed, certifying review of submittal, verification of field measurements and compliance with Contract Documents.

.06 RESUBMISSION REQUIREMENTS:

a. Shop Drawings:

1. Revise initial drawings as required and resubmit as specified for initial submittal.
2. Indicate on drawings any changes which have been made other than those requested by ENGINEER.

b. Product Data and Samples:

Submit new data and samples as required for initial submission.

.07 DISTRIBUTION AFTER REVIEW:

a. Distribute copies of shop drawings and product data which carry ENGINEER's stamp to:

1. CONTRACTOR's file
2. Job site file
3. Record document file
4. Other prime CONTRACTORS
5. Subcontractors
6. Supplier
7. Fabricator

b. Distribute samples as directed. After review, samples may be used in construction.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01410 - INSPECTION, TESTING AND GUARANTEE

.01 GENERAL:

These requirements supplement those provided under Article 13 of the General Conditions.

.02 INSPECTION:

- a. Inspector: A representative of ENGINEER or OWNER will be assigned authority to observe and inspect the Work.
- b. Working Days: Inspectors are not required to work on Saturdays, Sundays or legal holidays. If CONTRACTOR plans work on a Saturday, Sunday or legal holiday, prior arrangements should be made for an inspector not later than 2:00 p.m. on the working day before the Saturday, Sunday or legal holiday.
- c. Uninspected Work: Any Work performed on Saturday, Sunday, or a legal holiday without benefit of any inspection may require removal and replacement if directed by ENGINEER. Removal and replacement will be completed at no additional cost.

.03 TESTING:

- a. The cost of preparing and testing, and the cost of other laboratory services required for establishing the concrete mix, and redesigning the mix, if necessary, shall be borne by CONTRACTOR.
- b. CONTRACTOR shall furnish at his own expense, suitable evidence that all the materials he proposes to incorporate into the Work are in accordance with the Specifications. Mill tests for reinforcing steel and cement will be acceptable if it is definite that the test sheets apply to the material being furnished. Manufacturer's or supplier's test results will be acceptable for such items as pipe and fittings, when it is definite that the materials being furnished is that to which the test results apply. Should CONTRACTOR fail to provide the above information, ENGINEER shall have the right to require tests to be made by OWNER's laboratory to obtain the information and the cost therefore shall be borne by CONTRACTOR.
- c. In any event, ENGINEER may have further tests made by commercial laboratory, or may make tests himself, to insure that the Specifications are complied with by CONTRACTOR. Costs of these tests will be borne by OWNER.

.04 GUARANTEE:

- a. CONTRACTOR shall deliver to ENGINEER upon completion of all Work under the Contract his written guarantee, in the form of SECTION 01700 - CONTRACT CLOSEOUT REQUIREMENTS, made out to OWNER, guaranteeing all of the Work under the Contract to be free from faulty materials in every particular and free from improper workmanship; and against injury from proper and usual wear; and agreeing to replace or to re-execute without cost to OWNER such Work as may be found to be improper or imperfect; and to make good all damage caused to other Work or materials, due to such required replacement or re-execution. This guarantee shall be made to cover a period of one (1) year from the date of completion of all Work under this Contract, as evidenced by ENGINEER's final certificate. This guarantee must be furnished to ENGINEER and approved by him before acceptance and final payment is made.
- b. CONTRACTOR shall provide OWNER with copies of all guarantees or warranties which have been made to CONTRACTOR by suppliers or subcontractors as required hereunder, together with an assignment of such warranties and guarantees to OWNER; however, such assignment shall not relieve CONTRACTOR of the responsibility (stated in subparagraph a. above) in case of failure of subcontractors or suppliers to fulfill the provisions of such warranties or guarantees.
- c. Neither the final certificate, nor payment, nor any provision in the Contract Documents shall relieve CONTRACTOR of responsibility for neglect of faulty materials or workmanship during the period covered by the guarantee.

END OF SECTION

01410-2

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01500 - TEMPORARY FACILITIES

.01 FIELD OFFICE:

If CONTRACTOR is required (or is so inclined) to provide a Temporary Field Office, said office shall be placed, unless otherwise approved in writing, at a site selected by CONTRACTOR and approved by ENGINEER. The building shall be weatherproof and be provided with doors and locks, electric illumination and adequate ventilation. The floor of the building shall be raised above the ground. A complete set of Contract Drawings and Specifications shall be kept in the temporary office throughout the construction period and shall be accessible for use by OWNER and ENGINEER. The building shall be maintained in a clean condition throughout the Contract period and shall be removed from the site upon completion of all Work.

.02 SANITARY FACILITIES:

CONTRACTOR shall make all arrangements and furnish all materials required to obtain any needed sanitary facilities and to satisfy the requirements of local or state health authorities, ordinances, and laws.

.03 STORAGE OF MATERIALS:

- a. No materials shall be stored nor shall any equipment be parked on adjacent property without the expressed consent of owner of the property concerned.
- b. Secure and watertight storage facilities of suitable size with floors raised above the ground shall be provided for materials liable to damage from exposure to the weather. Other materials shall be stored on blocks off the ground. Materials shall be so placed as to permit easy access for inspection and identification. Any material which has deteriorated, become damaged, or otherwise unfit for use, shall not be used in the Work, and shall be immediately removed from the site by CONTRACTOR. Upon completion of all Work or when directed, CONTRACTOR shall remove storage facilities from the site.

.04 TEMPORARY UTILITIES:

CONTRACTOR shall arrange for and secure all temporary connections for water, electricity, gas and other services needed by him for the proper execution of his operations. Costs for these services shall be paid for by CONTRACTOR.

.05 BARRICADES AND WARNINGS:

- a. The safety of the public shall of primary importance during construction. In all respects provisions for public safety shall be CONTRACTOR's responsibility.
- b. Should conditions be such that the public safety is involved, the Contractor shall provide warning lights which shall be kept burning between the hours of sunset and sunrise. Barricades and warnings shall be in accordance with Item 502, "Barricades, Signs and Traffic Handling" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

END OF SECTION

01500-2

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01700 - CONTRACT CLOSEOUT REQUIREMENTS

Before final acceptance by OWNER, the following items must be submitted and accepted by ENGINEER:

- a. Final Inspection completed
- b. Bound manuals of servicing or operating instructions with recommended lubricants for all equipment
- c. One (1) set of constructions plans, with variations from originals and as-built conditions duly noted
- d. CONTRACTOR's Guarantee.

CONTRACTOR shall deliver to OWNER, upon completion of all Work, his written guarantee, found herein as "CONTRACTOR'S GUARANTEE".

This guarantee shall be made to cover a period of one (1) year from the date of completion of all Work, and must be furnished to and approved by OWNER before acceptance and final payment is made.

Neither the final payment, nor any provision stated above, shall relieve CONTRACTOR of responsibility for neglect of faulty materials or workmanship during the period covered by the guarantee.

- e. All other guarantees and warranties properly assigned to OWNER

CONTRACTOR shall provide OWNER with copies of all guarantees or warranties which have been made to CONTRACTOR by suppliers or subcontractors, together with an assignment of such warranties and guarantees to OWNER; however, such assignment shall not relieve CONTRACTOR of the responsibility (stated in his guarantee) in case of failure of subcontractors or suppliers to fulfill the provisions of such warranties or guarantees.

Neither the final payment, nor any provision stated above, shall relieve CONTRACTOR of responsibility for neglect of faulty materials or workmanship during the period covered by the guarantee.

- f. CONTRACTOR's Conditional Waiver and Release on Final Payment

CONTRACTOR shall deliver to OWNER, upon completion of all Work, a final sworn certification of no claims and waiver of liens in accordance with Article 14.07 of the General Conditions, unless otherwise amended by the Supplementary Conditions.

Such certification and waiver shall be found herein as the "CONTRACTOR'S CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT", and if applicable, the "SUBCONTRACTOR'S CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT".

- g. Final Application for Payment.

CONTRACTOR'S GUARANTEE

I, _____, being _____ of _____ (hereinafter called "CONTRACTOR"), do hereby make the following statements to the **TIDEHAVEN INDEPENDENT SCHOOL DISTRICT**, (hereinafter called "OWNER") in relation to the completed project known as **TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT CONSTRUCTION**.

I guarantee...

That all of the completed Work is free from faulty materials in every particular,

That all of the completed Work is free from improper workmanship, and

That no injury will occur from proper and usual wear,

That OWNER has been assigned all guarantees and/or warranties originally made to CONTRACTOR by suppliers and subcontractors, if any. (Such assignment does not relieve CONTRACTOR of the responsibility stated in each guarantee and/or warranty in case of failure of suppliers or subcontractors to fulfill the provisions of such guarantees and/or warranties.)

I agree...

That the execution of the final certificate or the receipt of the final payment does not relieve CONTRACTOR of the responsibility for neglect of faulty materials or workmanship during the period covered by this Guarantee,

To replace or to re-execute without cost to OWNER such Work as may be found to be improper or imperfect, and

To make good all damage caused to other Work or materials, due to such required replacement or re-execution.

This Guarantee is in effect as of the _____ day of _____ 20____, and shall cover a period of **ONE (1) FULL YEAR** from said effective date.

(CONTRACTOR)

Signed By: _____
Print Name/Title: _____
Date: _____

**CONTRACTOR'S CONDITIONAL WAIVER AND
RELEASE ON FINAL PAYMENT**

THE STATE OF TEXAS §
COUNTY OF _____ §

Project: **TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT
CONSTRUCTION**

Job No. **1438.025**

On receipt by the signer of this document of a check from **TIDEHAVEN INDEPENDENT SCHOOL DISTRICT (TISD)** (*maker of check*) in the sum of \$ _____ payable to _____ (*payee or payees of check*) and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the property or easements of the **TISD (owner)** located at **Blessing Elementary, 616 Ave. B, Blessing, TX** (*location*) to the following extent: **TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT CONSTRUCTION** (*job description*).

This release covers the final payment to the signer for all labor, services, equipment, or materials furnished to the property or to **TISD** (*person with whom signer contracted*).

Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this final payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project up to the date of this waiver and release.

(CONTRACTOR)

Signed By: _____
Print Name: _____
Title: _____

SUBSCRIBED AND SWORN TO BEFORE ME by _____, on _____, 20 __, to certify which witness my hand and seal of office.

Notary Public, State of Texas
My Commission Expires: _____

**SUBCONTRACTOR'S CONDITIONAL WAIVER AND
RELEASE ON FINAL PAYMENT**

THE STATE OF TEXAS §
COUNTY OF _____ §

Project: **TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT
CONSTRUCTION**

Job No. **1438.025**

On receipt by the signer of this document of a check from _____
(*maker of check*) in the sum of \$ _____ payable to
_____ (*payee or payees of check*) and when
the check has been properly endorsed and has been paid by the bank on which it is drawn,
this document becomes effective to release any mechanic's lien right, any right arising
from a payment bond that complies with a state or federal statute, any common law
payment bond right, any claim for payment, and any rights under any similar ordinance,
rule, or statute related to claim or payment rights for persons in the signer's position that
the signer has on the property or easements of the **TIDEHAVEN INDEPENDENT
SCHOOL DISTRICT (TISD)** (*owner*) located at **Blessing Elementary, 616 Ave. B,
Blessing, TX** (*location*) to the following extent: **TIDEHAVEN ISD - BLESSING
ELEMENTARY PARKING LOT CONSTRUCTION** (*job description*).

This release covers the final payment to the signer for all labor, services,
equipment, or materials furnished to the property or to _____
(*person with whom signer contracted*).

Before any recipient of this document relies on this document, the recipient should
verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received
from this final payment to promptly pay in full all of the signer's laborers, subcontractors,
materialmen, and suppliers for all work, materials, equipment, or services provided for or
to the above referenced project up to the date of this waiver and release.

(SUBCONTRACTOR)

Signed By: _____

Print Name: _____

Title: _____

SUBSCRIBED AND SWORN TO BEFORE ME by _____, on _____, 20 __, to certify which witness my hand and seal of office.

Notary Public, State of Texas
My Commission Expires: _____

**END OF SECTION
END OF DIVISION**

DIVISION 2 - SITE WORK

SECTION 02050 - DEMOLITION

.01 GENERAL:

The Work covered under this Section shall be as indicated on the Drawings and as specified herein. Demolition required for this Work includes, but is not limited to:

- a. Constructing temporary barriers around objects designated to remain.
- b. Demolition and removal of structures.
- c. Disconnecting and removing existing utility lines on the site except those designated to remain.
- d. Removal of debris.

.02 JOB CONDITIONS:

a. Burning:

On-site burning will not be permitted.

b. Protection:

Use all means necessary to protect existing objects designed to remain and, in the event of damage, immediately make all repairs and replacements necessary to the approval of ENGINEER at no additional cost to OWNER.

.03 MATERIALS:

All materials, required for proper completion of the Work of this Section, shall be selected by CONTRACTOR subject to the approval of ENGINEER.

.04 PREPARATION:

a. Notification:

Notify ENGINEER at least two full working days prior to commencing the Work of this Section.

b. Site Inspection:

1. Prior to all Work of this Section, carefully inspect the entire site and all objects designated to be removed and to be preserved.

2. Locate all existing utility lines and determine requirements for disconnecting and capping.
3. Locate existing active utility lines traversing the site and determine the requirements for their protection.

c. Clarification:

1. The Drawings do not purport to show all objects existing on the site.
2. Before commencing the Work of this Section, verify with ENGINEER all objects to be removed and all objects to be preserved.

d. Scheduling:

1. Schedule all Work in a careful manner with all necessary consideration for neighbors and the public.
2. Avoid interference with the use of, and passage to and from, adjacent buildings and facilities.

e. Disconnection of Utilities:

Before starting site operations, disconnect or arrange for the disconnection of all utility services designated to be removed; performing all such Work in accordance with the requirements of the utility company or agency involved.

f. Protection of Utilities:

Preserve in operating condition all active utilities traversing the site and designated to remain.

.05 DEMOLITION OF STRUCTURES:

Demolish all buildings designated for demolition, pulling out all foundations and concrete slabs; remove all existing pavement designated to be removed.

.06 OTHER DEMOLITION:

Pull out all existing utility lines designated for abandonment, and all other objects designated to be removed.

.07 CONSTRUCTION OF BARRICADES:

a. Materials:

Unless otherwise specifically approved by ENGINEER, use only new and solid lumber of Utility grade (or better) to construct temporary barricades around the objects designated to remain.

b. Layout:

1. At all objects designated to be preserved, construct a temporary barricade.
2. Make barricades at least three (3) feet high, consisting of 2" X 4" (or larger) posts, set at least 18 inches into the ground at not more than six (6) feet on centers, joined at the top by 1" X 6" (or larger) boards firmly nailed to the posts.

c. Protection:

1. Take special care, in setting posts, to not damage tree roots.
2. Do not permit stockpiling of materials or debris within the barricaded area, nor permit the earth's surface to be changed in any way except as specifically approved by ENGINEER.

.08 REMOVAL OF DEBRIS:

CONTRACTOR shall be responsible for removal and disposal of all debris from the site, and leave the site in a neat and orderly condition to the approval of ENGINEER.

END OF SECTION

02050-3

DIVISION 2 - SITE WORK

SECTION 02111 – CLEARING, ROUGH GRADING, COMPACTION AND FINISH GRADING

.01 GENERAL:

The Work covered under this section of the Specifications shall include furnishing all labor, materials and equipment and performing all operations necessary to complete all clearing and grubbing, disposal of surplus materials, rough grading, compaction of embankments, finish grading, and the performance of all other miscellaneous sitework operations required to complete the project as shown on the drawings and specified herein.

.02 SITE CLEARING:

- a. Clearing: All areas of new construction shall be cleared of all brush, weeds, rubbish, wire, debris and all other objectional matter to a line five (5) feet outside the proposed Work.
- b. Stripping: Remove all topsoil and organic materials within areas to be excavated and/or areas to receive embankment, for a depth of at least six (6) inches, or until bottom of existing topsoil layer is reached. Topsoil material shall be stockpiled separately and spread at locations and finished to grade.
- c. Grubbing: Remove all stumps, roots, etc., within the areas to be excavated to a depth of at least one (1) foot below the existing ground surface. In areas to receive embankment, remove all stumps, roots, etc., to a depth of at least one (1) foot below the existing ground surface. All holes remaining after clearing and grubbing shall be backfilled and the entire area bladed to prevent ponding of water and to provide drainage, unless otherwise directed.

.03 PROCESSING OF CLEARED, STRIPPED AND GRUBBED MATERIAL:

- a. Stockpiling: Excavated material which is to be used for backfilling and grading may be deposited in storage piles at points convenient for rehandling. Location of storage piles shall not endanger the Work, obstruct roads and driveways, or restrict drainage channels, and will be acceptable to ENGINEER. Topsoil to be used for finish grading shall be stockpiled separately from other materials.
- b. Disposal of Excess and Unsuitable Materials: All suitable excavated materials in excess of that needed in the formation of embankments shall be disposed of at designated spoil disposal areas within the limits of the project. Material shall be placed in a uniform layer not to exceed twelve (12) inches thick over the entire

designated area, graded and shaped to drain. Unsuitable unclassified excavation shall be known as "waste" and shall be disposed of by CONTRACTOR. The waste shall be disposed of in such manner as to not create a public nuisance, and disposal shall conform to State laws. CONTRACTOR may not utilize any public rights-of-way or public lands for waste disposal.

.04 ROUGH GRADING AND COMPACTION:

a. Material

Furnish approved material capable of forming stable fill from required excavation within the agreed mitigation ponding area.

b. Construction

Backfill tree-stump holes or other minor excavations with approved material and tamp. Restore the ground surface, including any material disked loose or washed out, to its original slope. Compact the ground surface by sprinkling in accordance with the current TxDOT Item 204, "Sprinkling," and by rolling using equipment complying with the current TxDOT Item 210, "Rolling," when directed.

Scarify and loosen the unpaved surface areas, except rock, to a depth of at least 6 inches, unless otherwise shown on the plans. Bench slopes before placing material. Begin placement of material at the toe of slopes. Do not place trees, stumps, roots, vegetation, or other objectionable material in the embankment. Simultaneously re-compact scarified material with the placed embankment material. Do not exceed the layer depth specified in "Compaction" herein.

Earth fill is mainly composed of material other than rock. Construct fill in successive layers, evenly distributing materials in lengths suited for sprinkling and rolling. Construct the fill in layers approximately parallel to the finished grade for the full width of the area, unless otherwise shown on the plans. Construct the fill to the grades shown on the plans. Ensure that each section of the fill conforms to the detailed sections or slopes, if any.

Move the material dumped in piles or windrows by blading or by similar methods and incorporate it into uniform layers. Featheredge or mix abutting layers of dissimilar material for at least 100 ft. to ensure there are no abrupt changes in the material. Break down clods or lumps of material and mix embankment until a uniform material is attained. Apply water free of industrial wastes and other objectionable matter to achieve the uniform moisture content specified for compaction. Roll and sprinkle each layer in accordance with "Compaction" herein.

c. **Compaction**

Compaction of the material shall be provided by sheep-foot rollers or other approved method. Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least 1/2 the width of the roller. Alternate roller trips to attain slightly different lengths. Do not allow the loose depth of any layer to exceed 8 inches, unless otherwise approved.

Provide a uniform compaction of 95% modified density in accordance with ASTM Standard 1557 at a moisture content between optimum moisture and five (5) percent above optimum moisture.

.05 FINISH GRADING:

- a. Grade all areas indicated on drawings or as required to suit construction operations.
- b. Grading shall be carefully finished at elevations shown against building and other structures.
- c. In ungraded areas, backfill shall be placed around outside of structures to approximate level of adjacent ground but modified to assure positive drainage away from structures.
- d. A qualified engineer shall set lines, batterboards and grades.
- e. Grading changes shall be even between indicated finish elevations and contours, without sharp breaks, low spots, etc., to provide positive drainage.

.06 UNDERGROUND UTILITIES:

Determine location of underground utilities before doing any excavation work. If a live utility line is damaged, the proper utility shall be notified immediately for required action. CONTRACTOR is responsible for repair to the line, at no cost to OWNER.

.07 CLEANUP:

Prior to final acceptance of the complete project, CONTRACTOR shall remove all tools, scaffolding, temporary structures and debris from the site and areas of the Work. Any washes, ruts or other depressions that have occurred shall be leveled to give all areas where the Work was accomplished a smooth finish and neat appearance.

END OF SECTION

DIVISION 2 - SITE WORK

SECTION 02200 - PIPE TRENCH EARTHWORK

.01 GENERAL:

This Work includes furnishing all plant, labor, equipment and materials, and performing of all operations required for proper completion of excavation, backfill, trenching, shoring and bracing as required, dewatering of excavations as required, rough and finish grading, compacting, and disposal of surplus earth, together with all other miscellaneous site work and earthwork operations required to complete all pipe trench earthwork as shown on drawings and specified herein other than vacuum sewer trench earthwork.

.02 EXCAVATION:

- a. General: Excavation shall be unclassified and shall include the removal of all types of materials encountered, without exception. All excavations shall be made to the lines and grades indicated on the drawings, the completed excavations shall be within the tolerances hereinafter specified. All silt, muck and similar unsuitable materials and excess materials encountered in excavating shall be removed and disposed of by CONTRACTOR.
- b. Shoring, Bracing and Dewatering: All shoring, bracing and dewatering of excavations, required to properly and safely complete the Work as shown on the drawings, shall be provided by CONTRACTOR. Shoring and bracing shall be provided as required to prevent the excavation from extending beyond the specified or indicated limits and as required to protect workmen. Excavations shall be kept dewatered while construction therein is in progress. In pipe trenches, water shall be removed sufficiently ahead of pipe-laying operation to insure dry, firm bed on which to place pipe, and dewatering operations shall be continued until after joints have been observed by ENGINEER. Shoring, bracing and sheeting shall be removed as the excavations are backfilled in a manner to prevent injurious caving.
- c. Pipe Trenches:
 1. Open Cut - All pipe trench excavation shall be done by open cut methods unless otherwise noted. The sides of the trench shall be made and maintained as nearly vertical as practical and shoring shall be provided where necessary to maintain the sides of the ditch in a vertical position or to protect workmen. The trench shall be completed and shaped to provide free working space and to permit thorough tamping of backfill around the pipe.

Bottom of trenches shall be accurately graded to provide a uniform bearing on firm soil or compacted fill along the entire length of each pipe section as detailed on the drawings. Rubbish, rock or debris encountered at grade shall be removed to a depth of at least six (6) inches below the bottom of pipe, and the trench bottom shall be reshaped and compacted. Bell holes shall be provided where required for making proper connections at joints.

2. Trench Depths - Where pipe grades or elevations are not definitely fixed by the contract drawings, trenches shall be excavated to a depth sufficient to provide a minimum depth of backfill cover over the top of the pipe of 36 inches. Greater pipe cover depths may be necessary on vertical curves or to provide necessary clearance beneath pipe, conduits, drains, drainage structures or other obstructions encountered at normal pipe grades.
 3. Open Trench - ENGINEER may limit the amount of trench opened in advance of completed pipelaying operations, and the amount of trench left unfilled. No more than 500 feet of trench shall be opened at one time.
 4. Trench Widths and Pipe Clearances - The sides of all trenches shall be cut as nearly vertical as possible. Trenches shall be excavated to a width which will provide adequate working space and pipe clearances for proper installation, jointing and embedment. However, the limiting trench widths below an elevation of six (6) inches above the top of the installed pipe shall be as follows:
 - (a) Maximum trench width for all piping materials shall be equal to outside diameter of pipe, plus a one (1) foot clearance on each side.
 - (b) Minimum trench width for all piping materials shall be not less than six (6) inches between outside of pipe and side of trench.
 5. Protection, Restoration, Repair - All utilities, structures, shrubs, trees and other obstructions encountered during this operation shall be protected by CONTRACTOR at all times. Any damage to these obstructions shall be repaired immediately at the sole expense of CONTRACTOR. No trees or shrubs shall be removed without the consent of the property owner and ENGINEER. All signs, posts, mailboxes, culverts, pavement, surfaces, driveways, sidewalks, fences, private property, etc., disturbed during construction shall be restored by CONTRACTOR to a condition equal to or better than those existing prior to construction.
- d. Borings: Provide a pit for boring equipment and workmen. Obtain approval for the location of the pit. Excavate the pit and install shoring. Securely sheet and brace pit, as necessary, to prevent earth caving.

- e. Stockpiling: Excavated material which is to be used for backfilling and grading may be deposited in storage piles at points convenient for rehandling. Location of storage piles shall not endanger the Work, obstruct roads and driveways, or restrict drainage channels, and will be acceptable to ENGINEER. Topsoil to be used for finish grading shall be stockpiled separately from other materials.
- f. Disposal of Excess and Unsuitable Materials: All suitable excavated materials in excess of that needed in the formation of embankments shall be disposed of at designated spoil disposal areas within the limits of the project. Material shall be placed in a uniform layer not to exceed twelve (12) inches thick over the entire designated area, graded and shaped to drain. Unsuitable unclassified excavation shall be known as "waste" and shall be disposed of by CONTRACTOR.

.03 FILL AND BACKFILL:

- a. General: Complete fill and backfill to lines and grades indicated on drawings or elsewhere specified. Fill and backfill shall conform to requirements specified. Suspend backfill operations during times of inclement weather or other unsatisfactory conditions in field when desired results cannot be obtained.
- b. Use of Excavated Materials: Suitable materials from the excavation may be used as fill and backfill, except where special materials are indicated on the drawings or herein specified. Any objectionable material which may be encountered, such as peat, silt, muck, topsoil, organic materials, debris or other extraneous material, will be rejected.
- c. Selected (Sand) Backfill: The select (sand) backfill shall be a sandy material with not more than 25% be material by weight passing the 200-mesh sieve, and with a plasticity index not greater than six.
- d. Backfill of Pipe Trenches: Backfilling of pipe trenches shall not be started until pipe joints have been inspected by ENGINEER and all testing operations have been approved. Shoring and bracing, if used, shall be removed before backfilling of trench. Backfill shall be free of large lumps, clods, or debris which might prevent compaction, cause damage to pipe coating, etc., or result in improper bedding of the pipe.
 - 1. Initial Backfill: Placing pipe in the trench shall be done in such a manner to insure proper bedding as detailed on the drawings. All lines shall be bedded on a minimum of a six (6) inches (sand) backfill, shaped to fit the lowest 90 degrees; 45 degrees on each side of the centerline of the pipe circumference, taking care to secure an extra firm and smooth bearing along the outer edges of the 90 degree strip; taking special care to provide depressions for bell ends. The initial backfill shall be select (sand) backfill placed equally on both sides of the pipe in six (6) inches layers (loose measurement), moistened and compacted in successive layers to a height of six (6) inches above the top of the pipe to a density of 95% Standard (ASTM D698).

2. Final Backfill (other than "flowable" backfill): Final backfill which starts at a point six (6) inches above the top of the pipe shall not contain any rocks larger than three (3) inches in diameter. Placement shall be by one of two methods:
 - (a) Successive six (6) inches lifts shall be moistened and compacted to 95% Standard Density (ASTM D698) until backfill is brought up to required grade.
 - (b) If excavation is performed with a trenching machine, to insure that excavated material will be in small particles, the following backfill procedures may be used. Place material in trench up to grade. Water jet material from the bottom upward in order to dissolve the clay particles and compact material. Place and compact additional material into any deficiencies resulting from this process. Pipe shall be filled with water during the jetting operation. After final settlement of the trench, CONTRACTOR shall level the trench to the surrounding grade.
3. Final Backfill ("flowable"): Where indicated on the Drawings, "flowable backfill" shall be in accordance with Item 401, "Flowable Backfill" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.04 COMPACTION:

- a. General: Backfill, except as may otherwise be specified, shall be placed in uniform layers, dried or moistened as required to obtain approximate optimum moisture content, and compacted to the density shown on the drawings or specified herein. Backfill shall be rolled, tamped with mechanical hand tampers or any combination of these methods, as required to obtain the required density.
- b. Compaction Equipment: Compaction equipment shall conform to the requirements of Item 210, "Rolling" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

END OF SECTION

02200-4

DIVISION 2 - SITE WORK

SECTION 02220 - STRUCTURAL EARTHWORK

.01 GENERAL:

This Work includes furnishing all plant, labor, equipment and materials, and performing of all operations required for proper completion of excavation, backfill, stripping, shoring and bracing as required, dewatering of excavations as required, rough and finish grading, compacting, and disposal of surplus earth, together with all other miscellaneous site work and earthwork operations required to complete the project as shown on drawings and specified herein.

.02 PROTECTION OF EXISTING FACILITIES:

Prior to any operations, existing facilities and/or permanent objects including trees and shrubs shall be adequately protected. Any costs resulting from damage to any property due to negligence and/or lack of adequate protection shall be borne by CONTRACTOR.

.03 EXCAVATION:

- a. General: Excavation shall be unclassified and includes removal of all types of materials encountered without exception. Make all excavation to lines and grades indicated on drawings. Completed excavations shall be within tolerances hereinafter specified.
- b. Shoring, Bracing and Dewatering: All shoring, bracing and dewatering of excavations required to properly and safely complete the Work as shown on the drawings, shall be provided by CONTRACTOR. Shoring and bracing shall be provided as required to prevent the excavation from extending beyond the specified or indicated limits and as required to protect workmen. Excavations shall be kept dewatered while construction therein is in progress. Shoring, bracing and sheeting shall be removed as the excavations are backfilled in a manner to prevent injurious caving.
- c. Excavation for Structures: Excavation shall extend sufficient distance from walls, beams and footings to allow for placing and removing forms, installation of facilities and for inspection. No excavation shall be made outside vertical plane three (3) feet beyond footing, beam or wall line, except where specified or shown otherwise on drawings, and no excavation shall be made beyond the lines indicated on drawings. Excavation for slabs, beams or footings that bear on earth shall not be carried below elevation indicated; if carried below indicated elevation, thickness of footing or height of wall shall be increased as directed. Perform excavation of last four (4) inches of material to grade for bottom of slabs,

beams or footings immediately prior to placing compacted sand beds or other base material. Protect open excavations from excessive rainfalls or drying. After completion of excavation and prior to commencement of the Work on structure, excavation will be inspected to insure that suitable foundation surfaces have been reached and that surfaces have been properly prepared to receive concrete walls, piers, slabs or other parts of structure.

- d. Stockpiling: Excavated material which is to be used for backfilling and grading may be deposited in storage piles at points convenient for rehandling. Location of storage piles shall not endanger the Work, obstruct roads and driveways, or restrict drainage channels, and will be acceptable to ENGINEER. Topsoil to be used for finish grading shall be stockpiled separately from other materials.
- e. Disposal of Excess and Unsuitable Materials: All suitable excavated materials in excess of that needed in the formation of embankments shall be disposed of at designated spoil disposal areas within the limits of the project. Material shall be placed in a uniform layer not to exceed twelve (12) inches thick over the entire designated area, graded and shaped to drain. Unsuitable unclassified excavation shall be known as "waste" and shall be disposed of by CONTRACTOR.

.04 FILL AND BACKFILL:

- a. General: Complete fill and backfill to lines and grades indicated on drawings or elsewhere specified. Fill and backfill shall conform to requirements specified herein. Suspend backfill operations in field during times of inclement weather or other unsatisfactory conditions when desired results cannot be obtained.
- b. Use of Excavated Materials: Suitable materials from the excavation may be used as fill and backfill except where select materials are indicated on drawings or herein specified. Any objectionable material which may be encountered, such as peat, silt, muck, topsoil, organic materials, debris or other extraneous material, will be rejected.
- c. Sand Beds: Under slabs shall be a clean bank sand suited to purpose and obtained from an approved off-site source. Material shall be free of clay lumps or other foreign material, plasticity index shall not exceed 3.0 and not more than 10% of the material by weight shall pass the 200-mesh sieve.
- d. Backfill at Structures: Place backfill as far as practicable as the Work progresses. Remove forms, shoring, bracing, etc., before backfilling is started. No backfill shall be placed against concrete until directed. Take care to prevent wedging action of backfill against a structure. Step slopes bounding excavation or serrate to prevent such wedge action. Place backfill in successive horizontal layers of not more than eight (8) inches when rolling equipment is used and not more than four (4) inches when mechanical hand tampers are used.

- e. Cement Stabilized Material: Material for Cement Stabilized Backfill, where designated, shall be in accordance with the requirements of Item 275, "Cement Treatment (Road-Mixed)" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.05 COMPACTION:

- a. General: Place all fill and backfill in uniform layers not to exceed 8" and compact to 95% of Standard Density (ASTM D 698) at not less than 100% of optimum moisture content. Methods to secure the optimum moisture content shall be CONTRACTOR's responsibility and shall be such that uniform density will be obtained over entire area and depth of material being compacted. Fill material shall be thoroughly broken up before being spread into uniform layers.
- b. Compaction Equipment: Compaction equipment shall conform to the requirements of Item 210, "Rolling" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

END OF SECTION

02220-3

DIVISION 2 - SITE WORK

SECTION 02500 - CONCRETE PAVEMENT

.01 GENERAL:

This Work includes the furnishing of all plant, labors, equipment, and materials and performing all operations required for placement of concrete pavement as indicated on the drawings and specified herein.

.02 MATERIALS:

- a. Concrete: shall be Type 1 Portland Cement with minimum 3500 psi 28 day compressive strength, unless otherwise stated. Ref. Section 03300 - Cast-in-Place Concrete.
- b. Reinforcement: shall be minimum 60 KSI yield strength, ASTM 615 of the sizes as indicated on the plans; all lap splices shall be min. 30 bar diameters unless otherwise approved.
- c. Paving Cap Seal: Greenstreak G-Seal™ 605 or equal. Install per manufacture's recommendations.

.03 CONSTRUCTION METHODS:

- a. All concrete construction shall comply with the latest Edition of ACI-318.
- b. Moisture Conditioned Subgrade – Exposed subgrade soils shall be scarified and moisture conditioned to between optimum and plus four (+4) percentage points of optimum to a depth of at least six (6) inches. The soils shall then be compacted to at least 95% of the maximum laboratory dry density as determined by ASTM D698. The degree of compaction and moisture content shall be maintained until the surface is paved. Density testing and proofrolling shall be performed under the observation of the geotechnical testing personnel to assess insitu density and overall stability prior to continued construction of the pavement section.
- c. Contractor shall verify pavement elevations and obtain approval prior to placement of pavement. Contractor shall notify Engineer immediately with any conflicts or discrepancies noted.
- d. Expansion Joints and Contraction Joints shall be provided at intervals as indicated on the drawings, and in conformance with the recommendations of ACI for joint spacing in reinforced pavements.
- f. The finished surface of the concrete pavement shall be given a "light broom" finish to provide a non-slip surface.

END OF SECTION

02500-1

DIVISION 2 - SITE WORK

SECTION 02507 - CRUSHED LIMESTONE AREA

.01 GENERAL:

This Work includes the performance of all operations necessary for the placement and compaction of a crushed limestone surfaced area at locations designated on Contract Drawings.

.02 MATERIALS:

Surface material for the area shall be crushed stone or crushed produced from oversize quarried aggregate, sized by crushing and produced from a naturally occurring single source and shall be Type A, Grade 2 material conforming to Item 247, "Flexible Base" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.03 CONSTRUCTION METHODS:

- a. Entire area to be surfaced shall be stripped in accordance with Section 02110 - Clearing and Finish Grading of these Specifications.
- b. Cut and fill as required to bring stripped surface to appropriate subgrade to accept surface material. All fill material shall be approved By ENGINEER. Compact entire area over which surface material is to be placed by sheep-foot rollers or other approved method to provide a uniform compaction of 95% modified density in accordance with ASTM Standard 1557.
- c. Surface material deposited upon subgrade shall be spread and shaped the same day. Surface material shall be deposited, mixed and shaped in such a manner as to prevent "nests" of segregated coarse or fine material. Thickness of the finished surface material shall be not less than eight inches (8") compacted in place. Material shall be compacted by approved methods to obtain uniform compaction of 95% modified density. Material shall be watered or dried to provide a moisture content between optimum moisture and five percent (5%) above optimum moisture during compaction process. Finished surface shall be a smooth, graded surface satisfactory to ENGINEER and shall transition to existing surrounding surface elevations.

END OF SECTION

02507-1

DIVISION 2 - SITEWORK

SECTION 02510 - ASPHALTIC PAVEMENT

.01 GENERAL:

This Work includes the furnishing of all plant, labor, equipment and materials and performing all operations required for the placement of asphaltic pavement as indicated on the Contract Drawings and specified herein.

.02 MATERIALS:

a. Subbase

All subbase for asphaltic pavement with a plasticity index greater than fifteen (15) shall be stripped of all existing vegetation and lime stabilized to a depth of six (6) inches with six (6) percent by weight lime unless laboratory tests indicate that less than six (6) percent lime will reduce the plasticity index to less than fifteen (15). Any subbase with a plasticity index less than fifteen (15) shall be stripped of all existing vegetation, roots etc., prior to compaction.

b. Base

Flexible base material shall be durable particles of processed gravel mixed with approved binder. Flexible base material shall be Grade 2 in conformance with Item 247, "Flexible Base" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition). Material shall be deposited, mixed and shaped to provide a uniform mixture without segregation of fine and course material.

c. Primer Coat

Primer coat material shall be type MC-30 Cut-Back Asphalt as defined in Item 300, "Asphalts, Oils, and Emulsions" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

d. Aggregate

Aggregate for surface treatment for other than Hot-Mix Cold-Laid applications shall be precoated natural limestone Type PE conforming to Item 302, "Aggregates for Surface Treatments" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition). If Hot-Mix Cold-Laid application is utilized, the aggregate for surface treatment shall conform to the applicable requirements for a Type D paving system as defined in Item 334, "Hot-Mix Cold-Laid Asphalt Concrete Pavement" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

e. Asphalt

Asphalt material for surface treatment shall be AC-5 in accordance with Item 300, "Asphalts, Oils, and Emulsions" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition), and if Hot-Mix Cold-Laid application is utilized, asphaltic material shall conform to the applicable requirements of Item 334, "Hot-Mix Cold-Laid Asphalt Concrete Pavement" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.03 INSTALLATION:

a. Subbase

Lime stabilization of subbase shall conform to Item 260, "Lime Treatment (Road-Mixed)" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition) with all lime being added dry unless otherwise approved. Compaction of subbase material shall be provided by sheep-foot rollers or other approved methods to provide a uniform compaction of 95% modified density in accordance with ASTM Standard 1557 at a moisture content between optimum moisture and five (5) percent above optimum moisture.

b. Base

Flexible base material deposited upon the subgrade shall be spread and shaped the same day. Flexible base material shall be deposited, mixed and shaped in such a manner to prevent "nests" of segregated coarse or fine material. Thickness of the base material shall be not less than six (6) inches compacted in place. Material shall be compacted by approved methods to obtain a uniform compaction of 95% modified density and a smooth, graded surface satisfactory to ENGINEER. Base Material shall be watered or dried to provide a moisture content between optimum moisture and five (5) percent above optimum moisture during the compaction process.

c. Primer Coat

Before the application of primer coat, the surface of flexible base shall be cleaned by sweeping or other approved methods. Primer coat shall be applied when, in the opinion of ENGINEER, the base is thoroughly dry and satisfactory to receive prime coat. Asphaltic material for primer coat shall be applied at a rate of 0.20 to 0.30 gallons per square yard conforming to Item 310, "Prime Coat" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

d. Two Course Surface Treatment

Asphaltic pavement, for other than Hot-Mix Cold-Laid applications, shall consist of a two course surface treatment conforming to the applicable requirement of Item 316, "Surface Treatment" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition). Surface shall be broomed prior to rolling.

Application rates shall be as indicated below:

	<u>First Course</u>	<u>Second Course</u>
Gallons of Asphalt Per Square Yard	0.30	0.24
Gallons of Emulsified Asphalt per Square Yard	0.36	0.32
Aggregate Grade	No. 3PE	No. 4PE
Cubic Yards Aggregate to Square Yard Ratio	1:75	1:95

Emulsion rates shall be the AC rate divided by the residual Asphalt Content of emulsion (usually .65) x .80.

e. Hot-Mix Cold-Laid Surface Treatment

For Hot-Mix Cold-Laid applications, the asphaltic pavement shall consist of a Type D Hot-Mix Cold-Laid asphaltic concrete with a mat thickness of not less than 1½ inches conforming to the applicable requirements of Item 334, "Hot-Mix Cold-Laid Asphalt Concrete Pavement" of the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation (June 2004 edition).

.04 TESTING:

CONTRACTOR shall provide for the services of an independent soil testing laboratory to perform those compaction tests indicated above. Tests shall be performed every five hundred (500) feet at the centerline of the road and two (2) feet from the outer edge of the subbase and base and at all intersections.

Test results shall be submitted to ENGINEER by the testing laboratory.

No compaction testing failing by more than 5% will be acceptable and 95% of all tests shall pass the compaction requirements.

END OF SECTION

02510-3

DIVISION 2 - SITE WORK

SECTION 02725 - STORM SEWER CORRUGATED POLYETHYLENE PIPE

.01 DESCRIPTION:

The work covered under this section of the specifications shall include installing storm sewer pipe, inlets and appurtenances, complete, to the dimensions, sizes, types and classes indicated on the drawings and specified herein.

.02 TRENCHING AND BACKFILLING:

All earthwork in connection with storm sewer construction including trenching, dewatering, backfilling and other earthwork operations required shall conform to the applicable requirements of Section 02200 "Pipe Trench Earthwork".

.03 STANDARDS:

- a. AASHTO M252: Specification for Corrugated Polyethylene Drainage Tubing, 3-inch to 10-inch Diameter.
- b. AASHTO M294: Specification for Corrugated Polyethylene Pipe, 12-inch to 36-inch Diameter.
- c. ASTM D1056: Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
- d. ASTM D1248: Specification for Polyethylene Plastics Molding and Extrusion Materials.
- e. ASTM D3350: Specification for Polyethylene Plastics Pipe and Fittings Materials.
- f. ASTM D2321: Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe.

.04 STORM SEWER LINES AND PIPE CULVERTS:

- a. General:
 1. All pipe shall be of the sizes and lengths indicated on the Drawings.
 2. The sizes of pipe indicated on the Drawings are nominal inside diameter.
 3. All pipe shall be smooth interior, corrugated polyethylene pipe.

b. Materials:

1. Smooth Interior Corrugated Polyethylene Pipe:

The product supplied under this specification shall be high density polyethylene corrugated exterior/smooth interior pipe. Four-inch through 10-inch diameters shall meet all the requirements of AASHTO M252 with the addition that the pipe have a smooth interior liner. Twelve to 36-inch diameters shall conform to AASHTO M294 Type S. Forty-two and 48-inch diameters shall have minimum pipe stiffness of 20 and 17 psi, respectively, at 5% deflection; and shall meet all other requirements of AASHTO M294.

Material shall meet ASTM D1248 Type III, Category 4, Grade P33, Class C; or ASTM D3350 Cell Classification 324420C.

Minimum conveyance factors shall be based on a Manning "n" value of 0.010 and shall be as shown in Table 1.

Table 1
Conveyance Factors

Nominal Diameter <u>(in.)</u>	Conveyance <u>Factor</u>	Nominal Diameter <u>(in.)</u>	Conveyance <u>Factor</u>
4	2.5	18	136.4
6	7.3	24	293.9
8	15.7	30	532.9
10	28.5	36	866.6
12	46.3	42	1307.2
15	83.9	48	1866.4

2. Coupling Bands and Fittings:

- A. Coupling bands shall cover at least one full corrugation on each section of pipe. When gasketed coupling bands are required, the gasket shall be made of closed-cell synthetic expanded rubber meeting the requirements of ASTM D1056, Type 2. Gaskets shall be installed on the coupling band by the pipe manufacturer. All coupling bands shall meet or exceed the soil-tightness requirement of the AASHTO Standard Specification for Highway Bridges, Section 23, Paragraph 23.3.1.5.4 (e).

- B. Pipe fittings shall conform to AASHTO M252 or AASHTO M294. Fittings approved by ENGINEER are also acceptable.

c. Laying Sewer Lines:

1. Unloading Pipe: The pipe supplier and the Contractor shall use extreme care in unloading pipe at the job site to avoid damage which might not be noticed visually.
2. Fine Grading: Placing pipe in the trench shall be done in such a manner to insure proper bedding as detailed on the drawings. All sewer lines shall be bedded on a minimum of 4" in select (sand) backfill, shaped to fit the lowest 90 degrees, 45 degrees on each side of the centerline of the pipe, circumference, taking care to secure an extra firm and smooth bearing along the outer edges of the 90 degree strip. The select (sand) backfill shall be placed equally on both sides of the pipe to a height equal to the centerline of the pipe.
3. Laying Pipe: No pipe shall be laid in the trench until the condition of the trench has been accepted by the Engineer. The trench shall be free of water and maintained in that condition until the pipe has been laid. Pipe shall be matched, fitted together and the barrel of each joint shall rest on firm, even ground.

The completed sewer should have a smooth and uniform flow line and conform accurately to the grade and alignment indicated on the drawings. Pipe shall be laid from downstream end, progressing upstream. The interior of the sewer shall, as the work progresses, be cleaned of all dirt and superfluous material of every description.

.05 HEADWALLS AND INLETS:

Materials:

- a. Concrete: Reinforced concrete shall be Grade 1 = 4000 psi (f'c) at 28 days in accordance with Division 3 - Concrete.
- b. Grates, Frames and Covers shall be constructed in accordance with the details shown on the drawings.

END OF SECTION

02725-3

DIVISION 3 - CONCRETE

SECTION 03100 - CONCRETE FORMWORK

.01 GENERAL:

a. Description

This section shall govern all formwork for cast-in-place concrete with shoring, bracing and anchorage, openings for other work, form accessories and form stripping.

b. References

1. ACI 347, Recommended Practice for Concrete Formwork
2. ACI 301, Specifications for Structural Concrete for Buildings, Chapter 4
3. ACI 318, Building Code Requirements for Reinforced Concrete
4. PS-1, Construction and Industrial Plywood

c. Design Requirements

Design, engineer and construct formwork, shoring and bracing to conform to code requirements listed in references; resultant concrete to conform to required shape, line and dimension.

d. Submittals

1. Submit under provisions of Section 01340, Shop Drawings, Product Data, and Samples.
2. Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties on Shop Drawings.

e. Quality Assurance

1. Perform Work in accordance with ACI 301, 318, and 347.
2. Maintain one copy of each document on site.

f. Regulatory Requirements

Conform to applicable code for design, fabrication, erection and removal of formwork.

.02 PRODUCTS:

a. Wood Form Materials

1. Plywood

Douglas Fir species; APA high density overlaid or APA B-B Plyform Class I Panels; sound, undamaged sheets with clean, true edges.

2. Lumber

Southern Pine species; No. 2 grade; with grade stamp clearly visible.

b. Prefabricated Forms - Preformed Steel Forms

Minimum gage matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.

c. Formwork Accessories

1. Form Ties

Snap-off type, galvanized metal, adjustable length, cone type, with waterproofing washer, 1 in. back break dimension, free of defects that could leave holes larger than 1¼ in. in the concrete surface; Penta-Tie manufactured by Burke or approved equal.

2. Form Release Agent

Colorless mineral oil which will not stain concrete, absorb moisture or leave a film which will inhibit subsequent finish work; Burke Release manufactured by Burke or approved equal.

3. Corners

Chamfered, wood strip type; 3/4 x 3/4 in. maximum possible lengths.

4. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages

Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.

.03 EXECUTION:

a. Examination

Verify lines, levels, and centers before proceeding with formwork. Ensure that dimensions agree with Drawings.

b. Erection - Formwork

1. Erect formwork, shoring, and bracing to achieve design requirements in accordance with requirements of ACI 301 and 347.
2. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to over-stressing by construction loads.
3. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. permit removal of remaining principal shores.
4. Align joints and make watertight. Keep form joints to a minimum.
5. Obtain approval before framing openings in structural members which are not indicated on Drawings.
6. Provide chamfer strips on external corners of pile caps, retaining walls and other exposed corners.

c. Application - Form Release Agent

1. Apply form release agent on formwork in accordance with manufacture's recommendations.
2. Apply prior to placement of reinforcing steel, anchoring devices and embedded items.
3. Do not apply form release agent where concrete surfaces will receive applied coverings which are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

d. Inserts, Embedded Parts, And Openings

1. Provide form openings where required for items to be embedded in or passing through concrete work.
2. Locate and set in place items which will be cast directly into concrete.
3. Coordinate Work of other sections in forming and placing openings, slots, reglets, recesses, chases, sleeves, bolts, anchors, and other inserts.
4. Install accessories in accordance with manufacturer's instruction, straight, level, and plumb. Ensure items are not disturbed during concrete placement.
5. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.

6. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.
- e. Form Cleaning
1. Clean and remove foreign matter within forms as erection proceeds.
 2. Clean formed cavities of debris prior to placing concrete.
 3. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
- f. Formwork Tolerances
- Construct formwork to maintain tolerances required by ACI 301 and Section 03342, Finishing, Quality Control, Tolerances
- g. Field Quality Control
1. Inspect erected formwork, shoring, and bracing to ensure that supports, fastenings, wedges, ties, and items are secure.
 2. Do not reuse wood formwork more than three times for concrete surfaces to be exposed to view without written approval from OWNER. Do not patch formwork.
- h. Form Removal
1. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
 2. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
 3. Store removed forms in such manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.
 4. Forms and supports shall remain in place under pile caps for at least seven days and on the sides of pile caps, rail pads and walls for at least three days.

END OF SECTION

03100-4

DIVISION 3 - CONCRETE

SECTION 03200 - CONCRETE REINFORCEMENT

.01 GENERAL:

a. Description

This section shall govern the furnishing and placing of all reinforcing steel bars, wire fabric and accessories for concrete incorporated in the Work.

b. References

1. ACE 301, Structural Concrete for Buildings.
2. ACI 318, Building Code Requirements for Reinforced Concrete.
3. ACI SP-66, American Concrete Institute, Detailing Manual.
4. ANSI/ASTM A 82, Cold Drawn Steel Wire for Concrete Reinforcement.
5. ANSI/ASTM A 185, Welded Steel Wire Fabric for Concrete Reinforcement.
6. ANSI/AWS D1.4, Structural Welding Code for Reinforcing Steel.
7. ASTM A 615, Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
8. ASTM A 706, Low-Alloy Steel Deformed Bars for Concrete Reinforcement.
9. ASTM A 775, Epoxy-Coated Reinforcing Steel Bars.
10. CRSI, Concrete Reinforcing Steel Institute Manual of Practice.
11. CRSI 63, Recommended Practice for Placing Reinforcing Bars.
12. CRSI 65, Recommended Practice for Placing Bar Supports, Specifications, and Nomenclature.

c. Submittals

1. Submit under provisions of Section 01340, Shop Drawings, Product Data, and Samples.
2. Shop Drawings

Indicate bar sizes, spacings, locations, and quantities of reinforcing steel and wire fabric; bending and cutting schedules; and supporting and spacing devices.

3. Submit mill certificates for each heat of steel to be furnished indicating strength and chemistry.
 4. Submit qualified welding procedure for welding of reinforcing steel. Include in submittal all items contained in Appendix A of AWS D1.4.
 5. Submit copies of manufacturer's data for bar chairs, bolsters, spacers, etc.
- d. Quality Assurance
1. Perform work in accordance with CRSI 63, 65, and Manual of Practice, ACI 301, ACI Sp-66, and ACI 318.
 2. All welding procedures and welders shall be qualified in accordance with AWS D1.4 by an AWS-certified welding inspector approved by OWNER. Full section tension and macro-etch tests shall be conducted in accordance with AWS D1.4, Chapter 6.
 3. Production welding shall not commence until a qualified welding procedure has been established and approved by OWNER.

.02 PRODUCTS:

a. Reinforcement

1. Typical Reinforcing Steel
ASTM A 615, 60 ksi, yield grade, deformed steel bars, plain finish.
2. Reinforcing Steel for Welding
ASTM A 706, 60 ksi, yield grade, deformed low-alloy steel bars, plain finish.
3. Epoxy Coating
Scotchkote Brand Fusion Bonded Epoxy Coating 213, manufactured by 3M, St. Paul, Minnesota, applied by electrostatic spray method in strict accordance with ASTM A 775, except that the thickness of the coating shall be not less than 6 mils (150 microns) nor greater than 11 mils (275 microns).

b. Accessory Materials

1. Tie Wire
Minimum 16 gauge, annealed type. Use plastic coated wire with epoxy coated reinforcing.
2. Chairs, Bolsters, Bar Supports, Spacers
Sized and shaped for strength and support of reinforcement during concrete placement conditions.

3. Special Chairs, Bolsters, Bar Supports, and Spacers

Adjacent to Epoxy-Coated Reinforcement or Weather Exposed Concrete Surfaces, use plastic coated, steel type or plastic type; size and shape as required.

c. Fabrication

1. Fabricate concrete reinforcing in accordance with ACI 318.
2. Weld reinforcement in accordance with ANSI/AWS D1.4.
3. No splices in reinforcing, except where specially called for on the drawings, will be permitted without prior written approval from OWNER.
4. Sheared ends of epoxy coated reinforcing and/or epoxy coating that is damages shall be repaired with a compatible epoxy coating conforming to ASTM A 775 in accordance with the manufacturer's recommendations prior to installation.

d. Delivery

1. Bundles of reinforcing bars shall be delivered to the site with tags showing quantity, grade, size, and suitable identification to allow checking, sorting and placing.
2. Store all reinforcing steel off ground on protective cribbing and protect from oil, grease, dirt, or other deleterious materials.
3. Epoxy coated reinforcing shall be covered after delivery to prevent exposure to sunlight until needed for use.

.03 EXECUTION:

a. Placement

1. Place, support and secure reinforcement against displacement. Do not deviate from required position.
2. Accommodate placement of formed openings.
3. Where epoxy-coated reinforcing is required by the drawings, all handling and hoisting shall be done by nylon lifting slings or padded wire rope slings; bundles of bars shall be lifted to prevent bar-to-bar abrasion; spreader bars shall be used for lifting bundles, or the bundles shall be lifted at the third points with nylon or padded slings. Bundling bands shall be padded or made of nylon. Coated bars shall be padded or made of nylon. Coated bars shall be stored on padded or wooden cribbing bars or bundles of bars shall not be dragged over the ground or over other bars.
4. Plastic coated tie wire shall be used for tying epoxy coated rebar.

5. Vertical stirrups shall always pass around the main reinforcement and be attached securely thereto.
6. Reinforcing steel shall be spaced its required distance from the form surface by means of approved hot dip galvanized metal spacers with plastic coated tips or plastic spacers.
7. All reinforcing steel shall be tied at all intersections; except that where spacing is less than 1 ft. in each direction, alternate intersections only need be tied.
8. Reinforcement shall be supported and tied in such a manner that a sufficiently rigid cage of steel is provided. If the cage is not adequately supported to resist settlement or floating upward of the steel, overturning of truss bars or movement in any direction during concrete placement, permission to continue concrete placement will be withheld until corrective measure are taken.

Sufficient measurements shall be made during concrete placement to ensure that the reinforcement remains in the proper position.

9. Mats of wire fabric shall overlap each other sufficiently to maintain a uniform strength and shall be fastened securely at the ends and edges. Lap ends and edges a minimum of one square.

b. Tolerances

1. Unless otherwise shown on Drawings, dimensions shown for reinforcement are to the centers of the bars.
2. In the plane of the steel parallel to the nearest surface of concrete, bars shall not vary from plan placement by more than $1/12$ of the spacing between bars.
3. In the plane of the steel perpendicular to the nearest surface of concrete, bars shall not vary from plan placement by more than $1/4$ in.
4. Cover of concrete to the nearest surface of steel shall meet the above requirement but shall never be less than 3 in. unless otherwise shown on Drawings.

c. Welding

1. All welding of reinforcing steel shall be performed in accordance with AWS D1.4.
2. Welding process used to place welds shall be either shielded metal arc (SMAW) or flux cored arc (FCAW) welding.

- d. Cleaning Reinforcement
 - 1. Reinforcement shall be cleaned of all rust, mill scale, oil, paint or other deleterious materials prior to placing concrete.
 - 2. All damaged epoxy coating shall be repaired with a compatible epoxy coating conforming to ASTM A775 prior to pouring concrete.
- e. Field Quality Control
 - 1. Testing
 - (a) CONTRACTOR shall provide, at no cost to OWNER, one welded connection sample for full section tension tests in accordance with AWS D1.4 for every 200 production connections. OWNER will pay for all tests which pass. Failure of production weld samples to meet tension test requirement shall be cause for automatic rejection.
 - (b) All rebar welds shall be inspected and tested by OWNER before acceptance. CONTRACTOR shall remove all slag from each weld at no cost to OWNER. Any rebar weld which, in the opinion of OWNER, appears faulty shall be removed and the bar rewelded at no cost to OWNER. CONTRACTOR, at his option, may choose to have such rejected welds examined by a certified testing agency. If examination indicates acceptable quality, the defective welds shall be removed and replaced by CONTRACTOR at no additional cost to OWNER.
 - 2. Reinforcement shall be inspected by OWNER's representative prior to placing concrete. Provide a minimum of 24 hours advance notice of completion of reinforcement placement to OWNER for scheduling of field inspection.

END OF SECTION

03200-5

DIVISION 3 - CONCRETE

SECTION 03300 - CAST-IN-PLACE CONCRETE

.01 GENERAL:

a. Description

This Section shall govern all work necessary for providing materials, mixing, proportioning, testing, placing, finishing, and curing of all plain and reinforced cast-in-place normal weight concrete.

b. Quality Assurance

Material and Work shall conform to the requirements of standards, codes, and recommended practices required in this Section. In conflicts between industry standards, required standards and this specification or this specification and the local building code, the more stringent requirement shall govern.

c. Applicable Standards and Test Methods

The following documents are referred to in this Section and shall be available at the project site:

1. ACI 301-84(R-88), Specifications For Structural Concrete For Buildings
2. ACI 304 R-85, Guide For Measuring, Mixing, Transporting, And Placing Concrete
3. ACI 305 R-77 (82), Placing Concrete In Hot Weather
4. ACI 306 R-88, Placing Concrete In Cold Weather
5. ACI 309 R-89, Guide For Consolidation Of Concrete
6. ACI 318-89 (R-89), Building Code Requirement For Reinforced Concrete
7. ASTM C 31-84, Making And Curing Concrete Test Specimens In The Field
8. ASTM C 33-86, Standard Specifications For Concrete Aggregates
9. ASTM C 39-86, Standard Test Method For Comprehensive Strength Of Cylindrical Specimens
10. ASTM C 94-86, Standard Specifications For Ready-Mixed Concrete

11. ASTM C 138-81, Standard Test Method For Unit Weight, Yield, And Air Content (Gravimetric) Of Concrete
12. ASTM C 143-78, Standard Test Method For Slump Of Portland Cement Concrete
13. ASTM C 150-85, Standard Specification For Portland Cement
14. ASTM C 171-69e1, (Reapproved 1980) Standard Specifications For Sheet Materials For Curing Concrete
15. ASTM C 173-78, Standard Test Method For Air Content Of Freshly Mixed Concrete By The Volumetric Method
16. ASTM C 231-81e1, Standard Test Method For Air Content Of Freshly Mixed Concrete By The Pressure Method
17. ASTM C 260-86, Standard Specification For Air-Entraining Admixtures For Concrete
18. ASTM C 309-81, Liquid Membrane-Forming Compounds For Curing Concrete
19. ASTM C 494-86, Standard Specification For Chemical Admixtures For Concrete

d. Submittals

1. Concrete Mixing Design
 - (a) CONTRACTOR shall submit, at least ten working days in advance of placing concrete, a mix design for each type and strength of concrete specified which is prepared by a reputable testing laboratory.
 - (b) Include copies of test reports showing that the mix has been successfully tested to produce concrete with the properties specified and will be suitable for the job conditions.
2. Submit name and location of sources of cement, aggregates, chemical admixtures and fly ash propose for use on this project.
3. Submit independent laboratory reports or manufacturer's certification that all other concrete materials proposed for used on this project meet the requirements of Article .02 of this Section.

.02 PRODUCTS:

a. Concrete Materials

1. Portland Cement

- (a) Portland cement Type I or Type II conforming to ASTM C 150, including the low alkali provisions of Table 1A of that specification. In addition, the tricalcium aluminate content of Type I cement shall not exceed 12 percent.
- (b) Type I or Type II cement, at CONTRACTOR's option, may be used for nonhydraulic abovegrade structures.
- (c) For all hydraulic and belowgrade structures and sewers, use Type II cement. At CONTRACTOR's option, fly ash may be used in combination with any cement as long as all requirements of these Specifications are met. The fly ash may be combined at the batch plant or during the production of the cement (Type IP cement). For the combination fly ash and cement, the cement and fly ash shall comply with these Specifications.

2. Fly Ash

- (a) The pozzolan to be used in combination with cement, as previously specified for use in all hydraulic and belowgrade structures and sewers, or in combination with cement or other structures, shall be Class F fly ash conforming to ASTM C 618-87.
- (b) Pozzolan shall be tested in conformance with ASTM C 311. The analysis shall show those items pertinent to this Specification. Source acceptance shall be at the discretion of ENGINEER based on data submitted. Continuing quality analysis shall be submitted throughout the life of the project from the source approved. Under no circumstances shall the pozzolan source be changed without the retesting and providing of new submittals for ENGINEER's review. The Supplier shall certify that all shipments meet the conditions of this Specification.

3. Aggregates shall conform to ASTM C 33-86, "Standard Specification for Concrete Aggregates".

4. Water shall be clean and free from deleterious materials, drinkable.

5. Air-Entraining Admixtures

- (a) Conforming to the requirement of ASTM C 260-86,
- (b) "Standard Specification for Air-Entraining Admixtures for Concrete", "Micro Air" or "MB-VR", manufactured by Master Builders shall be used.
- (c) The air-entraining admixture shall provide a total air content as specified in Article .02 of this Section.

b. Selection Of Proportions

Concrete shall be composed of portland cement, fly ash fine aggregate, coarse aggregate, water and, as specified, Master Builders' Micro-Air or MB-VR air-entraining admixture. Proportions of ingredients shall produce concrete that will work readily into corners and angles of forms, bond to reinforcement, without segregation or excessive bleed water forming on the surface. Proportioning of materials shall be in accordance with ACI 211.1-89, "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete", except as modified herein.

c. Concrete Qualities Required

- 1. All concrete incorporated in the Work shall have the minimum 28-day compressive strength of 4000 pounds per square inch (PSI). Unless otherwise noted on the drawings.
- 2. Minimum cement or combined cement plus fly ash content when fly ash is used for performance and durability, regardless of design strength, shall be 517 pounds per cubic yard for concrete with 1-1/2-inch maximum size aggregate, 540 pounds per cubic yard for 1-inch maximum size aggregate. CONTRACTOR shall increase cement content or the combined cement plus fly ash content, when fly ash is used, as required to meet strength requirements.
- 3. The amount of fly ash used shall not exceed 25 percent or be less than 15 percent of the total weight of fly ash plus cement.
- 4. Minimum cementitious material requirements shall be as follows:
 - (a) For 4000 PSI (f'_c) at 28 days
 - (1) Maximum water/cementitious ratio = .48
 - (2) Minimum cementitious - 517#

- (b) For 5000 PSI (f_c) at 28 days
 - (1) Maximum water/cementitious ratio = .40
 - (2) Minimum cementitious - 611#
- (c) For 6000 PSI (f_c) at 28 days
 - (1) Maximum water/cementitious ratio = .40
 - (2) Minimum cementitious - 658#

- 5. Proportions of ingredients shall be selected by past field experience or in lieu of past performance, laboratory trial mixes to produce placability, slump, specified strength and properties specified.
- 6. Determinations of required average strength (f_{cr}) shall be in accordance with ACI 318-89, "Building Code Requirements for Reinforced Concrete", and evaluations of compressive strength results of field concrete shall be in accordance with ACI 214-77 (Reaffirmed 1989), "Recommended Practice for Evaluation of Strength Test Results of Concrete".
- 7. Average strength shall exceed specified compressive strength as required in accordance with ACI 318-89.
- 8. Concrete shall be air-entrained and the total air content required (air-entrained and entrapped air) shall be:

<u>Nominal Max.</u>	<u>Total Air Content</u>
<u>Size Coarse Aggregate</u>	<u>Total Air Content</u>
1-1/2"	4-1/2% +/- 1%

NOTE: Air-entrainment shall not be required when Class "F" fly ash is used in the concrete mix design on projects south of IH-20, Texas Department of Transportation Standard Specifications, Item 420.

- 9. The Concrete shall be proportioned and produced to yield the following slumps when placed:

<u>Type of Construction</u>	<u>Slump</u>	<u>Tolerance</u>
Reinforced Foundation Walls & Footings	3 in.	± 1 in.
Columns, Beams, Walls, Structural Slabs	2 in.	± 1 in.
Slabs-On-Grade Roadways	2 in.	± 1 in.
Heavy Mass Construction	1½ in.	± ½ in.
Drilled Piers	6 in.	± 1 in.

.03 EXECUTION:

a. Production Of Concrete

1. Concrete shall be ready-mixed, batched, mixed and transported in accordance with ASTM C 94-86, "Specification for Ready-Mixed Concrete".
2. Plant equipment and facilities shall conform to the "Checklist for Certification of Ready-Mixed Concrete Production Facilities" of the National Ready Mixed Concrete Association.

b. Placing

1. Preparation

CONTRACTOR shall provide access for delivery provide sufficient equipment and manpower to rapidly place all concrete.

- (a) Work shall be in accordance with ACI 304R-89 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete".
- (b) Formwork shall be completed and snow, ice, water, and debris removed from within forms.
- (c) Expansion joint material, anchors, and all embedded items shall have been positioned.
- (d) Subgrades shall be sprinkled sufficiently to eliminate water loss from concrete.
- (e) Concrete shall not be placed on frozen ground.

2. Conveying

Concrete shall be placed rapidly by methods to prevent segregation or loss of quality.

3. Placement

- (a) Concrete shall be deposited continuously or when continuous placement is not possible, construction joints shall be located as approved by OWNER. Concrete shall be placed as nearly as possible to its final position. Avoid rehandling.
- (b) Concrete shall be consolidated by vibration, spading, rodding or tamping, as stated in ACI 309R-87, "Guide for Consolidation of Concrete". Work concrete around reinforcement, embedded items and into corners; eliminate air or stone pockets and other causes of honeycombing, pitting, or planes of weakness.

c. Weather Conditions

1. Cold Weather

Concrete shall conform to ACI 306R-88 "Standard Specifications for Cold Weather Concreting". A non-chloride accelerator may be used with ENGINEER's approval. Non-chloride accelerator shall be Pozzutec 20, manufactured by Master Builders.

2. Hot Weather

Concrete shall conform with ACI 305R-89 on "Hot Weather Concreting". A maximum concrete temperature of 95°F for normal concrete is specified.

- (a) Provisions shall be made for windbreaks, shading, fog spraying, sprinkling or wet cover when necessary.
- (b) Use an evaporation retardant and finishing aid, "Confilm", by Master Builders.
- (c) Maximum concrete placing temperature when used in a bridge slab or in top slab of a direct traffic culvert shall be 85° F and the maximum concrete placing temperature when used in other applications shall be 95° F, Texas Department of Transportation Standard Specifications, Item 420.

d. Finishing

- 1. Finish concrete materials as specified in Section 03342, Finishing, Quality Control, Tolerances.
- 2. For curing methods, field quality control, and tolerances, refer to Section 03342, Finishing, Quality Control, Tolerances.

END OF SECTION

03300-7

DIVISION 3 - CONCRETE

SECTION 03342 - FINISHING, QUALITY CONTROL, AND TOLERANCES

.01 GENERAL:

a. Description

This Section shall govern all work with respect to finishing, quality control, and tolerances for all concrete surfaces of the type and grade of concrete being placed.

b. Applicable Standards and Test Methods

The following documents are referred to in this Section and shall be available at the project site:

1. ACI 301-84(R-88), Specifications For Structural Concrete For Buildings
2. ACI 318-83 (R-86), Building Code Requirement For Reinforced Concrete
3. ASTM C 31-84, Making And Curing Concrete Test Specimens In The Field
4. ASTM C 39-86, Standard Test Method For Comprehensive Strength Of Cylindrical Specimens
5. ASTM C 138-81, Standard Test Method For Unit Weight, Yield, And Air Content (Gravimetric) Of Concrete
6. ASTM C 143-78, Standard Test Method For Slump Of Portland Cement Concrete
7. ASTM C 171-69el, (Reapproved 1980) Standard Specifications For Sheet Materials For Curing Concrete
8. ASTM C 173-78, Standard Test Method For Air Content Of Freshly Mixed Concrete By The Volumetric Method
9. ASTM C 231-81el, Standard Test Method For Air Content Of Freshly Mixed Concrete By The Pressure Method
10. ASTM C 260-86, Standard Specification For Air-Entraining Admixtures For Concrete
11. ASTM C 309-81, Liquid Membrane-Forming Compounds For Curing Concrete

.02 EXECUTION:

a. General Finish Requirements

1. Unless otherwise specified, the finish of all exposed concrete surfaces shall be what is generally termed a plywood finish, which means a finish which will normally be obtained when well-designed, mortar-tight plywood forms are used. Repairing of surface defects and hand rubbing will be required on all exposed surfaces only where patching of honeycomb is necessary or where form design or construction or general workmanship produce gradual surface defects exceeding 1/4 in. in a 10-ft. straightedge or abrupt defects exceeding 1/8 in. Offsets caused by displaced or misplaced form sheathing or form sections, by loose knots in forms, or by otherwise defective form lumber will be considered as abrupt surface defects.
2. Concrete surfaces, both above and below the backfill, shall have all metal form ties removed not less than 3/4 in. back from the faces of the concrete. The holes shall be cleaned and wire brushed to remove laitance, form oil, and other foreign material; and then shall be filled with non-shrink grout.
3. Slabs-on-grade shall have a broom finish, unless otherwise specified, and formed sides. This finish shall be applied immediately behind the bull float operation. Curing shall begin immediately after texturing.
4. Dusting freshly placed concrete surfaces with cement or a mixture of sand and cement before or during the finishing operations is strictly prohibited.

b. Pier, Foundation, and Wall Top Finishes

1. Unless otherwise specified, the tops of column piers, small equipment foundations and similar foundations are to be grouted, scored, and all laitance, grease, dirt, or other deleterious materials removed.
2. The surface elevation shall be checked and additional concrete removed, if necessary, to allow for the specified thickness of grout.
3. The tops of all concrete walls shall be given a wood float finish.
4. In areas where a greater degree of finish is specified, it will be necessary to allow the concrete to begin to set before finishing.

c. Concrete Curing and Protection

1. General

The freshly placed concrete shall be protected from premature drying and excessive cold or hot temperatures. Curing shall start immediately after placing and finishing, and shall continue for not less than 28 days.

2. Curing Methods

- (a) Perform curing of concrete by use of curing compound, by moist curing, by moisture-retaining cover, or by combinations thereof. Material and method of curing shall be approved by ENGINEER.
- (b) Apply curing compound as soon as finish is completed.
- (c) On formed surfaces a curing method shall begin immediately upon form removal.
- (d) Approved methods for Rheoplastic Concrete include: Ponding or continuous sprinkling, continuous wet mats, sand kept continuously wet and liquid membrane-forming compounds.
 - (1) Application of waterproof sheet material shall conform to ASTM C 171-69 (Reapproved 1986), "Standard Specification for Sheet Materials for Curing Concrete".
 - (2) Applications of membrane-forming compounds shall conform to ASTM C 309-81, "Standard Specification for Liquid Membrane-Forming Compounds Curing Concrete".
- (e) The type of curing and procedure utilized shall be verified in the Preconstruction Meeting.

d. Field Quality Control

- 1. Materials and operations shall be tested and inspected by CONTRACTOR as work progresses. Failure to detect defective work shall not prevent rejection when defect is discovered, nor shall it obligate OWNER for final acceptance.
- 2. The following testing services shall be performed by a testing service selected by OWNER: All costs associated with these testing services shall be borne by CONTRACTOR unless otherwise noted.
 - (a) Secure composite samples in accordance with "Standard Method of Sampling Fresh Concrete", ASTM C 172-82.
 - (b) Mold and cure four specimens from each test required in accordance with standard "Method of Making and Curing Concrete Test Specimens in the Field", ASTM C 31-85.
 - (c) Test specimens in accordance with "Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens," ASTM C 39-86. Two specimens shall be tested at 28 days for acceptance and two shall be tested at 7 days for information.
 - (d) Make one strength test for each 50 cu. yd. or fraction thereof, and for each mix design of concrete placed in any one day.

- (e) Determine slump of normal-weight concrete sample for each strength test in accordance with "Standard Test Method for Slump of Portland Cement Concrete", ASTM C 143-76.
 - (f) Determine total air content of normal-weight concrete sample for each strength test in accordance with "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method", ASTM C 231-82 or "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method", ASTM C 173-78.
3. CONTRACTOR shall provide an area of protection for the test specimens free from damage or vibration at the job-site for the first 24 hours.
 4. CONTRACTOR shall provide an enclosed, insulated box for immediate test cylinder storage after manufacture at the job site.
 5. The manufacturer of (3) 6" X 12" test cylinder may be required by ENGINEER. Utilize procedure for manufacture according to ASTM C 31-84. The time of test and frequency shall be dictated by ENGINEER. These specimens shall be used to perform AASHTO T-277-83, "Standard Method of Test for Rapid Determination of the Chloride Permeability of Concrete".

e. Tolerances

Formwork shall be constructed in such a manner as to produce concrete surfaces that conform to the established dimensions, grades, and lines within the limits specified in Table below:

TOLERANCES FOR FORMED SURFACES

Variation from the plumb:

i.	In the lines and surface of columns, walls and in equipment foundations.	In 10 ft.	1/4 in.
		In any story of 20 ft. max	3/8 in.
		Maximum for entire height	1 in.
ii.	For exposed corner columns, control joint grooves, and other conspicuous lines	In 10 ft.	1/4 in.
		In any bay of 20 ft. max.	1/2 in.
	Variation from the level or from grades shown on Drawings, except for grout caps and slabs	In 10 ft.	1/4 in.
		In any bay of 20 ft. max.	3/8 in.
		Maximum for entire length	3/4 in.
	Variation from the level or from grades shown on Drawings for grout caps.		1/16 in.

TOLERANCES FOR FORMED SURFACES (cont.)

Variation of the linear building lines, or equipment foundations, from established position in plan and related position of columns, walls and partitions.	In any bay of 20 ft. max.	1/2 in.
	Maximum for entire length	1 in.
Variation in cross-sectional dimensions of columns and beams, equipment foundations, and in the thickness of slabs and walls.		-1/4 in. +1/2 in.
Footings:		
i. Variation of plan dimensions	Concrete only. (Does not apply to anchor bolts, dowels, or reinforcing.)	-1/2 in. +2 in.
ii. Misplacement or eccentricity	2% of footing width in the direction of misplacement but not more than 2 in. max. (concrete only). Does not apply to anchor bolts, dowels, or reinforcing.	
iii. Reduction in thickness	Portion of specified	-5% thickness.
Variation in the sizes and locations of floor openings and wall openings.		±1/4 in.
Variation in location of sleeves, waterstops, expansion joints, and other inserts.		±1/4 in.
Variation in steps:		
i. In a flight of stairs	Riser Tread	±1/8 in. ±1/4 in.
ii. In consecutive steps	Riser Tread	±1/16 in. ±1/8 in.

Unless otherwise specified, anchor bolt centers may vary up to 1/8 in. from the locations shown on Drawings; however, the variation in the dimension measured from center to center of any two bolts in an anchor bolt group may not vary more than 1/8 in. An anchor bolt group is defined as the set of anchor bolts which receive a complete equipment base assembly or a single fabricated steel shipping piece.

The location of inserts, such as waterstops, and expansion joints, may deviate from that shown on the drawing by 1/4 inch.

Tolerances shown on Drawings shall take precedence over the tolerances specified in this Section.

Permissible surface defects of exposed concrete surfaces are specified in Article .02 this Section and are to be distinguished from the tolerances described above.

**END OF SECTION
END OF DIVISION**

03342-6

DIVISION 5 - METALS

SECTION 05500 - MISCELLANEOUS METAL

.01 GENERAL:

This work includes furnishing all materials and equipment, and performing all operations necessary as indicated on the drawings and as specified herein.

- a. Scope: Include fabricated steel items of thickness greater than 18 ga. sheet metal that are not part of other metal systems. Include non-ferrous items listed, and light gauge structural framing.
- b. Shop Drawings: Submit for review. Completeness shall be sufficient to indicate compliance with the Contract Documents and to correlate with other materials.

.02 MATERIALS: (STEEL)

- a. Structural Shapes, Bars: New billet, medium grade ASTM A 36.
- b. Bars, Plates: Same except cold-rolled, ASTM A 180.
- c. Structural Tubular: Square or rectangular, ASTM A 501; pipe, ASTM A 120.
- d. Sheets: Cold-rolled, ASTM A 366.
- e. Bar-Size: Hot rolled, ASTM A 575.
- f. Tubing: Cold-Drawn, ASTM A 512.
- g. Steel Joists: As indicated on drawings.

.03 STEEL SHOP PRIMER:

- a. Locations: Typical. Unless otherwise noted on the drawings.
- b. Minimum Preparation: Remove loose mill scale, loose rust and other foreign materials to the standards SSPC SP-2 and SP-1.
- c. Acceptable Primers: Any primer that meets Federal or SSPC specifications for use over the specified preparation. Two such primers are Fed. Spec. TT-P-86 Type I or Type II, SSPC-Paint 4-64T or TT-P-636c iron oxide zinc chromate alkyd primer.
- d. Primer Thickness: 2.0 mils dry film thickness, except for minor deficiencies.

**END OF SECTION
END OF DIVISION**

GENERAL NOTES - PRELIMINARY MATTERS

1. THE INFORMATION GIVEN BY THE MAPS ON THIS SHEET DO NOT CONSTITUTE WARRANTIES FOR THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION AND FOR OBTAINING NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS LISTED IN THE CONTRACT DOCUMENTS AND THE STANDARD DETAILS INCLUDED OR REFERENCED IN THE PLANS.
3. ANY CHANGES OR MODIFICATIONS TO THE PLANS MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW & APPROVAL PRIOR TO IMPLEMENTATION.
4. EXISTING UTILITIES, INCLUDING BUT NOT LIMITED TO, UTILITIES SHOWN ON PLANS, BUT NOT SPECIFICALLY RELATED TO THE WORK OF THE CONTRACTOR, ARE FOR INFORMATIONAL PURPOSES ONLY & HAVE BEEN SHOWN TO THE BEST OF THE CONTRACTOR'S KNOWLEDGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES.
5. UTILITIES SHOWN BY THE PLANS & INDICATED BY "X" SYMBOLS, INDICATE THAT THE ENGINEER'S INTENTION IS TO MATCH THE EXISTING GRADE OF THE UTILITIES AT OR NEAR THE STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES PRIOR TO CONSTRUCTION.
7. EXISTING ELECTRICAL LINES ARE LOCATED CLOSE TO THE PROJECT. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE STATE LAW REGARDING UNAUTHORIZED REMOVAL OF UTILITIES, ARTICLE 14.06, CONCERNING OTHER AGENCIES IN THE VICINITY OF ELECTRICAL LINES & THE NEED FOR EFFECTIVE PROTECTIVE MEASURES.
8. THE MUNICIPALITY SHALL PERFORM ALL OPERATION INVOLVING OPENING & CLOSING OF VALES ON EXISTING PUBLIC WATER MAINS. THE CONTRACTOR SHALL VERIFY MAINS ARE DEEPER BEFORE PROCEEDING WITH ANY EXCAVATION.

NOTIFICATION REQUIREMENTS

1. THE CONTRACTOR SHALL GIVE A MINIMUM OF 72 HOURS NOTICE TO THE OWNER, ENGINEER & PERSONS IN CHARGE OF PRIVATE & PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK.
2. AT LEAST 48 HOURS PRIOR TO COMMENCING ANY ACTIVITY FOR A REQUIRED REGULAR SANITARY SEWER AND/OR WATER COLLECTION SYSTEMS, THE CONTRACTOR SHALL NOTIFY THE LOCAL TCEQ REGIONAL OFFICE, IN WRITING, OF THE DATE ON WHICH CONSTRUCTION WILL BEGIN.
3. AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR IS REQUESTED TO NOTIFY THE LOCAL EMERGENCY SERVICES (E.G. FIRE, EMS) & POLICE OF ANY CONSTRUCTION ACTIVITIES THAT MIGHT AFFECT THE NORMAL FLOW OF TRAFFIC.
4. THE CONTRACTOR SHALL GIVE A MINIMUM OF 48 HOURS NOTICE TO THE ENGINEER & AUTHORIZED TESTING LABORATORY PRIOR TO REQUIRED TESTS.
5. THE CONTRACTOR SHALL GIVE A MINIMUM OF 48 HOURS NOTICE TO THE ENGINEER & THE OWNER PRIOR TO TESTING OF SANITARY SEWER & WATER LINES. PARTICIPATION BY THE MUNICIPALITY IS REQUIRED FOR ALL TESTING OF SANITARY SEWER & WATER LINES.

CONTRACTOR'S RESPONSIBILITIES

1. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCOVERIES, DEFECTS, OR OMISSIONS, DISCOVERED BY THE FIELD ON THE PLANS.
2. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER & THE ENGINEER, VERBALLY & IN WRITING, OF ANY HAZARDOUS OR TOXIC MATERIALS SPILLS ON THE PROJECT CONSTRUCTION AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIATION OF SPILLS, WASTE MATERIALS & CONTAMINATED ENVIRONMENT BY A LEGALLY APPROVED METHOD.
3. THE CONTRACTOR SHALL CONSIDER ALL INTERFERENCES OF ALL UTILITIES & SERVICES WITH APPLICABLE UTILITY CONTRACTS, ORDERS & TOLERANCES. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY CONTRACTS OR AGENCY REGULATIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FOR ALL PUBLIC & PRIVATE FACILITIES AT ALL TIMES & FOR ALL WEATHER CONDITIONS, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE & MAINTAIN ALL NECESSARY TRAFFIC SAFETY DEVICES (WARNING LIGHTS, FLAG MEN, BARRICADES, SIGNS, ETC.) TO PROTECT THE PUBLIC SAFETY & THE WORK. THE WORK HAS BEEN CONSIDERED & ACCEPTED BY THE ENGINEER & OWNER. ALL BARRICADES SHALL BE DONE IN CONJUNCTION WITH THE TCEQ MANUAL OF CUSTOM TRAFFIC CONTROL DEVICES.
5. THE CONTRACTOR SHALL MAINTAIN ALL NECESSARY SIGNS DURING THE CONSTRUCTION PERIOD.
6. THE CONTRACTOR SHALL ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. REQUIRED PERMITS THAT CAN ONLY BE OBTAINED BY THE CONTRACTOR ARE TO BE OBTAINED AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING & MAINTAINING SANITARY FACILITIES ON THIS PROJECT FOR EMPLOYEES.
8. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE FROM THE DITCHES & STORM SEWERS AT ALL TIMES.
9. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF ALL EXCESS CONSTRUCTION & WASTE MATERIALS. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, & FEDERAL REQUIREMENTS REGARDING STORAGE & DISPOSAL OF EXCESS & WASTE MATERIALS. THE CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO AREAS AROUND CONCRETIZED FOUNDATIONS & STRUCTURES TO ENSURE THAT CONSTRUCTION DEBRIS IS REMOVED & PROPERLY DISPOSED OF PRIOR TO BACKFILLING & THE APPLICATION OF TOPSOIL. EXCESS SOIL, ROCK OR SPILL MATERIALS SHALL BE REMOVED FROM THE PROJECT SITE & DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE.
10. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE. INFORMATION & RELATED REFERENCE MATERIALS MAY BE OBTAINED FROM OSHA, 3901 S.W. JAYWALK, ASTORIA, TEXAS. DESIGN, INSTALLATION, MAINTENANCE, & INSPECTION OF FRENCH SAFETY SYSTEMS SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF ENCLOSURES, BIDDING & WORKING, FEDERAL OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION STANDARDS, 29CFR 1910.1200, SUBPART P, AS AMENDED, INCLUDING FINAL RULE, PUBLISHED IN THE FEDERAL REGISTER, VOL. 37, FR 109, TUESDAY, OCTOBER 31, 1972. FRENCH SAFETY SYSTEMS SHALL ALSO BE IN ACCORDANCE WITH TEXAS HEALTH & SAFETY CODE AND, TEXAS OSHA (2008) 1910.1200.
11. THE CONTRACTOR SHALL TAKE ALL THE NECESSARY PRECAUTIONS TO PROTECT EXISTING FACILITIES INCLUDING BUILDINGS, EXISTING UTILITIES, PRIVATE AREAS, DRAINAGE UTILITIES, ETC.) FROM DAMAGE, AND DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF THE CONSTRUCTION OPERATIONS ARE TO BE REPAIRED IMMEDIATELY BY THE CONTRACTOR TO A CONDITION EQUAL TO OR BETTER THAN THAT EXISTING BEFORE THE DAMAGE OCCURRED. REPAIRS SHALL BE MADE TO THE SATISFACTION OF THE FACILITY OWNER & THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR SHALL LOCATE, PROTECT & MAINTAIN BENCHMARKS & CONTROL POINTS. THE CONTRACTOR SHALL RE-ESTABLISH BENCHMARKS OR DESTROYED POINTS AT HIS EXPENSE. THE RE-ESTABLISHMENT SHALL BE PERFORMED UNDER THE DIRECTION OF A TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR.
13. WHEN NECESSARY FOR CONSTRUCTION SHALL BE PROVIDED & PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN A CLEAR ACCESS TO THE PROJECT SITE AT ALL TIMES TO PREVENT OBSTRUCTION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CHARGES ASSOCIATED WITH TEMPORARILY SECURING OR TEMPORARILY REDUCING POWER LINES THAT INTERFERE WITH THE CONSTRUCTION OPERATIONS. THIS DOES NOT APPLY TO THE PERMANENT REDUCTION OF POWER LINES THAT ARE PERMITTED BY CONTRACT WITH THE PROPOSED NOTIFICATIONS.
15. THE CONTRACTOR SHALL CLEAR STREETS, SIDEWALKS, DRIVEWAYS, & PARKING LOTS OF ALL CONSTRUCTION MATERIALS, DEBRIS, EXCESS CONCRETE, DEBRIS, & DEBRIS CAUSED BY CONSTRUCTION AT THE END OF EACH CONSTRUCTION PERIOD. ALL OPEN EXCAVATIONS & PITS MUST BE BARRICADED, FENCED, OR FILLLED OVER WHEN NOT IN USE.
16. GRAVITY MAINS SHALL BE INSTALLED BY THE SPECIAL INJECTION, BEGINNING AT THE EXISTING POINT IN THE SYSTEM. THE CONTRACTOR IS REQUESTED TO VERIFY THE LOCATION, ELEVATION & DEPTH OF THE EXISTING MAINS & PROTECT THEM FROM DAMAGE. ALL EXISTING MAINS SHALL BE PROTECTED BY THE CONTRACTOR & TO SUPPORT EXISTING MAINS, THE CONTRACTOR SHALL ENSURE THAT ADEQUATE COVERS ARE PROVIDED UNDER THE EXISTING MAINS. CONSTRUCTION, IF ADEQUATE COVERS CAN BE MAINTAINED, THE CONTRACTOR SHALL MAINTAIN EXISTING BENCHMARKS & CONTROL POINTS AS MUCH AS POSSIBLE TO ACHIEVE THE SAME GOALS.
17. THE CONTRACTOR SHALL PLACE & CONSTRUCT BACKFILL AS INDICATED SUBMITTAL AFTER COMPLETION OF EACH STRUCTURE OR PORTION OF A STRUCTURE. DO NOT, HOWEVER, PLACE BACKFILL AGAINST NEARLY CONSTRUCTED CONCRETE WALLS OR SIMILAR STRUCTURES UNLESS CONCRETE IS INCLUDED AT LEAST 2'-0" AWAY.
18. UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS, THE CONTRACTOR SHALL PLACE & COMPACT BACKFILL EXCEPT FOR STRUCTURES IN ACCORDANCE WITH THE STANDARD TRENCH FILL BACKFILL TABLE FOR UTILITY LINES.
19. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION PRIOR TO ACCEPTANCE OF THE PROJECT.

GENERAL NOTE FOR EXISTING UTILITY LOCATIONS:

AN ATTEMPT HAS BEEN MADE TO SHOW THE APPROXIMATE UTILITY LOCATIONS. THE LOCATION OF THESE UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES. IF UTILITIES ARE DAMAGED, HE SHALL REPLACE THEM AT HIS OWN COST TO THE OWNER, AND TO THE SATISFACTION OF THE RESPECTIVE UTILITY COMPANY. BECAUSE THE EXISTING UTILITIES MAY NOT BE IDENTIFIED, IT WILL BE NECESSARY THAT THE CONTRACTOR WORK CLOSELY WITH THE RESPECTIVE UTILITY COMPANY.

STORM WATER POLLUTION PREVENTION PLAN

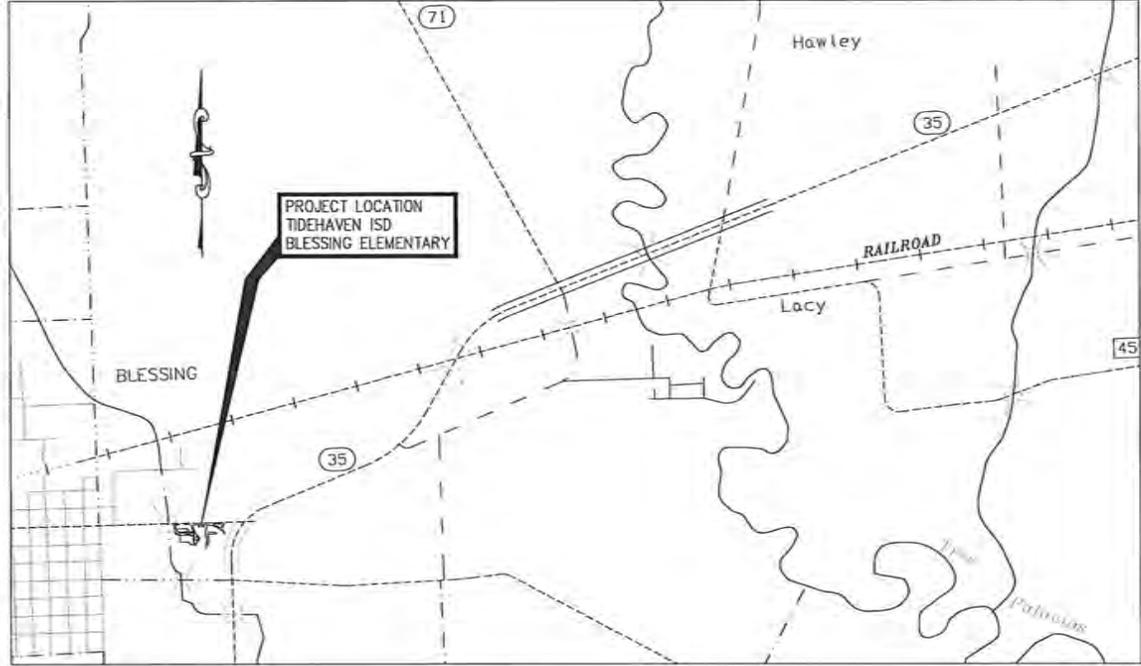
EXCEPT FOR SMALL EROSION MEASURES AND CONSTRUCTION PRACTICES TO PREVENT EROSION AT OR ADJACENT TO THE PROJECT SITE, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING SWAMP MEASURES TO COMPLY WITH THE STORM WATER POLLUTION PREVENTION REQUIREMENTS OF LOCAL, STATE, AND FEDERAL REGULATORY AGENCIES INCLUDING, BUT NOT LIMITED TO, THE TEXAS CONSERVATION ENVIRONMENTAL QUALITY ACT AND THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA). EROSION CONTROL SHALL BEGIN AT THE ONSET OF THE PROJECT PRIOR TO MOBILIZATION AND BE MAINTAINED THROUGHOUT THE ENTIRE DURATION OF THE MOBILIZATION PERIOD.

ALL PROJECTS FALL UNDER ONE OF THREE CATEGORIES OF SITE DISTURBANCE DEPENDING ON THE TOTAL AREA BEING DISTURBED. THE CONTRACTOR SHALL REVIEW TCEQ GENERAL PERMIT NUMBER 08-100000 RELATING TO DISTURBANCES FROM CONSTRUCTION RELATED ACTIVITIES AND IMPLEMENT ALL REQUIRED MEASURES.

PERMITTING

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS IMMEDIATELY FOLLOWING NOTICE OF AWARD AND ALL NECESSARY PERMITS SHALL BE INCLUDED WITHIN BASE BID. A TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) DRIVEWAY PERMIT SHALL ALSO BE INCLUDED WITHIN BASE BID. THE ENGINEER AND OWNER RESERVE THE RIGHT TO MAKE NECESSARY ADJUSTMENTS TO PLANS TO SATISFY ANY UNFORSEEN ISSUES THAT MAY ARISE FROM APPLICABLE PERMIT AGENCIES.

TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT CONSTRUCTION



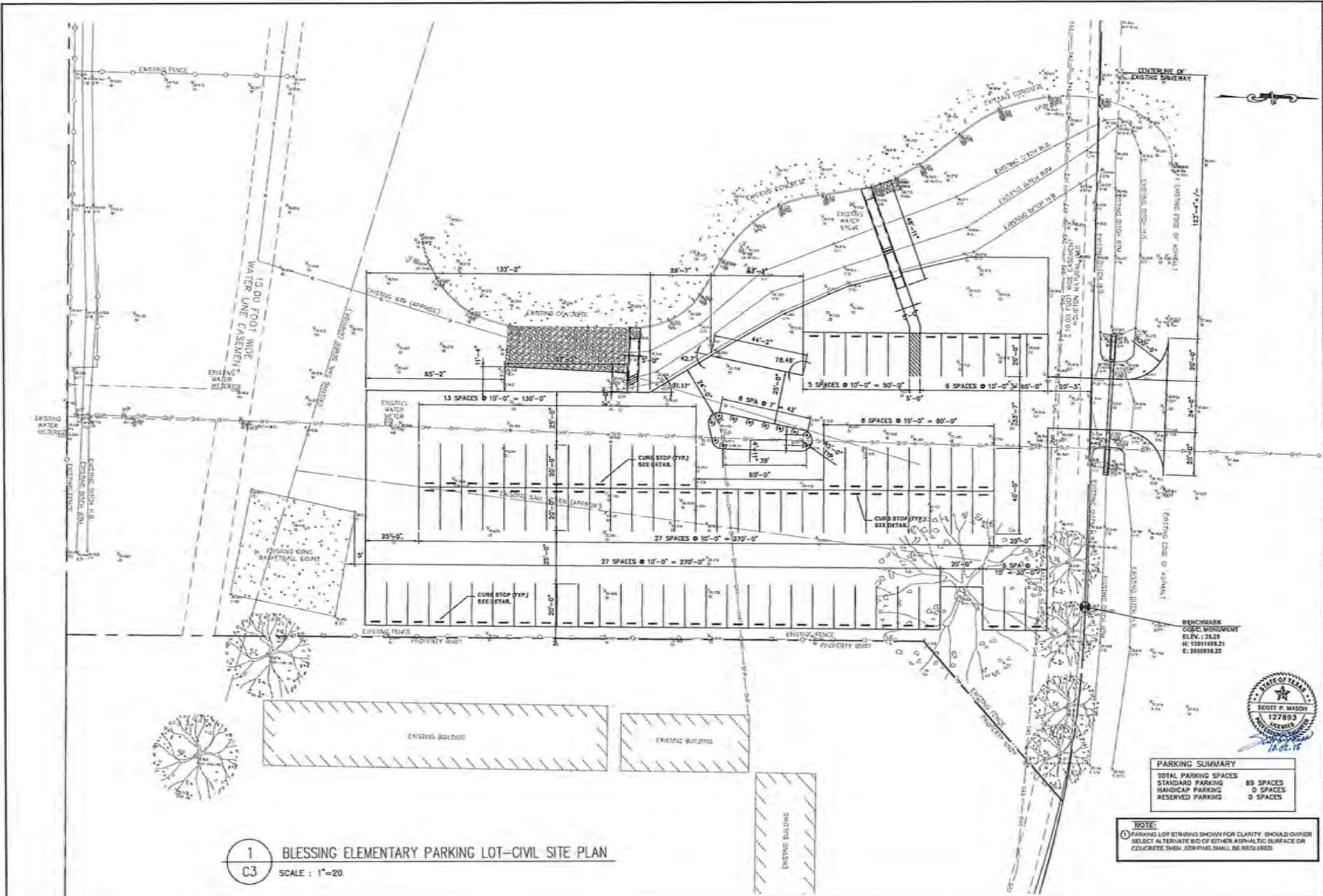
1 PROJECT VICINITY MAP
C1.0

DRAWING INDEX:

C1.0	COVER SHEET & NOTES
C2.1	BLESSING ELEMENTARY DEMOLITION PLAN
C2.1	BLESSING ELEMENTARY PARKING LOT SITE PLAN
C4.1	BLESSING ELEMENTARY PARKING LOT GRADING PLAN
C2.1	STANDARD DETAILS
C2.2	STANDARD DETAILS



Texas Registered Engineering Firm P-4118		DATE	
G & W ENGINEERS, INC.		DATE	
REGISTERED PROFESSIONAL ENGINEER		DATE	
205 W. Live Oak St., Fort Worth, Texas 76102 (817) 335-4000		DATE	
1801 W. Live Oak St., Suite 200, Fort Worth, Texas 76114 (817) 335-7100		DATE	
TIDEHAVEN ISD - BLESSING ELEMENTARY		DATE	
PARKING LOT CONSTRUCTION		DATE	
MATAGORDA COUNTY, TEXAS		DATE	
COVER SHEET AND NOTES		DATE	
TIDEHAVEN ISD		DATE	
PO Box 179		DATE	
Fort Worth, Texas 76140		DATE	
974-661-4320		DATE	
PROJECT NO. 1438.025		DATE	
SCALE: AS SHOWN		DATE	
DWG. BY: SW		DATE	
CHK. BY: SW		DATE	
DATE: 10/02/18		DATE	
SHT. NO. C1.0		DATE	



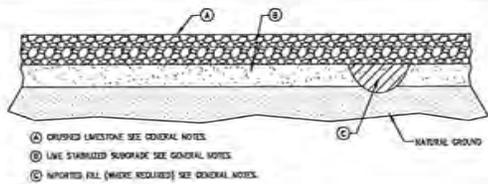
1 BLESSING ELEMENTARY PARKING LOT-CIVIL SITE PLAN
 C3 SCALE: 1"=20'

PARKING SUMMARY	
TOTAL PARKING SPACES	89
STANDARD PARKING	89 SPACES
HANDICAP PARKING	0 SPACES
RESERVED PARKING	0 SPACES

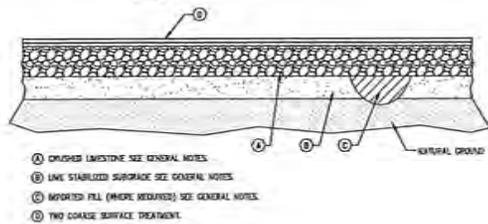
NOTE:
 ① PARKING LOT STRIPING SHOWN FOR CLARITY. SHOULD OWNER SELECT ALTERNATE BID OF EITHER ASPHALTIC SURFACE OR CONCRETE THEN STRIPING SHALL BE REQUIRED.



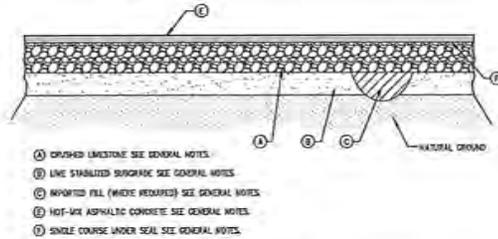
TIDEHAVEN ISD - BLESSING ELEMENTARY PARKING LOT CONSTRUCTION MATAGORDA COUNTY, TEXAS PARKING LOT - CIVIL SITE PLAN	
PROJECT NO. 1438.025	SCALE: 1" = 20' DWG. BY: DJS CHK. BY: SM DATE: 10-02-18 SHE. NO.: C3.1
TIDEHAVEN ISD PO Box 129 El Molino, Texas 77440 979-843-4300	G & W ENGINEERS, INC. SURVEYING PLANNING 205 W. Live Oak St., Fort Worth, Texas 77109 (817)552-4088 1802 TRL St., Suite 250 Bay City Texas 77414 (979) 829-1100
Texas Registered Engineer, Exp. P-04108	DATE: 10-02-18 APPROVED FOR CONSTRUCTION BY: DHC



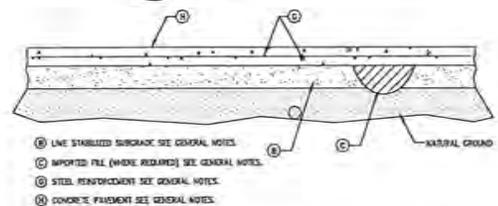
1 LIMESTONE PARKING SECTION
 C5.2 SCALE : N.T.S



2 TWO COARSE SURFACE
 C5.2 SCALE : N.T.S



3 SINGLE COARSE SURFACE
 C5.2 SCALE : N.T.S



4 CONCRETE PARKING SURFACE
 C5.2 SCALE : N.T.S



PREP AND SUBGRADE

- STRIP AND REMOVE ALL VEGETATION, LOOSE TOPSOIL, TREES AND ROOTS WITHIN THE CONSTRUCTION AREA FOR A DEPTH OF AT LEAST SIX(6) INCHES, OR UNTIL BOTTOM OF EXISTING TOPSOIL LAYER IS REACHED. REMOVE ALL STUMPS, ROOTS, ECT. TO A DEPTH OF AT LEAST ONE(1) FOOT BELOW THE EXISTING GROUND SURFACE.
- SUBGRADE PREPARATION: PRIOR TO PLACEMENT OF IMPORTED FILL, SCARIFY THE AREAS TO BE FILLED TO A MINIMUM DEPTH OF 9-INCHES TO BOND THE EXISTING & NEW MATERIALS. IMPORTED FILL MATERIALS, WHEN REQUIRED TO ACHIEVE FINAL SUBGRADE ELEVATION, SHALL BE CHOSEN THAT EXHIBIT SIMILAR CLASSIFICATION AND PHYSICAL PROPERTIES AS THE ON-SITE SOILS. SAMPLES OF THE FILL MATERIAL SHALL BE MADE AVAILABLE TO THE OWNER'S TESTING LABORATORY 7 DAYS PRIOR TO PLACEMENT. SUBGRADE FILL, WHETHER IMPORTED OR EXCAVATED ON-SITE, SHALL BE PLACED IN 6" LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY (ASTM D698) AT A MOISTURE CONTENT WITHIN BETWEEN -2% DRY & +2% WET OF OPTIMUM.
- ONCE FINAL SUBGRADE ELEVATION HAS BEEN ACHIEVED, THE EXPOSED SUBGRADE SHALL BE PROOF-ROLLED WITH A PIECE OF EARTHWORK EQUIPMENT (MOTORIZED SCRAPER OR DUMP TRUCK WEIGHING AT LEAST 20 TONS) TO DETECT SOFT OR LOOSE ZONES OF MATERIAL. REMOVE ANY OBJECTIONABLE MATERIAL DETECTED BY THE PROOF ROLLING & REPLACE WITH COMPACTED FILL AS DESCRIBED IN NOTE 2 ABOVE.
- LIME STABILIZED SUBGRADE (TOP SIX (6) INCHES) SHALL BE STABILIZED IN ACCORDANCE WITH THE FOLLOWING:
 - SUBGRADE SOILS SHALL BE TREATED WITH LIME IN ACCORDANCE WITH TXDOT (2004) ITEM 260, OR MOST CURRENT. AFTER PROPER MIXING, THE TREATED SUBGRADE SHALL BE COMPACTED TO 95% STANDARD PROCTOR (ASTM D-698) AT A MOISTURE CONTENT BETWEEN OPTIMUM AND +3% OF OPTIMUM.
 - THE APPLICATION RATE FOR THE LIME IS ESTIMATED TO BE 5% BY DRY WEIGHT. THIS PERCENTAGE IS TYPICALLY EQUIVALENT TO ABOUT 30 LBS/SYD OF LIME PER 6" STABILIZED DEPTH. THE APPLICATION RATE FOR THE LIME SHALL BE VERIFIED BY THE OWNER'S TESTING LABORATORY AFTER THE FINAL GRADE HAS BEEN ACHIEVED AND ADJUSTMENTS IN THE APPLICATION RATE MAY BE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL ALLOW 96 HOURS FOR THIS TESTING TO BE PERFORMED.
 - TRAFFIC SHALL BE KEPT OFF OF THE TREATED SUBGRADE FOR 7 DAYS TO FACILITATE CURING. THE STABILIZED SUBGRADE IS NOT SUITABLE FOR HEAVY CONSTRUCTION TRAFFIC PRIOR TO PAVING.

LIMESTONE SURFACE:

- LIMESTONE PAVING SHALL BE CRUSHED LIMESTONE TYPE A, GRADE 2 PER TXDOT ITEM 247. COMPACT TO 95% STANDARD PROCTOR DENSITY (ASTM D698).

TWO COARSE SURFACE:

- TWO COARSE SURFACE TREATMENT: AC-15P OR CRS-2P FIRST COURSE - 0.35 GAL/SY TYPE PB GR3 @ 1.85 SY SECOND COURSE - 0.30 GAL/SY TYPE PB GR4 @ 1CY 1.30 SY

ASPHALT SURFACE:

- PRIME SHALL MEET THE REQUIREMENTS OF TXDOT (2004) ITEM 310 OR MOST CURRENT, MC-30 AEP OR APPROVED EQUAL.
- A SINGLE COURSE UNDERSEAL SHALL MEET THE REQUIREMENTS OF TXDOT (2004) ITEM 316. SEAL COAT WITH AC-15P AND #3 PRE-COATED AGGREGATE. WINTER APPLICATION SHALL UTILIZE CRS-2P.
- HOT MIX ASPHALTIC CONCRETE SURFACE COARSE SHALL BE PLANT MIXED, HOT LAID, TYPE D, FINE GRADED SURFACE COURSE, MEETING THE REQUIREMENTS OF TXDOT (2004) ITEM 340 OR MOST CURRENT, COMPACTION SHALL BE WITHIN AN AIR VOID RANGE OF 5% TO 9% CALCULATED BY USING THE MAXIMUM THEORETICAL GRAVITY MIX MEASURED BY TXDOT TEC-227-F. THE ASPHALTIC CEMENT MIXTURE WEIGHT SHALL BE WITHIN +5% ASPHALTIC CEMENT FROM THE JOB MIX DESIGN.

CONCRETE SURFACE:

- CONCRETE SHALL MEET THE REQUIREMENTS OF TXDOT (2004) ITEM 421 -HYDRAULIC CEMENT CONCRETE, CLASS A, WITH THE FOLLOWING MODIFICATIONS: MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI; SLUMP SHALL RANGE FROM 4 INCHES TO 6-1/2 INCHES AT THE POINT OF PLACEMENT.
- STEEL REINFORCEMENT SHALL MEET THE REQUIREMENTS OF ASTM #615 AND GRADE 60. SEE CHART BELOW.

PAVEMENT THICKNESS TABLE			
DESCRIPTION	SUBGRADE	PAVEMENT THICKNESS	REINFORCEMENT
LIMESTONE	6" LIME STABILIZED	5"	N/A
2 COARSE	6" LIME STABILIZED	N/A	N/A
ASPHALT (HMAC)	6" LIME STABILIZED	2"	N/A
CONCRETE	6" LIME STABILIZED	5"	#3 BARS @ 18" O.C.B.W

Texas Registered Engineering Firm F-04180
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TIDEHAVEN ISD - BLESSING ELEMENTARY
 PARKING LOT CONSTRUCTION
 MATAGORDA COUNTY, TEXAS
 STANDARD DETAILS

TIDEHAVEN ISD
 PO Box 129
 El Milton, Texas 77440
 979-943-4300

PROJECT NO. 143A-025
 SCALE: AS SHOWN
 DWG. BY: AC
 CHK. BY: SM
 DATE: 10-02-16
 SHT. NO. C5.2