

**CONTRACT DOCUMENTS
AND
CONSTRUCTION SPECIFICATIONS
FOR
ACTS COURT RETAINING
WALL PROJECT
FOR THE
CITY OF NORTH RICHLAND HILLS**



August 2024

**City of North Richland Hills
Public Works Department**

Project RFB 24-029

TABLE OF CONTENTS

SECTION I NRH PURCHASING GUIDANCE

SECTION II BIDDING DOCUMENTS

Notice to Bidders
Special Instructions to Bidders
Financial Statement
Liabilities and Net Worth
Experience Record
Equipment Schedule
Bid Form

- Bid Schedule
- Bid Unit Prices

SECTION III CONTRACTUAL DOCUMENTS

Standard Form of Construction Agreement
(Contract)
Performance Bond
Payment Bond
Maintenance Bond
Contractor's Release to City
Contractor's Affidavit of Final Payment

SECTION IV TECHNICAL SPECIFICATIONS

SECTION V SPECIAL PROVISIONS

SECTION VI GEOTECHNICAL REPORT



PURCHASING DEPARTMENT

REQUEST FOR BID

**24-029 ACTS COURT RETAINING
WALL PROJECT**

BIDS DUE: TUESDAY, SEPTEMBER 10, 2024

BY 2:00 P.M.

SECTION I

NRH PURCHASING GUIDANCE



PURCHASING DEPARTMENT

REQUEST FOR BID

**ST2301 ACTS COURT RETAINING
WALL PROJECT**

BIDS DUE TUESDAY, SEPTEMBER 10, 2024

BY 2:00 P.M.

Contents

INVITATION TO BID	3
GENERAL CONDITIONS	4
MINIMUM INSURANCE REQUIREMENTS.....	11
NON-COLLUSION AFFIDAVIT OF BIDDER.....	22
BID CERTIFICATION	23
COMPLIANCE WITH HOUSE BILL 1295.....	24
FOR DISADVANTAGED BUSINESS ENTERPRISES ONLY	25
CONFLICT OF INTEREST QUESTIONNAIRE.....	26
CONTRACT CHANGES GRID	29
CONFIDENTIALITY OF PROPRIETARY INFORMATION	30
SPECIFICATIONS.....	31

INVITATION TO BID

The City of North Richland Hills is accepting sealed bids from all interested parties for:

- Bid Number: 24-029
- Bid Type: REQUEST FOR BID
- Bid Name: ACTS COURT RETAINING WALL PROJECT
- Bid Due Date: Tuesday, September 10, 2024
- Bid Due Time: 2:00 P.M. Central Time
- Pre-Bid Conference: 10:00 A.M. Central Time, Tuesday, August 27, 2024
- Location: Development Services Public Conference Room, 4301 City Point Dr, North Richland Hills, TX 76180
- Deadline for questions:
 - Date: Friday, September 06,
 - 2024 Time: 12:00 P.M. Central Time

DOCUMENTS MUST BE SUBMITTED ELECTRONICALLY VIA:

www.publicpurchase.com

No oral explanation in regards to the meaning of the specifications will be made, and no oral instructions will be given after the pre-bid meeting and before the award of the contract. Requests from interested vendors for additional information or interpretation of the information included in the specifications should be directed in writing as a question related to this bid on Public Purchase and the question will be answered on Public Purchase. All addendums will also be posted to Public Purchase. It will be the vendor's responsibility to check all information related to this bid on Public Purchase before submitting a response.

All bid responses must be turned in complete from cover page to end of Section 2 – pages in order. Should any page not be filled out (in Section 2 based on Qualification of Bidders), that page is still required to be a part of the bid response; however, Contractor to write ‘to be provided with Contract Documents if awarded to the construction contract.’

The City of North Richland Hills reserves the right to reject in part or in whole all bids submitted, and to waive any technicalities for the best interest of the City of North Richland Hills.

GENERAL CONDITIONS

In submitting this bid, the Bidder understands and agrees to be bound by the following terms and conditions. These terms and conditions shall become a part of the purchase order or contract and will consist of the invitation to bid, specifications, the responsive bid and the contract with attachments, together with any additional documents identified in the contract and any written change orders approved and signed by a city official with authority to do so. All shall have equal weight and be deemed a part of the entire contract. If there is a conflict between contract documents, the provision more favorable to the City shall prevail.

1. **BID TIME**

It shall be the responsibility of each Bidder to ensure his/her bid are submitted to the Public Purchase website on or before **2:00 P.M. Tuesday, September 10, 2024**. The official time shall be determined by the Public Purchase Website. The Public Purchase Website will NOT allow bid responses to be uploaded after the closing time.

All attached bid documents are to be returned completely filled out, totaled, and signed. The City of North Richland Hills will not accept any bid documents other than the attached.

2. **WITHDRAWING BIDS/PROPOSALS/QUOTES**

Bids may be withdrawn at any time prior to the official opening; request for non-consideration of bids must be made in writing to the Purchasing Manager and received prior to the time set for opening bids. The bidder warrants and guarantees that his/her bid has been carefully reviewed and checked and that it is in all things true and accurate and free of mistakes. Bidder agrees that a bid price may not be withdrawn or canceled by the bidder for a period of ninety (90) days following the date designated for the receipt of bids.

3. **IRREGULAR BIDS/PROPOSALS/QUOTES**

Bids will be considered irregular if they show any omissions, alterations of form, additions, or conditions not called for, unauthorized alternate bids, or irregularities of any kind. However, the City of North Richland Hills reserves the right to waive any irregularities and to make the award in the best interest of the City.

4. **REJECTION/DISQUALIFICATION**

Bidders will be disqualified and/or their bids rejected, among other reasons, for any of the specific reasons listed below:

- a) Bid received after the time set for receiving bids as stated in the advertisement;
- b) Reason for believing collusion exists among the Bidders;
- c) Bid containing unbalanced value of any item; bid offering used or reconditioned equipment;
- d) Where the bidder, sub-contractor or supplier is in litigation with the City of North Richland Hills or where such litigation is contemplated or imminent;
- e) Uncompleted work which in the judgment of the City will prevent or hinder the prompt completion of additional work, or having defaulted on a previous contract;
- f) Lack of competency as revealed by reference checks, financial statement, experience and equipment, questionnaires, or qualification statement;
- g) Bid containing special conditions, clauses, alterations, items not called for or irregularities of any kind, which in the Owner's opinion may disqualify the Bidder.

However, the City of North Richland Hills reserves the right to waive any irregularities and to make the award in the best interest of the City of North Richland Hills.

5. BID EVALUATION

Award of bid, if it be awarded, will be made to the lowest responsible bidder or may be awarded to the bidder that offers the goods and/or services at the *best value* for the City (Texas Local Government Code, 252.043). In determining the best value the City will consider the following:

- a) The purchase price; terms and discounts; delivery schedule;
- b) The reputation of the bidder and of the bidder's goods or services;
- c) The quality of the bidders' goods or services;
- d) The extent to which the bidder's goods or services meet the City specifications and needs;
- e) The bidder's past relationship with the City;
- f) Total long term cost to the city to acquire the bidder's goods or services;
- g) Any relevant criteria specifically listed in the specifications;
- h) Compliance with all State and local laws, General Conditions and Specifications;
- i) Results of testing, if required;
- j) Warranty and/or guarantee, maintenance requirements and performance data of the product requested;
- k) City's evaluation of the bidder's ability to perform to specifications.

6. AWARD OF BID

The bid award will be made within sixty (60) days after the opening of bids. No award will be made until after investigations are made as to the responsibilities of the best bidder.

The City of North Richland Hills reserves the right to award bids whole or in part when deemed to be in the best interest of the City. Bidder shall state on bid form if their bid is "all or none", otherwise it shall be considered as agreeing to this section.

Information contained in submitted bid documents shall not be available for inspection until after the award has been made by the City Council. Requests for this information must be submitted in writing.

7. ASSIGNMENT

The successful bidder may not assign his/her rights and duties under an award without the written consent of the North Richland Hills City Manager. Such consent shall not relieve the assignor of liability in the event of default by his assignee.

8. SUBSTITUTIONS/EXCEPTIONS

Exceptions/variations from the specifications may be acceptable provided such variations, in each instance, is noted and fully explained in writing and submitted with bid. NO substitutions or changes in the specifications shall be permitted after award of bid without prior written approval by the Purchasing Manager.

9. DELIVERY/ACCEPTANCE

The delivery date is an important factor of this bid and shall be considered during the evaluation process. The City considers delivery time the period elapsing from the time the order is placed until the City receives the order at the specified delivery location. All

material shall be delivered F.O.B. City of North Richland Hills to the address specified at the time of order. Acceptance by the City of North Richland Hills of any delivery shall not relieve the Contractor of any guarantee or warranty, expressed or implied, nor shall it be considered an acceptance of material not in accordance with the specifications thereby waiving the City of North Richland Hills right to request replacement of defective material or material not meeting specifications.

10. NOTICE OF DELAYS

Whenever the contractor encounters any difficulty which is delaying or threatens to delay timely performance, written notice shall immediately be given to the Purchasing Manager, stating all relevant information. Such notice shall not in any way be construed as a waiver by the City of any rights or remedies to which it is entitled by law. Delays in performance and/or completion may result in cancellation of agreement.

11. SALES TAX

The City of North Richland Hills is exempt from Federal Excise and State sales tax; therefore tax must not be added to bid.

12. TIE BIDS

In the event of a tie bid, State Law provides the bid or contract shall be awarded to the local bidder. In cases where a local bidder is not involved, tie bids shall be awarded by drawing lots at the City Council meeting, or as otherwise directed by the Mayor.

13. BRAND NAME OR EQUAL

If items are identified by a "brand name" description, such identification is intended to be descriptive, not restrictive, and is to indicate the quality and characteristics of products that will be satisfactory. As used in this clause, the term "brand name" includes identification of products by make and model.

Such products must be clearly identified in the bid as an equal product and published specifications of the equal products offered must be included with the bid reply.

Bids offering equal products will be considered for award if determined by the Purchasing Manager and the user department to be equal in all material respects to the brand name products referenced. The decision of acceptable "equal" items or variations in the specifications will solely be the City of North Richland Hills. Unless the bidder clearly indicates in his/her bid that he is offering an "equal" product, his bid shall be considered as offering the brand name product referenced in the invitation for bids.

14. REFERENCES

A minimum of three (3) references, preferably located within the Dallas/Fort Worth Metroplex, must be submitted with each bid. Company name, contact and phone number must be included with each reference.

15. PROHIBITION AGAINST PERSONAL FINANCIAL INTEREST IN CONTRACTS

No employee of the City of North Richland Hills shall have a direct or indirect financial interest in any proposed or existing contract, purchase, work, sale or service to or by the City (CMA-074, Standards of Conduct, Section IV).

16. TERMINATION/NON PERFORMANCE

Continuing non-performance of the vendor in terms of Specifications shall be a basis for the termination of the contract by the City. The City of North Richland Hills reserves the right to enforce the performance of this contract in any manner prescribed by law or deemed to be in the best interest of the City in the event of breach or default of this contract. The City reserves the right to terminate the contract immediately in the event the successful bidder fails to 1.) Meet delivery schedules or, 2.) Otherwise not perform in accordance with these specifications.

Breach of contract or default authorizes the City to award to another bidder, and/or purchase elsewhere and charge the full increase in cost and handling to the defaulting successful bidder.

The contract may be terminated by either party upon written thirty (30) days' notice prior to cancellation without cause.

17. ATTORNEYS FEES

Neither party to this contract shall be entitled to attorney fees for any matter arising under this contract, whether for additional work, breach of contract, or other claim for goods, services, or compensation. All claims for attorney's fees are hereby WAIVED.

18. INDEMNITY

City shall not be liable or responsible for, and shall be saved and held harmless by Contractor from and against any and all suits, actions, losses, damages, claims, or liability of any character, type, or description, including claims for copyright and patent infringement, and including all expenses of litigation, court costs, and attorney's fees for injury or death to any person, or injury to any property, received or sustained by any person or persons or property, arising out of, or occasioned by, directly or indirectly, the performance of Contractor under this agreement, including claims and damages arising in part from the negligence of City, without; however, waiving any governmental immunity available to the CITY under Texas law and without waiving any defenses of the parties under Texas law. The provisions of this indemnification are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

It is the expressed intent of the parties to this Agreement that the indemnity provided for in this section is an indemnity extended by Contractor to indemnify and protect City from the consequences of City's own negligence, provided, however, that the indemnity provided for in this section shall apply only when the negligent act of City is a contributory cause of the resultant injury, death, or damage, and shall have no application when the negligent act of City is the sole cause of the resultant injury, death, or damage, unmixed with the legal fault of another person or entity. Contractor further agrees to defend, at its own expense, and on behalf of City and in the name of City, any claim or litigation brought in connection with any such injury, death, or damage.

The Contractor will secure and maintain Contractual Liability insurance to cover this indemnification agreement that will be primary and noncontributory as to any insurance maintained by the City for its own benefit, including self-insurance.

19. PERFORMANCE AND PAYMENT BONDS

In the event the total contract amount exceeds \$100,000, the Contractor shall be required to execute a performance bond in the amount of one hundred (100) percent of the total contract price; if the total contract amount exceeds \$50,000 the contractor shall be required to execute a payment bond in the amount of one hundred (100) percent of the total contact price, each in standard forms for this purpose, guaranteeing faithful performance of work and guaranteeing payment to all persons supply labor and materials or furnishing any equipment in the execution of the contract. It is agreed that this contract shall not be in effect until such performance and payment bonds are furnished and approved by the City of North Richland Hills. No exceptions to this provision allowed.

Unless otherwise approved in writing by the City of North Richland Hills, the surety company underwriting the bonds shall be acceptable according to the latest list of companies holding certificates of authority from the Secretary of the Treasury of the United States.

Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and current copy of their power of attorney.

20. INTERLOCAL AGREEMENT

Successful bidder agrees to extend prices and terms to all entities who have entered into or will enter into joint purchasing interlocal cooperation agreements with the City of North Richland Hills.

Yes, we agree No, we do not agree

21. ELECTRONIC PROCUREMENT

The City of North Richland Hills has adopted policies and procedures complying with Local Government Code Section 252.0415, Section 271.906 and Section 2155.062. The City of North Richland Hills may receive submittals in electronic form in response to procurement requests. However, a bid that is submitted non-electronically by the due date and time will be accepted and then entered electronically by Purchasing after the bid opening.

22. COMPLIANCE WITH SB 89:

Vendor agrees per HB 89 of the 85th Texas Legislative Session, and in accordance with Chapter 2270 of the Texas Government Code, vendor has not and shall not boycott Israel at any time while providing products or services to the City of North Richland Hills.

Yes, we agree No, we do not agree

23. COMPLIANCE WITH SB 252:

Vendor agrees per SB 252 of the 85th Texas Legislative Session, and in accordance with Chapter 2252 of the Texas Government Code, vendor shall not do business with Iran, Sudan or a foreign terrorist organization while providing products or services to the City of North Richland Hills.

Yes, we agree No, we do not agree *

* By selecting no, vendor certifies that it is affirmatively excluded from the federal sanctions regime by the United States government and is not subject to the contract prohibition under Section 2252.154 of the Texas Government Code. Vendor shall provide sufficient documentation to the City of such exclusion prior to award of any contract for goods or services.

24. ETHICS AND COMPLIANCE POLICY

The City's Ethics and Compliance Policy can be found at The City of North Richland Hills Purchasing Division webpage - Or you may request a copy from the Purchasing Division. Acknowledgment - The City of North Richland Hills' Internal Ethics and Compliance Policy has been made available to me. I understand the expectations of ethical behavior and compliance with the law, and agree to adhere to the City's ethics policies.

<https://www.nrhtx.com/DocumentCenter/View/389/Code-of-Ethics---PDF?bidId>

I agree

I do not agree

25. COMPLIANCE WITH CHAPTER 2274

Pursuant to Chapter 2274, Texas Government Code, Prohibition on Contracts with Companies Boycotting Certain Energy Companies, as enacted by S.B. 13, 87th Legislature, the City of North Richland Hills is prohibited from using public funds to contract with a for-profit Company as defined by Government Code 809.01 who boycotts energy companies. If Seller has more than 10 employees and this Contract has a value of \$100,000 or more, by signing this agreement/contract, the Seller verifies that it does not discriminate against energy companies and will not discriminate during the term of the Contract. By submitting a bid response, Seller certifies compliance with these requirements.

26. COMPLIANCE WITH CHAPTER 2274

Pursuant to Chapter 2274, Texas Government Code, Prohibition on Contracts with Companies that Discriminate Against Firearm and Ammunition Industries, as enacted by S.B. 19, 87th Legislature, the City of North Richland Hills is prohibited from using public funds to contract with a for-profit Company as defined by Chapter 2274.001, who discriminates against firearm and ammunition industries. If Seller has at least 10 full-time employees and this Contract has a value of \$100,000 or more, by signing this agreement/contract, the Seller agrees that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the Agreement. By submitting a bid response, Seller certifies compliance with these requirements. This section does not apply if Seller is a sole-source provider.

27. DEPARTMENT OF TRANSPORTATION (TXDOT) RELATED BIDS

"The City of North Richland Hills, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated

against on the grounds of race, color, or national origin in consideration for an award.” Due care and diligence has been used in preparation of this information, and it is believed to be substantially correct. However, the responsibility for determining the full extent of the exposure and the verification of all information presented herein shall rest solely with the bidder. The City of North Richland Hills and its representatives will not be responsible for any errors or omissions in these specifications, nor for the failure on the part of the proposer to determine the full extent of the exposures.

MINIMUM INSURANCE REQUIREMENTS

Contractors performing work on City property or public right-of-way for the City of North Richland Hills shall provide the City a certificate of insurance evidencing the coverages and coverage provisions identified herein. Contractors shall provide the City evidence that all subcontractors performing work on the project have the same types and amounts of coverages as required herein or that the subcontractors are included under the contractor's policy. The City, at its own discretion, may require a certified copy of the policy.

All insurance companies and coverages must be authorized by the Texas Department of Insurance to transact business in the State of Texas and must be acceptable to the City of North Richland Hills.

The following guidelines are designed to show the most common minimum insurance requirements for standard contracts and agreements with the City. Non-standard agreements may require additional coverage and/or higher limits. Coverage Amounts required for non-standard agreements to be determined by the department and the City Manager.

General Contracts for Services:

Service work, and general maintenance agreements, etc.

- Commercial General Liability
- Automobile Liability
- Workers' Compensation & Employer's Liability
- Payment and Maintenance Bond (if applicable)

See Exhibit A for insurance language to include in general contracts for services

Professional Services:

Consultants or other professionals including: accountants, attorneys, architects, engineers, medical professionals, medical services, etc.

- Commercial General Liability
- Automobile Liability
- Workers' Compensation & Employer's Liability
- Professional Liability or equivalent Errors & Omissions (appropriate to Contractor's profession)

See Exhibit B for insurance language to include in professional services contracts

Construction:

Building contractors for construction projects.

- Commercial General Liability
- Automobile Liability
- Workers' Compensation & Employer's Liability
- Professional Liability (if applicable for design function)

- Builder's Risk (required for new or existing property under construction)
- Payment and Maintenance Bond (if applicable)

See Exhibit C for insurance language to include in construction contracts

Information Technology/Network Access Services:

For the purchasing and installation of technology-related software and equipment or contracting services that support, maintain or interact with the CITY'S technology systems.

- Commercial General Liability
- Automobile Liability
- Workers' Compensation & Employer's Liability
- Professional Liability (if applicable)
- Cyber Liability

See Exhibit D for insurance language to include in IT/network access services agreements

Standard Minimum Required Insurance Coverage

Insurance Type	Limit	Provision
Commercial General Liability	\$1,000,000 Each Occurrence \$2,000,000 Aggregate	City to be listed as additional insured and provided 30-day notice of cancellation or material change in coverage
	For Construction Projects: \$2,000,000 Each Occurrence \$4,000,000 Aggregate	
Automobile Liability	\$1,000,000 Combined Single Limit	
Workers' Compensation	Texas Statutory Requirements	Waiver of subrogation in favor of City
Employer's Liability	\$500,000 injury - each accident \$500,000 disease - each employee \$500,000 disease - policy limit	
Professional Liability (or equivalent Errors & Omissions coverage appropriate to the Contractor's profession)	\$1,000,000 Each Occurrence	
Builder's Risk (required for new or existing property under construction)	100% Value	
Cyber Liability	\$1,000,000 Each Occurrence	
Payment/Maintenance Bonds	In accordance with Chapter 2253 of the Texas Government Code	

EXHIBIT A

GENERAL CONTRACTS FOR SERVICES

For the duration of this Agreement, CONTRACTOR shall maintain the following minimum insurance which shall protect CONTRACTOR, its subcontractors, its sub-consultants and CITY from claims for injuries, including accidental death, as well as from claims for property damage which may arise from the performance of work under this Agreement.

A. Workers' Compensation and Employer's Liability Insurance:

Workers' Compensation	Texas Statutory
Employer's Liability	\$500,000 injury - each accident \$500,000 disease - each employee \$500,000 disease - policy limit

B. Commercial General Liability:

On an "occurrence" basis, including, property damage, bodily injury, products and completed operations and personal & advertising injury with limits no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.

C. Automobile Liability:

Covering any auto, or if CONTRACTOR has no owned autos, covering hired and non-owned autos with a Combined Single Limit no less than \$1,000,000 per accident for bodily injury and property damage.

Insurance limits can be met with a combination of primary and excess/umbrella coverage.

The CITY, its officers, officials and employees are to be covered as "Additional Insured" on the commercial general liability and automobile liability policies as respects liability arising out of activities performed by or on behalf of the CONTRACTOR.

A waiver of subrogation in favor of the CITY, its officers, officials and employees shall be contained in the Workers' Compensation insurance policy.

Policies of insurance shall not be cancelled non-renewed, terminated, or materially changed unless and until thirty (30) days' notice has been given to CITY.

All insurance shall be issued by responsible insurance companies eligible to do business in the State of Texas and having an A.M. Best Financial rating of A- VI or better.

CONTRACTOR shall furnish the CITY certificates of insurance affecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificates of Insurance must be submitted on a form approved by the Texas Department of Insurance.

Payment and Maintenance Bonds (if applicable): CONTRACTOR shall procure Payment and Maintenance Bonds as applicable and in accordance with Chapter 2253 of the Texas Government Code.

EXHIBIT B

PROFESSIONAL SERVICES

For the duration of this Agreement, CONTRACTOR shall maintain the following minimum insurance which shall protect CONTRACTOR, its subcontractors, its sub-consultants and CITY from claims for injuries, including accidental death, as well as from claims for property damage which may arise from the performance of work under this Agreement.

A. Workers' Compensation and Employer's Liability Insurance:

Workers' Compensation	Texas Statutory
Employer's Liability	\$500,000 injury - each accident
	\$500,000 disease - each employee
	\$500,000 disease - policy limit

B. Commercial General Liability:

On an "occurrence" basis, including, property damage, bodily injury, products and completed operations and personal & advertising injury with limits no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.

C. Automobile Liability:

Covering any auto, or if CONTRACTOR has no owned autos, covering hired and non-owned autos with a Combined Single Limit no less than \$1,000,000 per accident for bodily injury and property damage.

D. Professional Liability (Errors and Omissions)

CONTRACTOR shall maintain Professional Liability (or equivalent) errors and omissions insurance appropriate to the CONTRACTOR'S profession, describe type of services, with a limit no less than \$1,000,000 per occurrence or claim.

Insurance limits can be met with a combination of primary and excess/umbrella coverage.

The CITY, its officers, officials and employees are to be covered as "Additional Insured" on the commercial general liability and automobile liability policies as respects liability arising out of activities performed by or on behalf of the CONTRACTOR.

A waiver of subrogation in favor of the CITY, its officers, officials and employees shall be contained in the Workers' Compensation insurance policy.

Policies of insurance shall not be cancelled non-renewed, terminated, or materially changed unless and until thirty (30) days' notice has been given to CITY.

All insurance shall be issued by responsible insurance companies eligible to do business in the State of Texas and having an A.M. Best Financial rating of A- VI or better.

CONTRACTOR shall furnish the CITY certificates of insurance affecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificates of Insurance must be submitted on a form approved by the Texas Department of Insurance.

EXHIBIT C

CONSTRUCTION

For the duration of this Agreement, CONTRACTOR shall maintain the following minimum insurance which shall protect CONTRACTOR, its subcontractors, its sub-consultants and CITY from claims for injuries, including accidental death, as well as from claims for property damage which may arise from the performance of work under this Agreement.

A. Workers' Compensation and Employer's Liability Insurance:

Workers' Compensation	Texas Statutory
Employer's Liability	\$500,000 injury - each accident
	\$500,000 disease - each employee
	\$500,000 disease - policy limit

B. Commercial General Liability:

On an "occurrence" basis, including, property damage, bodily injury, products and completed operations and personal & advertising injury with limits no less than \$2,000,000 per occurrence and \$4,000,000 aggregate.

C. Automobile Liability:

Covering any auto, or if CONTRACTOR has no owned autos, covering hired and non-owned autos with a Combined Single Limit no less than \$1,000,000 per accident for bodily injury and property damage.

D. Professional Liability (if contract involves design work)

CONTRACTOR shall maintain Professional Liability (or equivalent) errors and omissions insurance appropriate to the CONTRACTOR'S profession, with a limit no less than \$1,000,000 per occurrence or claim

E. Builder's Risk

CONTRACTOR shall maintain Builder's Risk Insurance providing All-Risk (Special Perils) coverage in an amount equal to one hundred percent (100%) of the completed value of the project in question and no coinsurance penalty provisions. The policy shall list the CITY as loss payee as their interests may appear.

Insurance limits can be met with a combination of primary and excess/umbrella coverage.

The CITY, its officers, officials and employees are to be covered as "Additional Insured" on the commercial general liability and automobile liability policies as respects liability arising out of activities performed by or on behalf of the CONTRACTOR.

A waiver of subrogation in favor of the CITY, its officers, officials and employees shall be contained in the Workers' Compensation insurance policy.

Policies of insurance shall not be cancelled non-renewed, terminated, or materially changed unless and until thirty (30) days' notice has been given to CITY.

All insurance shall be issued by responsible insurance companies eligible to do business in the State of Texas and having an A.M. Best Financial rating of A- VI or better.

CONTRACTOR shall furnish the CITY certificates of insurance affecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificates of Insurance must be submitted on a form approved by the Texas Department of Insurance.

Payment and Maintenance Bonds (if applicable): CONTRACTOR shall procure Payment and Maintenance Bonds as applicable and in accordance with Chapter 2253 of the Texas Government Code.

EXHIBIT D

INFORMATION TECHNOLOGY/NETWORK ACCESS SERVICES

For the duration of this Agreement, CONTRACTOR shall maintain the following minimum insurance which shall protect CONTRACTOR, its subcontractors, its sub-consultants and CITY from claims for injuries, including accidental death, as well as from claims for property damage which may arise from the performance of work under this Agreement.

A. Workers' Compensation and Employer's Liability Insurance:

Workers' Compensation	Texas Statutory
Employer's Liability	\$500,000 injury - each accident \$500,000 disease - each employee \$500,000 disease - policy limit

B. Commercial General Liability:

On an "occurrence" basis, including, property damage, bodily injury, products and completed operations and personal & advertising injury with limits no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.

C. Automobile Liability:

Covering any auto, or if CONTRACTOR has no owned autos, covering hired and non-owned autos with a Combined Single Limit no less than \$1,000,000 per accident for bodily injury and property damage.

D. Professional Liability (Errors and Omissions)

If appropriate for CONTRACTOR'S work, CONTRACTOR shall maintain Professional Liability (or equivalent) errors and omissions insurance appropriate to the CONTRACTOR'S profession, with a limit no less than \$1,000,000 per occurrence or claim.

E. Cyber Liability

CONTRACTOR shall maintain cyber liability (or equivalent) insurance. Such insurance shall provide limits of no less than \$1,000,000 per occurrence. Coverage shall be sufficiently broad to respond to the duties and obligations as undertaken by the CONTRACTOR.

Insurance limits can be met with a combination of primary and excess/umbrella coverage.

The CITY, its officers, officials and employees are to be covered as "Additional Insured" on the commercial general liability and automobile liability policies as respects liability arising out of activities performed by or on behalf of the CONTRACTOR.

A waiver of subrogation in favor of the CITY, its officers, officials and employees shall be contained in the Workers' Compensation insurance policy.

Policies of insurance shall not be cancelled non-renewed, terminated, or materially changed unless and until thirty (30) days' notice has been given to CITY.

All insurance shall be issued by responsible insurance companies eligible to do business in the State of Texas and having an A.M. Best Financial rating of A- VI or better.

CONTRACTOR shall furnish the CITY certificates of insurance affecting coverage required. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificates of Insurance must be submitted on a form approved by the Texas Department of Insurance.

Other Insurance Requirements - To Be Included As Applicable

CONTRACTORS who serve or distribute liquor:

Liquor Legal Liability - CONTRACTOR shall maintain Liquor Legal Liability coverage covering the selling, serving, or furnishing of any alcoholic beverage performed by CONTRACTOR, or on its behalf. Such insurance shall provide limits of no less than \$1,000,000.00 per occurrence.

CONTRACTORS who hold long-term leases:

Property Insurance – LESSEE shall maintain Property Insurance against all risks of loss to any improvements or betterments, at full replacement cost with no coinsurance penalty provision. The CITY shall be added as a Loss Payee to the policy as interests may appear.

CONTRACTOR's whose work involves chemicals or otherwise has a pollution exposure:

Contractors' Pollution Liability (or equivalent) – CONTRACTOR shall maintain Contractors' Pollution Liability with limits no less than \$1,000,000.00 per occurrence or claim and \$2,000,000 policy aggregate.

CONTRACTORS who take possession of City or public vehicles (e.g., parking lots operators, auto repair shops):

Garage Keepers Liability (or equivalent) – CONTRACTOR shall maintain Garage Keepers Liability or equivalent coverage for applicable property while in the CONTRACTOR'S care, custody or control. Coverage must include Comprehensive and Collision coverage. Such insurance shall provide limits equal to no less than the total value of CITY or public property in the CONTRACTOR'S care, custody and control at any one time.

CONTRACTORS who own and operate unmanned aircraft (drones):

UAS Liability (or equivalent) - CONTRACTOR shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damage to property which may arise from or in connection with the ownership, maintenance or use of Unmanned Aerial Systems (Drones). Coverage must include limits no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.

A PURCHASE ORDER WILL NOT BE ISSUED WITHOUT EVIDENCE OF INSURANCE.

NON-COLLUSION AFFIDAVIT OF BIDDER

State of _____ County of _____

_____ verifies that:
(Name)

- (1) He/She is owner, partner, officer, representative, or agent of _____, has submitted the attached bid: (Company Name)
- (2) He/She is fully informed in respect to the preparation, contents and circumstances in regard to attached bid;
- (3) Neither said bidder nor any of its officers, partners, agents or employees has in any way colluded, conspired or agreed, directly or indirectly with any other bidder, firm or person to submit a collusive or sham bid in connection with attached bid and the price or prices quoted herein are fair and proper.

SIGNATURE

PRINTED NAME

Subscribed and sworn to before me this
_____ Day of _____ 20__.

NOTARY PUBLIC in and for
_____ County, Texas.

My commission expires: _____

THIS FORM MUST BE COMPLETED, NOTARIZED AND SUBMITTED WITH BID

BID CERTIFICATION

The Undersigned, in submitting this bid, represents and certifies:

- a. He/she is fully informed regarding the preparation, contents and circumstances of the attached bid;
- b. He/she proposes to furnish all equipment/service at the prices quoted herein and bid is in strict accordance with the conditions and specifications stated herein;
- c. There will be at no time a misunderstanding as to the intent of the specifications or conditions to be overcome or pleaded after the bids are opened;
- d. He/she is an equal opportunity employer, and will not discriminate with regard to race, color, national origin, age or sex in the performance of this contract.
- e. The undersigned hereby certifies that he/she has read, understands and agrees that acceptance by the City of North Richland Hills of the bidder's offer by issuance of a purchase order will create a binding contract. Further, he/she agrees to fully comply with documentary forms herewith made a part of this specific procurement.

COMPANY: _____

ADDRESS: _____

CITY, STATE & ZIP: _____

TELEPHONE: _____

FAX _____

EMAIL: _____

SIGNATURE: _____

PRINTED NAME: _____

DATE: _____

COMPLIANCE WITH HOUSE BILL 1295

In 2015, the Texas Legislature adopted [House Bill 1295](#), which added section 2252.908 of the Government Code. The law states that a governmental entity may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity at the time the business entity submits the signed contract to the governmental entity.

The law applies only to a contract of a governmental entity that either (1) requires an action or vote by the governing body of the entity or agency before the contract may be signed or (2) has a value of at least \$1 million. The disclosure requirement applies to a contract entered into on or after January 1, 2016.

The Texas Ethics Commission has adopted rules necessary to implement the law, prescribed the disclosure of interested parties form, and posted a copy of the form on the commission's website.

Filing Process:

The commission has made available on its website a new filing application that must be used to file Form 1295. A business entity must:

- 1) Use the application to enter the required information on Form 1295,
- 2) Print a copy of the completed form, which will include a certification of filing that will contain a unique certification number.
- 3) Contract Number should be the Bid/RFP Number and Bid Title.
- 4) Sign the printed copy of the form (an authorized agent of the business entity must sign),
- 5) Either include your personal information or have the form notarized,
- 6) File the completed Form 1295 with the certification of filing with the governmental body with which the business entity is entering into the contract.

The governmental entity must notify the commission, using the commission's filing application, of the receipt of the filed Form 1295 with the certification of filing not later than the 30th day after the date the contract binds all parties to the contract. The commission will post the completed Form 1295 to its website within seven business days after receiving notice from the governmental entity.

Information regarding how to use the filing application may be found at https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm.

FOR DISADVANTAGED BUSINESS ENTERPRISES ONLY

Disadvantaged Business Enterprises (DBE) are encouraged to participate in the City of North Richland Hills bid process. Representatives from DBE Companies should identify themselves as such and submit a copy of their Certification.

The City of North Richland Hills recognizes the certifications of both the State of Texas Building and Procurement Commission HUB Program and the North Central Texas Regional Certification Agency. All companies seeking information concerning DBE certification are urged to contact:

**Texas Building and Procurement Commission
Statewide HUB Program
1711 San Jacinto Blvd., Austin TX 78701-1416
P O Box 13186, Austin, TX 78711-3186
(512) 463-5872
<http://www.window.state.tx.us/procurement/prog/hub/hub-certification/>**

**North Central Texas
Regional Certification Agency
624 Six Flags Drive, Suite 216
Arlington, Texas 76011
(817) 640-0606
<http://www.nctrca.org/certification.html>**

If your company is already certified, attach a copy of your certification to this form and return as part of your packet.

Company Names: _____

Representative: _____

Address: _____

City, State, Zip: _____

Telephone No. _____ **Fax No.** _____

Email address: _____

INDICATE ALL THAT APPLY:

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

CONFLICT OF INTEREST QUESTIONNAIRE

Pursuant to Chapter 176 of the Texas Local Government Code, a person, or agent of a person, who contracts or seeks to contract for the sale or purchase of property, goods, or services with the City of North Richland Hills must file a completed conflict of interest questionnaire. The conflict of interest questionnaire must be filed with the City Secretary of the City of North Richland Hills no later than the seventh business day after the person or agent begins contract discussions or negotiations with the City of North Richland Hills or submits to the City of North Richland Hills an application, response to a request for proposal or bid, correspondence, or another writing related to a potential agreement with the City of North Richland Hills. An updated conflict of interest questionnaire must be filed in accordance with Chapter 176 of the Local Government Code. An offense under Chapter 176 is a Class C misdemeanor.

The Conflict of Interest Questionnaire is included as part of this document and can be found at:

<https://www.ethics.state.tx.us/data/forms/conflict/CIO.pdf>

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

FORM CIQ

<p>This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.</p> <p>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).</p> <p>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.</p> <p>A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.</p>	<p>OFFICE USE ONLY</p> <hr/> <p>Date Received</p>
<p>1 Name of vendor who has a business relationship with local governmental entity.</p>	
<p>2 <input type="checkbox"/> 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.)</p>	
<p>3 Name of local government officer about whom the information is being disclosed.</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Name of Officer</p>	
<p>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.</p> <p style="margin-left: 40px;">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?</p> <p style="margin-left: 80px;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p style="margin-left: 40px;">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?</p> <p style="margin-left: 80px;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>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.</p>	
<p>6 <input type="checkbox"/> 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).</p>	
<p>7</p> <p style="text-align: center;">_____ Signature of vendor doing business with the governmental entity</p> <p style="text-align: right;">_____ Date</p>	

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.

CONTRACT CHANGES GRID

The Contractor has the obligation to review all documents that make up the contract documents in their entirety and include any objections or requests for modifications to the Terms and Conditions, or any of the Contract Documents, in the Contract Changes Grid included with the Notice to Bidders. No changes or modifications will be made to the contract documents unless such changes are set forth in the Contract Changes Grid, submitted to the City along with the Contractor’s proposal, and agreed to by the City.

CONTRACT CHANGES GRID

Proposed Contractor/Bidder _____ (“Contractor” or “Bidder”), submits the following modifications to the City’s Standard _____ (“Agreement”) requesting changes to such provisions be accepted by the City and incorporated into the Agreement. Contractor understands and acknowledges that the City is under no obligation to accept the modification(s) proposed by Contractor; however, the City agrees to negotiate in good faith in consideration of Contractor’s request, subject to legal requirements, City policies and advice of the City Attorney.

Section / Page	Term, Condition or Specification	Exception/Proposed Modification	Disposition (For City of NRH Use Only)
			City Response: ___ Accepted ___ Not Accepted ___ Modified

CONFIDENTIALITY OF PROPRIETARY INFORMATION

During the evaluation process of this RFB, to the extent permitted by law, the City of North Richland Hills will maintain all contents of the Proposers' responses and discussions related to the Proposers' proposals as confidential. The City will treat all proposals as confidential until negotiations are completed, the successful Proposer has been selected, and a contract has been awarded. During the evaluation process, the City intends to disseminate information submitted by all Proposers to selected staff, any consultants employed by the City, and the evaluation committee, as the City deems appropriate in its sole discretion. Such staff, consultants, and committee members shall maintain the Proposers' information as confidential to the extent permitted by law. All materials submitted in response to this RFP shall become the property of the City of North Richland Hills and will not be returned. After a Proposer is selected and the contract is awarded, all submissions shall be subject to release in accordance with Texas Government Code Chapter 552, the Texas Public Information Act (the "Act").

If a Proposer does not desire proprietary information in the proposal to be disclosed, it is required to identify all proprietary information in the proposal prior to submission of the proposal to the City. The identification shall be done by individually marking each page with the words "Proprietary Information" on which such proprietary information is found. If the Proposer fails to identify such information as proprietary, the Proposer agrees by submission of its proposal that those sections shall be deemed non-proprietary and made available to the public upon request as authorized by law upon completion of the RFP process and award of contract.

Proposers are advised that the City, to the extent permitted by law, will protect the confidentiality of their proposals. Proposers shall consider the implications of the Act, particularly after the RFP process has ceased and a contract has been awarded. If a public information request is made for a Proposer's response following award of a contract, proprietary information submitted in an RFP process may only be withheld from public disclosure pursuant to Section 552.1101 of the Act. A determination as to whether Section 552.1101 applies will not be decided by the City of North Richland Hills, but by the Office of the Attorney General of the State of Texas. In the event a request for public information is made, the City will notify the Proposer, and the Proposer is required to request an opinion as to the confidentiality and proprietary nature of the information from the Attorney General pursuant to Section 552.305 of the Act. The City is not authorized to make the request on the Proposer's behalf.

SPECIFICATIONS

The Contractor shall refer to the following for additional project specifications and relevant details:

1. ACTS COURT RETAINING WALL PROJECT CONTRACT
2. ACTS COURT RETAINING WALL PROJECT SIGNED/SEALED PLANS

SECTION II

BIDDING DOCUMENTS

NOTICE TO BIDDERS

UPLOADED BIDS on forms prepared by the Engineer will be received by the office of the Purchasing Manager of the City of North Richland Hills until **2:00 p.m. on Tuesday, September 10, 2024** for furnishing all labor, material, equipment and the performance of all work required for:

ACTS COURT RETAINING WALL PROJECT

COMPLETED BID FORMS DOCUMENTS MUST BE SUBMITTED ELECTRONICALLY VIA: www.publicpurchase.com at which time and place the bids will be publicly opened, read aloud and retained by the Public Works Department for tabulation, checking and evaluation. The “as read” bid results will be posted on www.publicpurchase.com

COMPLETED BID FORMS shall be accompanied by a Bid Guaranty consisting of either a cashier’s check or a Bid Bond on the form included or similar form of Surety Company (FACSIMILES WILL NOT BE CONSIDERED RESPONSIVE) made payable to The City of North Richland Hills, and in the amount of five percent (5%) of the total amount of the largest amount bid as a guarantee that if the bid is accepted, the bidder will execute the Contract and furnish the required Bonds, within the time-frame indicated in the Bid Form, to the City of North Richland Hills.

BIDDERS should carefully examine the plans, specifications and other documents; visit the site of the work; fully inform themselves as to all conditions and matters that can in any way affect the work or the costs thereof. Should a bidder find discrepancies or omissions from the plans, specifications or any other documents or should he/she be in doubt as to the meaning, he/she should at once notify the Purchasing Manager and obtain clarification prior to submitting any bid.

PLANS AND SPECIFICATIONS can be downloaded from **Public Purchase** (see below).

A NON-MANDATORY PRE-BID CONFERENCE will be held at **10:00 a.m. on Tuesday, August 27, 2024** at **Development Services Public Conference Room, 4301 City Point Dr, North Richland Hills, TX 76180.**

PUBLIC PURCHASE: Bidders are encouraged to register with the City of North Richland Hills Purchasing Manager, Eva Ramirez, via email at purchasing@nrhtx.com. All Bidders who have registered with Public Purchase (<http://www.publicpurchase.com>) will receive automatic email notifications pertaining to this Bid, such as addendums and other related information released subsequent to the initial release of plans, specifications, bid forms, and contract documents. **It is the sole responsibility of the Bidder to register as a planholder with the City of North Richland Hills. Questions pertaining to this project should be submitted via Public Purchase where the bid is advertised.**

Minimum wage rates to all laborers and mechanics on the project must not be less than as provided in the Contract Documents and Wage Provisions must particularly comply with all other applicable wage laws of the State of Texas.

The right is reserved, as the interest of the City of North Richland Hills may require, to reject any and all bids, to waive any informality in the bids received, and to select a bid best suited to the City of North Richland Hills' best interest.

In case of ambiguity or lack of clearness in stating bid prices, the City of North Richland Hills reserves the right to adopt the most advantageous construction thereof, or to reject any or all bids. No bid may be withdrawn within sixty (60) days after the date on which bids are opened.

SUMMARY OF WORK: The Acts Court Retaining Wall will be reconstructed with a concrete block retaining wall.

CITY OF NORTH RICHLAND HILLS

Eva Ramirez
Purchasing Manager

ADVERTISEMENT DATES:

- **August 16, 2024**
- **August 18, 2024**

SPECIAL INSTRUCTIONS TO BIDDERS

1. BID SECURITY:

A certified check or cashier's check or acceptable bidder's bond made payable to the City of North Richland Hills, Texas, in an amount of five percent (5%) of the bid submitted must accompany each bid as a guarantee that if awarded the contract, the bidder will promptly enter into a contract and execute such bonds as are required.

2. QUALIFICATION OF BIDDERS:

No pre-qualification of bidders is required. However, in consideration of the bids, the City of North Richland Hills may require bidders to furnish a written experience record and a financial statement or the most recent audited financial statement of the firm. The City of North Richland Hills reserves the right to use these items of data to influence a decision as to the award of the contract. Bidders need not submit a statement of financial condition unless requested to do so by the City of North Richland Hills. Contractors are required to submit the Experience and Current Workload page shown on page II-9, showing that the following items will be met:

- At a minimum, the general contractor shall show minimum 3 projects in similar size and scope completed within the last 10 years and provide reference contact information.

3. CONFLICT OF INTEREST QUESTIONNAIRE:

Bidders are required to complete the Conflict of Interest Questionnaire and to submit this completed form along with their bid form documents.

4. WAGE RATES:

Attention is called to the fact that not less than the prevailing wage rates as hereinafter set forth in the Special Provisions of these Contract Documents, which are made a part hereof, must be paid on this project.

5. PRE-BID CONFERENCE:

A non-mandatory pre-bid conference will be held at 10:00 A.M. Central Time Tuesday, August 27, 2024 at Development Services Public Conference Room, 4301 City Point Dr, North Richland Hills, TX 76180.

6. BONDS:

A performance bond and a payment bond, each in the amount of not less than one hundred percent (100%) of the contract price, conditioned upon the faithful performance of the contract and upon payment of all persons supplying labor or furnishing materials, will be required on this project. Additionally, a two (2) year maintenance bond, in the amount of not less than twenty percent (20%) of the final contract price, will be required on this project.

7. POWER OF ATTORNEY:

Attorneys-in-Fact who sign bid bonds or contract bonds must file with each bond a certified and current copy of their power of attorney.

8. STANDARD SPECIFICATIONS:

All work required by this project shall be in accordance with the "Public Works Design Manual" adopted by the City of North Richland Hills and the "Public Works Construction Standards - North Central Texas" adopted by the North Central Texas Council of Governments (NCTCOG), Fifth Edition (November 2017), except as modified in the Contract Documents. Where a conflict exists between the "Public Works Design Manual" and the "Public Works Construction Standards - North Central Texas", the "Public Works Design Manual" shall govern. Copies of both of these standards are included in the Contract Documents by reference and are made a part thereof. Omission of any section from this project's Contract Documents does not mean that such section is not applicable to this project.

9. UNIT PRICE CONTRACT:

The contract for this project is a "Unit Price" Contract. As such, the City of North Richland Hills reserves the right to add and/or delete quantities to specific pay items. The City of North Richland Hills may further delete an entire unit price pay item if the City of North Richland Hills desires. The City of North Richland Hills reserves the right to increase or decrease the amount of work to be done by any amount not to be exceeded by twenty-five percent (25%) of the original contract amount. In the event the increase pertains to items not originally bid, the Contractor shall submit a bid in writing to the City of North Richland Hills for approval.

It is further agreed that lump sum prices may be increased to cover additional work ordered by the City of North Richland Hills but not shown on the plans or required by the specifications, in accordance with the provisions of the general conditions; similarly, lump sum prices may be decreased to cover deletion of work so ordered.

The City of North Richland Hills reserves the right to reject the Contractor's bid on such extra work and secure such work to be done other than by said Contractor.

10. MEASUREMENT AND PAYMENT:

The basis of payment for the pay items noted in the proceeding pages shall be full compensation for furnishing all labor, materials, equipment and incidentals required to complete the work as specified and as shown in the project plans/drawings. Any item of work not specifically listed for payment but required by the project documents shall be considered an incidental item of the project and no specific payment will be made.

11. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT:

The successful bidder, upon his/her failure or refusal to execute and deliver the contract and bonds required within ten (10) days after he/she has received notice of the acceptance of his/her bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bond.

12. CONDITIONS OF WORK / OBLIGATION OF BIDDER:

Each bidder must inform himself/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation(s) to furnish all material, labor, equipment and incidentals necessary to carry out the provisions of this contract. Insofar as possible, the Contractor, in carrying out his/her work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor or City of North Richland Hills public employees.

At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and Contract Documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or documents shall in no way relieve the bidder from any obligation in respect to his/her bid.

13. ADDENDA AND INTERPRETATIONS:

Bidders wanting further information, interpretation or clarification of the Contract Documents must make their request in writing to Eva Ramirez, Purchasing Manager by **12:00pm (noon) Central Time on Friday, September 06, 2024**. Answers to all such requests will be made a part of the Contract Documents. No other explanation or interpretation will be considered official or binding.

Should a bidder find discrepancies in, or omission from the Contract Documents,

or should he/she be in doubt as to their meaning, he/she should at once notify Eva Ramirez, Purchasing Manager in order that a written addendum may be sent to all bidders. Any addenda issued will be mailed or be delivered to each prospective bidder. The bid form as submitted by the bidder must be so constructed as to include any addenda issued by the City prior to 24 hours of the opening bids, with the appropriate recognition of addenda so noted in the bid form.

No interpretation of the meaning of plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation shall be in writing, addressed to Eva Ramirez, Purchasing Manager or directly through Public Purchase and to be given consideration, must be received by **12:00PM (noon) on Friday, September 06, 2024**. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications and plans which, if issued, will be published on Public Purchase, not later than three (3) days prior to the date fixed for opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve the bidder from any obligation under his/her bid submitted. All addenda shall become part of the Contract Documents.

14. LAWS AND REGULATIONS:

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

15. SUBMITTALS:

Prior to any construction commencing on this project the Contractor shall submit the required submittals to the City Engineer and have his approval for all such submittals as required in the Technical Specifications.

FINANCIAL STATEMENT

Condition of Bidder at close of Business month, _____, 20__

	ASSETS	LIABILITIES
1. Cash on Hand	\$ _____	\$ _____
Cash in Bank	\$ _____	\$ _____
Cash Elsewhere	\$ _____	\$ _____
2. Accounts receivable from completed contracts (exclusive of claims not approved for payment)	\$ _____	\$ _____
3. Accounts receivable from other sources than above	\$ _____	\$ _____
4. Amounts earned on uncompleted contracts (not included in Item 3) (Contract price on completed portion of uncompleted contracts less total cost of completed portion)	\$ _____	\$ _____
5. Deposits for bids on other guarantees		\$ _____
6. Notes Receivable Past Due	\$ _____	
Due 90 days	\$ _____	
Due Later	\$ _____	
7. Interest Earned	\$ _____	
8. Real Estate, Business Property, present value	\$ _____	
Other property, present value	\$ _____	\$ _____
9. Stocks and Bonds, Listed on Exchange	\$ _____	\$ _____
Unlisted	\$ _____	\$ _____
10. Equipment, Machinery, Fixtures	\$ _____	\$ _____
Less Depreciation	\$ _____	\$ _____
11. Other Assets	\$ _____	
TOTAL ASSETS	\$ _____	\$ _____

LIABILITIES AND NET WORTH

	ASSETS	LIABILITIES
1. Notes Payable to Banks Regular	\$ _____	
(For Certified Checks)	\$ _____	
Equipment Obligations	\$ _____	
Others	\$ _____	\$ _____
2. Accounts Payable Current	\$ _____	
Past Due	\$ _____	
3. Real Estate Mortgages	\$ _____	\$ _____
4. Other Liabilities		\$ _____
5. Reserves	\$ _____	
6. Capital Stock Paid Up		
Common	\$ _____	
Preferred	\$ _____	
7. Surplus	\$ _____	
TOTAL LIABILITIES	\$ _____	\$ _____

EXPERIENCE RECORD

List of Projects your Organization has successfully completed:

Amount of Contract Award	Type of Work	Date Accepted	Name and Address of Owner

List of Projects your Organization is now engaged in completing:

Amount of Contract Award	Type of Work	Anticipated Date of Completion	Name and Address of Owner

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BID FORM
FOR
ACTS COURT RETAINING WALL PROJECT
FOR THE
CITY OF NORTH RICHLAND HILLS, TEXAS

(THIS BID FORM MUST BE COMPLETED IN ITS ENTIRETY, SUBMITTED IN ITS ENTIRETY AND NOT REMOVED FROM THE CONTRACT DOCUMENTS)

Bid Opening Date: 2:00PM (Central Time), Tuesday, September 10, 2024

TO: City of North Richland Hills
4301 City Point Drive
North Richland Hills, Texas 76180

FOR: ACTS COURT RETAINING WALL PROJECT

Pursuant to the foregoing "Notice to Bidders", the undersigned bidder, having thoroughly examined the Contract Documents, the site of the project and understanding the amount of work to be done and the prevailing conditions, hereby proposes to fully complete all of the work and requirements as provided in the plans and Contract Documents and binds himself/herself upon acceptance of this bid form to execute a contract and furnish such bonds as required and proposes to complete the work within the time stated and for the following prices:

BID SCHEDULE

Total Amount Bid: Base Bid:

Section I – General \$ _____

Section II – Contingency \$ _____

\$ _____
(Total Amount Bid, Numerical Value)

*- The Owner reserves the right to delete any bid items or portions thereof.

The undersigned bidder acknowledges receipt of the following Addenda: **(If none is received, then write NONE across the blanks.)**

Addendum No. 1 - Date Received _____

Addendum No. 2 - Date Received _____

Addendum No. 3 - Date Received _____

Addendum No. 4 - Date Received _____

The undersigned bidder agrees to execute and file with the Owner a contract and bonds on the forms provided within ten (10) days after written notification of award of the contract to him and to begin the work to be performed under the contract within ten (10) days after written authorization to begin the work (Work Order) and to complete the work in full within **60 Consecutive Calendar Days** after the date specified in the "Notice to Proceed". See contract for additional schedule / time requirements.

Enclosed with this bid form is a certified check or cashier's check or bid bond payable to the City of North Richland Hills in the amount of five percent (5%) of the total bid, which is to become the property of the City of North Richland Hills, or the attached Bidder's Bond is to be forfeited in the event the contract and bond are not executed within the time set forth, as liquidated damages for delay and additional work caused thereby.

Respectfully Submitted,

Signed: _____

Company: _____

Address: _____

SEAL
(If Bidder is a Corporation)

Telephone: _____

Fax: _____

Submitted by: _____
an individual
A partnership
A corporation

Doing Business As: _____

BASE BID						
SECTION I - GENERAL						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
1	NCTCOG 203.1	GENERAL SITE PREPARATION				
		dollars and cents per unit	1	LS	\$	\$
2	TXDOT 500	MOBILIZATION				
		dollars and cents per unit	1	LS	\$	\$
3	CITY DETAIL	PROJECT SIGN				
		dollars and cents per unit	2	EA	\$	\$
4	NCTCOG 203.1	REMOVE CONCRETE SIDEWALK				
		dollars and cents per unit	67	SY	\$	\$
5	NCTCOG 203.1	REMOVE RETAINING WALL				
		dollars and cents per unit	347	LF	\$	\$
6	NCTCOG 203.1	REMOVE WOOD FENCE & POSTS				
		dollars and cents per unit	100	LF	\$	\$
7	NCTCOG 203.1	REMOVE SIGN				
		dollars and cents per unit	1	EA	\$	\$
8	NCTCOG 203.1	RETAINING WALL (CONC BLOCK)				
		dollars and cents per unit	1,349	SF	\$	\$
9	NCTCOG 203.1	EMBANKMENT (FINAL) (ORD COMP) (TY C2) (DS)				
		dollars and cents per unit	57	CY	\$	\$
10	NCTCOG 203.1	PIPE UNDERDRAINS (TY 6) (6")				
		dollars and cents per unit	378	LF	\$	\$
11	NCTCOG 203.1	4" CONCRETE SIDEWALK				
		dollars and cents per unit	67	SY	\$	\$
12	NCTCOG 203.1	WOOD FENCE (INSTALL)				
		dollars and cents per unit	100	LF	\$	\$
13	NCTCOG 203.1	BARRICADES, SIGNS AND TRAFFIC HANDLING				
		dollars and cents per unit	2	MO	\$	\$
14	NCTCOG 203.1	SWPPP PLAN & EROSION CONTROL ITEMS				
		dollars and cents per unit	1	LS	\$	\$
15	NCTCOG 203.1	FURNISHING AND PLACING TOPSOIL				
		dollars and cents per unit	33	CY	\$	\$
16	NCTCOG 203.1	FURNISHING AND PLACING BLOCK SOD				
		dollars and cents per unit	99	SY	\$	\$
SUBTOTAL - SECTION I - GENERAL					DOLLARS	
					CENTS	\$
SECTION II - CONTINGENCY						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
17	PROJECT MANUAL	PROJECT CONTINGENCY AS DIRECTED BY OWNER				
		dollars and cents per unit	1	LS	\$ 10,000.00	\$ 10,000.00
SUBTOTAL - SECTION II - CONTINGENCY					DOLLARS	
					CENTS	\$ 10,000.00
TOTAL - BASE BID					DOLLARS	
					CENTS	\$

SECTION III

CONTRACTUAL DOCUMENTS

STANDARD FORM OF CONSTRUCTION AGREEMENT

**THE STATE OF TEXAS §
 §
COUNTY OF TARRANT §**

THIS AGREEMENT is entered into this the ___ day of _____, 20___, by and between the CITY OF NORTH RICHLAND HILLS, a municipal corporation, of the County of Tarrant and State of Texas, hereinafter called "OWNER" and _____ of the City of _____, County of _____ and State of ___ hereinafter called "CONTRACTOR."

OWNER and CONTRACTOR in consideration of the mutual covenants contained in this Agreement, agree as follows:

ARTICLE 1. WORK.

CONTRACTOR covenants and agrees to perform the Work in every detail, in a good and first-class workmanlike manner as specified and indicated in the Contract Documents, of which are incorporated in this Agreement in their entirety as if they were herein set out at length written word for word. The CONTRACTOR shall furnish all labor, materials, tools and equipment required to perform and complete the Work in strict accordance with these Contract Documents. The Work is described as follows:

ACTS COURT RETAINING WALL PROJECT

ARTICLE 2. CONTRACT PRICE.

OWNER agrees to pay CONTRACTOR for completion of the Work in accordance with the Contract Documents, the price or prices shown in the bidder's proposal, which total the following amount:

_____ DOLLARS AND _____ CENTS (\$ _____)
("Contract Price").

ARTICLE 3. CONTRACT TIME / TERMINATION / LIQUIDATED DAMAGES.

Unless otherwise stated in this agreement, **time shall be considered of the essence.**

- a. When **time is of** the essence, the CONTRACTOR shall be liable for failure to deliver or delay in delivery occasioned by and including without limitation strikes, lock-outs, inability of obtaining material or shopping space, breakdowns, delays of carriers or suppliers, and preexisting governmental acts and regulations of the Federal and State governments or any subdivision thereof, unless such governmental acts and regulations affecting delivery could not be found, recognized, or discovered by due diligence on the part of the CONTRACTOR prior to submission of his/her and City Council's acceptance thereof.
- b. When **time is not of** the essence, this agreement shall be inoperative during such period of time that aforesaid delivery or acceptance may be rendered impossible by reason of fire, strike, Acts of God, or government regulation. Provided, however, to the extent that the CONTRACTOR has any commercially reasonable alternative method of performing this contract by purchase on the market or otherwise, he/she shall not be freed of his/her obligation hereunder by this clause, even though the goods intended for this contract were destroyed or their delivery delayed because of any event described above.
- c. **As time is of the essence on this contract**, CONTRACTOR agrees to commence work under this contract within ten (10) days from the date specified in the "Notice to Proceed" and complete each phase of construction within the durations specified in the following table. The durations specified are consecutive calendar days and are subject to such extensions of time as are indicated in the Special Provisions.

Any modifications to the durations provided for each phase of construction must be agreed upon in writing by the CONTRACTOR and the OWNER. Additionally, CONTRACTOR agrees to totally complete work within **60** consecutive calendar days after the date specified in the "Notice to Proceed," subject to such extensions of time as are indicated in the Special Provisions.

Calendar Days is defined as any day of the week or month; no days being excepted, such as, Saturdays, Sundays, holidays and inclement weather days. Counting of contract time will only be stopped when the Owner issues a written notice stating this fact, or when the project is noted as substantially complete by written notice from the Owner. OWNER shall determine when such action is necessary.

Extensions of time due to weather delays shall be determined in accordance with the following formula:

$E = R - P$ where R is greater than or equal to P, and

E = Extra Precipitation Days

P = Average Precipitation Days

R = Total Precipitation Days

Average Precipitation Days (P) is defined as a day of rain, sleet, hail, snow or any combination thereof, and shall be based upon the average precipitation for each month of the year as defined in the Local Climatological Data summaries issued by the National Climatic Data Center in Asheville, North Carolina, and for this contract shall be as follows:

Average Precipitation

Month	Jan	Feb	Mar	Apr	May	June
Number of Days	6	6	7	7	8	6
Month	July	Aug	Sept	Oct	Nov	Dec
Number of Days	4	4	6	6	6	6

Partial months shall be prorated uniformly for the entire month and the sum of all the months used will be rounded to the nearest whole number. This number shall be P.

Total Precipitation Days (R) is defined as a day of rain, sleet, hail, snow or any combination thereof, if determined by the Owner's Project Representative that the Contractor's construction cannot progress substantially due to precipitation and thus be put in the Daily Inspection Logs as a precipitation day. The sum of all precipitation says shall be R.

The total number of Extra Precipitation Days (E) shall be granted to the Contractor as extension of time due to weather delays, and no additional time due to drying time for saturated soil will be allowed. This contract time is both multi-tiered and cumulative.

e. **Liquidated Damages.** The CONTRACTOR further agrees to pay the following as liquidated damages:

- (1) \$250 per Calendar Day for any unfinished work beyond 60 consecutive calendar days after the "Notice to Proceed" issuance date. This rate shall continue until such time that the Project is complete and accepted by the OWNER

(2) It is understood between the parties hereto that these sums shall be treated as liquidated damages and not as a penalty, and the OWNER may withhold from the CONTRACTOR's compensation such sums as liquidated damages.

The parties consider the CONTRACTOR's failure to complete performance of the entire contract within the 60th calendar day after the "Notice to Proceed" date a substantial breach of this agreement, and the amount of liquidated damages set forth herein is a reasonable and fair estimate of just compensation for CONTRACTOR's failure to timely perform the contract.

If there is any conflict between any provision of this Article 3, and any other Provision in this agreement, or in any attachment hereto or any other Contract Document, this Article 3 shall control.

ARTICLE 4. PARTIAL PAYMENT.

OWNER shall make payments to the CONTRACTOR in the following manner. On or about the first of each month, the OWNER, or the OWNER's Authorized Representative, will make accurate estimates of the value, based on contract prices, of the work done and materials incorporated in the work and of materials suitably stored at the site during the preceding calendar month. The CONTRACTOR shall furnish to the OWNER, or the OWNER's Representative, such detailed information as the OWNER may request to aid OWNER as a guide in the preparation of the monthly estimate.

Within the following thirty (30) days, OWNER shall make partial payments to the CONTRACTOR for work performed during the preceding calendar month as estimated by the OWNER or OWNER's Representative. Ten percent (10%) of each estimate shall be retained by the OWNER until final completion and acceptance of all work covered by the Contract for contracts less than four hundred thousand dollars (\$ 400,000). Five percent (5%) of each estimate shall be retained by the OWNER until final completion and acceptance of all work covered by the Contract for contracts greater than four hundred thousand dollars (\$ 400,000). Upon completion and acceptance of all work in compliance with the Contract, the OWNER shall, within thirty (30) days, pay the CONTRACTOR the balance due under the terms and conditions of the Contract.

It is understood that the monthly estimates shall be approximate only, and all monthly estimates and partial payments shall be subject to correction in the estimate rendered following the discovery of an error in any previous estimate, and such estimate shall not in any respect be taken as an admission of the OWNER of the amount of work done or of its quality or sufficiency nor as an acceptance of the work or the release of the CONTRACTOR of any of its responsibility under the Contract.

ARTICLE 5. DISCRIMINATION.

The CONTRACTOR agrees, in connection with the performance of work under this contract as follows:

- a. The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, creed, color, sex, religion, national origin or ancestry. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruiting or recruitment, advertising, layoff, termination, rates of pay or other forms of compensation and selection for training, including apprenticeship.
- b. The CONTRACTOR agrees to include this non-discrimination clause in any subcontracts connected with the performance of this agreement.
- c. In the event of the CONTRACTOR's non-compliance with the above non-discrimination clause, the contract may be canceled or terminated by the OWNER. The CONTRACTOR may be declared by the OWNER to be ineligible for future contracts with the OWNER, until satisfactory proof of intent to comply shall be made by the CONTRACTOR.
- d. The OWNER shall be provided a list of subcontractors who are to be paid \$10,000 or more. The CONTRACTOR must ensure that such subcontractors meet the requirements as outlined in Title VI of the Civil Rights Act of 1964 (42 USC 2000d et seq), execute required assurances and provide the OWNER a copy of the signed assurance of all such subcontractors prior to final payment. In the event of a claim of \$10,000 or more against the CONTRACTOR by a subcontractor under this section, no further payment shall be processed unless and until each required subcontractor assurance is provided the OWNER.

ARTICLE 6. ENTIRE CONTRACT.

This Contract and Agreement contains the entire understanding and agreement of the parties upon the subject matter hereof. There is no agreement, oral or otherwise, which is not set forth in writing as part of this Agreement or the Contract Documents.

ARTICLE 7. MODIFICATION.

This contract cannot be modified except by a writing signed by both parties.

ARTICLE 8. VARIABLES IN COST.

The parties hereto assume and understand that the variables in the CONTRACTOR's cost of performance may fluctuate; consequently, the parties

hereto agree that any fluctuations in the CONTRACTOR's costs will in no way alter the CONTRACTOR's obligations under this contract nor excuse nonperformance or delay on his/her part.

ARTICLE 10. VENUE.

This contract shall be governed by the laws of the State of Texas. Venue for any court proceedings shall be in Tarrant County, Texas.

ARTICLE 11. CONTRACT DOCUMENTS.

Documents Listed. The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR for the performance of and payment for the Work, consist of the following:

- (1) This Agreement
- (2) Addendum(s)
- (3) "Notice to Bidders" advertisement
- (4) Bidder's Proposal
- (5) Special Instruction to Bidders
- (6) Performance, Payment and Maintenance Bonds
- (7) Certification of Insurance
- (8) Notice to Proceed
- (9) Technical Specifications
- (10) City of North Richland Hills' Public Works Design Manual
- (11) Special Provisions
- (12) General Provisions
- (13) Project Construction Plans/Drawings
- (14) Special Material and/or Equipment Specifications
- (15) Special Material and/or Equipment Drawings
- (16) "Public Works Construction Standards - North Central Texas" adopted by the North Central Texas Council of Governments (NCTCOG), Fifth Edition, Adopted November 2017
- (17) TxDOT Standard Specifications for Construction and Maintenance of Highways, Street, and Bridges (TxDOT Specifications)
- (18) North Central Texas Council of Government references

ARTICLE 11. DEFAULT

OWNER may declare CONTRACTOR in default of this Contract in the event Contractor fails to comply with the terms and conditions set forth in this Contract or any of the Contract Documents.

ARTICLE 12. SUBCONTRACTORS

Any subcontractor who furnishes labor or materials to fulfill an obligation to CONTRACTOR under this Contract or who performs all or part of the work required by this Contract, must comply with all notice and filing requirements of Texas Property Code, Chapter 53 in order to perfect a mechanic's, contractor's or materialman's lien. If a subcontractor complies with Chapter 53 of the Texas Property Code, Owner shall be authorized to withhold payment from the CONTRACTOR for payment of the claim. Owner shall release any such payment to the CONTRACTOR upon written notice and sufficient documentation to Owner from subcontractor that the claim has been paid or otherwise settled.

IN TESTIMONY WHEREOF, the CITY OF NORTH RICHLAND HILLS has caused this instrument to be signed in its corporate name, and on its behalf by the Mayor or City Manager, duly authorized to execute this instrument by action of the City Council and _____ a corporation, partnership, individual
(Name of Contractor) ("X" out the inappropriate wording)
acting by and through its duly authorized officials, thereby binding themselves for the faithful and full performance of the terms and provisions of this Agreement.

CITY OF NORTH RICHLAND HILLS:

CONTRACTOR:

By: _____
Paulette Hartman
City Manager
Date: _____

By: _____
Name: _____
Title: _____
Date: _____

ATTEST:

ATTEST:

By: _____
Alicia Richardson
City Secretary/Chief Governance Officer

By: _____
Name: _____
Title: _____

APPROVED TO FORM AND LEGALITY:

By: _____
Cara White, Interim City Attorney

By: _____
Thomas McMillian, Assistant City Attorney

NOW, THEREFORE, the condition of this obligation is such, that if the said Principal fully and faithfully executes the work and performance of the Contract in accordance with the plans, specifications and Contract Documents, including any extensions thereof which may be granted with our without notice to Surety, during the original term thereof, and during the life of any guaranty required under the Contract, and according to the true intent and meaning of said Contract and the plans and specifications hereto annexed, if the Principal shall repair and/or replace all defects due to faulty materials or workmanship that appear within a period of two years from the date of final completion and final acceptance of the work by owner; and if the Principal shall fully indemnify and save harmless the Owner from all costs and damages which Owner may suffer by reason of failure to so perform herein and shall fully reimburse and repay Owner all outlay and expense which the Owner may incur in making good any default or deficiency, then this obligation shall be void; otherwise, to remain in full force and effect; and in case said contractor shall fail to do so, it is agreed that the Owner may do said work and supply such materials and charge the same against said contractor and Surety on this obligation.

In the event that the Principal is declared in default under the said Contract by Owner, the Surety will within fifteen (15) days of Owner's declaration of such default take all action necessary to take over the project from Contractor and assume completion of said Contract. The Surety shall become entitled to the payment of the balance of the Contract Price upon the Surety's faithful performance of its obligations under this bond.

The Surety agrees to pay to Owner, upon demand, all loss and expense, including reasonable attorney's fees, incurred by Owner by reason of or on account of any breach of this obligation by the Surety.

Provided further, that if any legal action be filed on this Bond, venue shall lie in Tarrant County, Texas.

PROVIDED, HOWEVER, that this Bond is executed pursuant to the provisions of Texas Government Code, Chapter 2253, as amended, and Article 7.19-1 of the Insurance Code, as amended, and all liabilities on this Bond shall be determined in accordance with the provisions of said articles to the same extent as if they were fully copied at length herein.

Surety, for value received, stipulates and agrees that the Bond shall automatically be increased by the amount of any Change Order or supplemental agreement with increases the Contract price with or without notice to the Surety, but in no event shall a Change Order or supplemental agreement which reduces the Contract price decrease the penal sum of this Bond. And further that no change, extension of time, alteration, or addition to the terms of the Contract, or to the work performed thereunder, or the plans, specifications, or drawings accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time alteration, or addition to the terms of the Contract or to the work to be performed thereunder.

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

The undersigned and designated agent is hereby designated by Surety herein as the agent resident to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument on this the ___ day of _____, 20__.

_____ <i>(Company Name of Principal)</i>	_____ <i>(Company Name of Surety)</i>
_____ <i>(Signature)</i>	_____ <i>(Signature)</i>
_____ <i>(Printed Name)</i>	_____ <i>(Printed Name)</i>
_____ <i>(Title)</i>	_____ <i>(Title)</i>
_____ <i>(Address Line 1)</i>	_____ <i>(Address Line 1)</i>
_____ <i>(Address Line 2)</i>	_____ <i>(Address Line 2)</i>
_____ <i>(City, State and Zip Code)</i>	_____ <i>(City, State and Zip Code)</i>
_____ <i>(Witness)</i>	_____ <i>(Witness)</i>

The name and address of the Resident Agent of Surety is:

_____ <i>(Name)</i>	
_____ <i>(Address Line 1)</i>	
_____ <i>(Address Line 2)</i>	
_____ <i>(City, State and Zip Code)</i>	
_____ <i>(Telephone Number)</i>	_____ <i>(Fax Number)</i>

Bond No. _____

PAYMENT BOND

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

THAT _____, a corporation organized and existing under the laws of the State of _____, and fully authorized to transact business in the State of Texas, whose address is _____ of the City of _____, County of _____, and State of _____, (hereinafter referred to as "Principal"), and _____ (hereinafter referred to as "Surety"), a corporation organized under the laws of the State of _____ and authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto THE CITY OF NORTH RICHLAND HILLS (hereinafter referred to as "Owner") and unto all persons, firms and corporations who may furnish materials for or perform labor upon the buildings, structures or improvements referred to in the attached Contract, in the penal sum DOLLARS AND _____ CENTS (\$XXX,XXX.00) [not less than 100% of the approximate total amount of the Contract as evidenced in the bid proposal] in lawful money of the United States, for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents:

WHEREAS, the Principal has entered into a certain written Contract with the Owner, dated the _____ day of _____, 20____, to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein for the construction of:

ACTS COURT RETAINING WALL PROJECT

Dated as of _____, 20____

NOW, THEREFORE, the condition of this obligation is such, that the Bond guarantees the full and proper protection of all claimants supplying labor and material in the prosecution of the work provided for in said Contract and for the use of each claimant, and that conversely should the Principal faithfully perform said Contract and in all respects duly and faithfully observe and perform all and singular the covenants, conditions, and agreements in and by said Contract, agreed to by the Principal, and according to the true intent and meaning of said Contract and the claims and specifications hereto annexed, and any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modification to Surety being hereby waived, then this obligation shall be void; otherwise, to remain in full force and effect. Provided further, that if any legal action be filed on this Bond, venue shall lie in Tarrant County, Texas.

PROVIDED, HOWEVER, that this Bond is executed pursuant to the provisions of Texas Government Code, Chapter 2253, as amended, and Article 7.19-1 of the Insurance Code, as amended, and all liabilities on this Bond shall be determined in accordance with the provisions of said articles to the same extent as if they were fully copied at length herein.

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

The undersigned and designated agent is hereby designated by Surety herein as the agent resident to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument on this the ___ day of _____, 20__.

_____ <i>(Company Name of Principal)</i>	_____ <i>(Company Name of Surety)</i>
_____ <i>(Signature)</i>	_____ <i>(Signature)</i>
_____ <i>(Printed Name)</i>	_____ <i>(Printed Name)</i>
_____ <i>(Title)</i>	_____ <i>(Title)</i>
_____ <i>(Address Line 1)</i>	_____ <i>(Address Line 1)</i>
_____ <i>(Address Line 2)</i>	_____ <i>(Address Line 2)</i>
_____ <i>(City, State and Zip Code)</i>	_____ <i>(City, State and Zip Code)</i>
_____ <i>(Witness)</i>	_____ <i>(Witness)</i>

The name and address of the Resident Agent of Surety is:

_____ <i>(Name)</i>	
_____ <i>(Address Line 1)</i>	
_____ <i>(Address Line 2)</i>	
_____ <i>(City, State and Zip Code)</i>	
_____ <i>(Telephone Number)</i>	_____ <i>(Fax Number)</i>

Bond No. _____

MAINTENANCE BOND

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

THAT _____, a corporation organized and existing under the laws of the State of _____, and fully authorized to transact business in the State of Texas, whose address is _____ of the City of _____, County of _____, and State of _____, (hereinafter referred to as "Principal"), and _____ (hereinafter referred to as "Surety"), a corporation organized under the laws of the State of _____ and authorized under the laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto THE CITY OF NORTH RICHLAND HILLS (hereinafter referred to as "Owner") in the penal sum of DOLLARS AND /100 CENTS (\$ _____) in lawful money of the United States, for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors, and assigns, jointly and severally, firmly by these presents:

WHEREAS, the Principal has entered into a certain written Contract with the Owner, dated the _____ day of _____, 20____, to which said Contract is hereby referred to and made a part hereof and as fully and to the same extent as if copied at length herein for the construction of:

ACTS COURT RETAINING WALL PROJECT

Dated as of _____, 20__

The maintenance under this Bond contemplates the complete restoration of the work to a functional use if that should be necessary. It is the intended purpose of this bond to require the correction of all defective conditions resulting from materials furnished or work and labor performed by the Contractor under the Contract; and in case the Contractor or Surety shall fail or refuse to commence and actively pursue such corrections within ten (10) days after written notification has been furnished to them by the Owner, it is agreed that the Owner may do the work and supply such materials and the Contractor and Surety shall be liable for the payment of all costs thereby incurred, jointly and severally.

It is further understood and agreed that the obligation under this bond shall be a continuing one against the Contractor and Surety, and that successive recoveries may be had hereon for successive breaches until the full amount shall have been exhausted. It is further understood that the obligation to maintain the work shall continue throughout the maintenance period, and the same shall not be changed, diminished, or in any manner affected from any cause during that time.

NOW, THEREFORE, the condition of this obligation is such, that the Bond guarantees the full and proper maintenance and repair of the work herein contracted to be done and performed for a period of two (2) years from the date of acceptance and Principal will do all necessary backfilling that may arise on account of sunken conditions in ditches, or otherwise, and do and perform all necessary work and repair any defective condition growing out of or arising from the improper laying or construction of same, or on account of any breaking of same caused by said Contractor in construction of same, or account of any defect arising in any of said work laid or constructed by said Contractor or on account of improper excavation or backfilling, it being understood that the purpose of this section is to cover all defective conditions arising by reason of defective materials, work or labor performed by said Contractor, then this obligation shall be void; otherwise, to remain in full force and effect; and in case said Contractor shall fail to do so, it is agreed that the Owner may do said work and supply such materials and charge the same against said Contractor and Surety on this obligation. Provided further, that if any legal action be filed on this Bond, venue shall lie in Tarrant County, Texas.

The Owner shall be entitled to its reasonable attorneys' fees and costs in any legal proceeding to enforce the Owner's rights under this bond.

PROVIDED, HOWEVER, that said Surety, for value received, stipulates and agrees that the Bond shall automatically be increased by the amount of any Change Order or supplemental agreement with increases the Contract price with or without notice to the Surety and that no change, extension of time, alteration, or addition to the terms of the Contract, or to the work performed thereunder, or the plans, specifications, or drawings accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work to be performed thereunder.

The undersigned and designated agent is hereby designated by Surety herein as the agent resident to whom any requisite notice may be delivered and on whom service of process may be had in matters arising out of such suretyship.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument on this the ___ day of _____, 20__.

_____	_____
<i>(Company Name of Principal)</i>	<i>(Company Name of Surety)</i>
_____	_____
<i>(Signature)</i>	<i>(Signature)</i>
_____	_____
<i>(Printed Name)</i>	<i>(Printed Name)</i>
_____	_____
<i>(Title)</i>	<i>(Title)</i>
_____	_____
<i>(Address Line 1)</i>	<i>(Address Line 1)</i>
_____	_____
<i>(Address Line 2)</i>	<i>(Address Line 2)</i>
_____	_____
<i>(City, State and Zip Code)</i>	<i>(City, State and Zip Code)</i>
_____	_____
<i>(Witness)</i>	<i>(Witness)</i>

The name and address of the Resident Agent of Surety is:

(Name)

(Address Line 1)

(Address Line 2)

(City, State and Zip Code)

(Telephone Number)

(Fax Number)

NOTE: Date of Maintenance Bond must not be prior to date of Contract.
Power of Attorney must be attached.
Amount and Term of Maintenance Bond shall be as stated in the
"Special Conditions".

CONTRACTOR'S RELEASE TO CITY *(Continued)*

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the _ day of _____, 20 ____.

(Notary Public in and for the State of Texas)

(Type or Print Notary's Name)

My Commission Expires: _____

CONTRACTOR'S AFFIDAVIT OF FINAL PAYMENT

STATE OF TEXAS §
§
COUNTY OF TARRANT §

BEFORE ME, the undersigned authority, on this day personally appeared _____, (hereinafter referred to as "Affiant"), who, _____ (NAME) after being by me duly sworn, deposes and says that he/she is the _____ (TITLE) _____ of _____ (NAME OF COMPANY) a corporation, partnership, trade name) of _____ County, State of _____ ("X" OUT THE INCORRECT) _____ Texas (hereinafter referred to as "Contractor"), which said Contractor was awarded the contract dated the _____ day of _____, 2020, for the construction of the **ACTS COURT RETAINING WALL PROJECT** (hereinafter referred to as the "Work"), for a total consideration of _____ and XX/100 Dollars (\$ XXX,XXX.00) to be paid to the said Contractor (the "Contract"), and that Affiant has full power of authority to make this affidavit.

That THE CITY OF NORTH RICHLAND HILLS, (hereinafter referred to as "Owner"), has approved the final estimate on said Work, and that the said Contractor has fully satisfied and paid any and all claims that may be covered by Texas Government Code, Chapter 2253, as amended, or any other applicable statutes or charter provisions, and that all just bills for labor and materials have been paid and discharged by said Contractor insofar as they pertain to the Work in question.

That in addition to any funds which may have been previously paid by the Owner, the Contractor hereby accepts the amount of and ___/100 Dollars (\$_____) as **FULL AND FINAL PAYMENT** under the aforementioned Contract resulting in a total revised contract amount Of and ___/100 Dollars (\$ _____), and hereby waives and releases any right Affiant and/or the Contractor may have to pursue claims of any nature against the Owner arising out of or in any manner connected with the performance of the Work and/or the Contract, including but not limited to claims of third parties that supplied material and/or labor for the Work for or through the Contractor (hereinafter referred to as "Subcontractors"), as well as claims for delay, additional compensation or for recovery of liquidated damages which may have been withheld by the Owner. The Contractor shall defend, hold harmless and indemnify the Owner from any such claims of such Subcontractors. The Contractor further releases the Owner from any claim or liability arising from any act of negligence of the Owner related to or connected with the Contract. This affidavit is given pursuant to the final payment provisions of the Contract, and shall not be deemed to alter or modify the terms and provisions of said Contract.

This affidavit is made in compliance with the law and in compliance especially with Chapter 2253 of the Texas Government Code, as amended, and that the undersigned, upon his/her oath, states that the facts indicated in the above instrument of writing are true and correct and that he/she is not incapacitated an any way from making this affidavit.

WITNESS my hand this the ____ day of _____, 20__.

(Affiant)

(Printed Name)

SUBSCRIBED AND SWORN TO BEFORE ME, this the ____ day of

_____, 20 ____.

(Notary Public in and for the State of Texas)

(Type or Print Notary's Name)

My Commission Expires: _____

Acts Court Retaining Wall Liquidated Damages Calculation

Labor	Hours	Total	Hourly Rate
Crew Leader	8	\$ 189.73	\$ 23.72
MW II	8	\$ 186.93	\$ 23.37
Equipment Operator	8	\$ 229.37	\$ 28.67
MW I	8	\$ 128.00	\$ 16.00
Total ⁽¹⁾		\$ 734.03	

Assumptions:
 1) Initial City Mobilization: 4-man crew for 8 hours
 2) Ongoing Maintenance: 2 hours per day (2-man crew) - 3 days per week

Average Labor Rate⁽²⁾:
\$ 22.94

Equipment	Hours	Total	Hourly Rate
Roller Trailer	8	\$ 22.08	\$ 2.76
F-250 ⁽³⁾	8	\$ 181.12	\$ 22.64
Pothole Patcher	8	\$ 204.00	\$ 25.50
Dump Truck	8	\$ 636.96	\$ 79.62
2020 Front End Loader	8	\$ 369.36	\$ 46.17
2018 Roller	8	\$ 229.76	\$ 28.72
Backhoe 580 Super N	8	\$ 297.04	\$ 37.13
Total ⁽¹⁾		\$ 1,940.32	

Assumptions:
 1) Initial City Mobilization: 4-man crew for 8 hours
 2) Ongoing Maintenance: 2 hours of Average Labor Rate every week
 3) 2 hours of F-250 for 3 days every week

Average Equipment Rate⁽²⁾:
\$ 34.65

Material	Qty	Unit	Unit Price	Cost
4" Hot Mix ⁽²⁾	500	SF	\$ 2.66	\$ 1,330.00
Sandbags	75	EA	\$ 0.75	\$ 56.25
6" Flex Base ⁽²⁾	10	CY	\$ 20.87	\$ 208.70
Barricades	10	EA	\$ 42.14	\$ 421.40
Total ⁽¹⁾			\$	2,016.35
5% Total ⁽³⁾			\$	100.82

Assumptions:
 1) Initial City Mobilization: 4-man crew for 8 hours
 2) Paving Quantity (HMAC & Flex Base) - Assumes 25% of 1 travel lane for length of project
 3) Assume 5% of initial material outlay - 1 day per week

Day	Labor	Equipment	Materials
1	\$ 734.03	\$ 1,940.32	\$ 2,016.35
2	\$ -	\$ -	\$ -
3	\$ -	\$ -	\$ -
4	\$ 91.75	\$ 45.28	\$ -
5	\$ -	\$ -	\$ -
6	\$ -	\$ -	\$ -
7	\$ -	\$ -	\$ -
8	\$ 91.75	\$ 69.30	\$ 100.82
9	\$ -	\$ -	\$ -
10	\$ 91.75	\$ 45.28	\$ -
11	\$ -	\$ -	\$ -
12	\$ 91.75	\$ 45.28	\$ -
13	\$ -	\$ -	\$ -
14	\$ -	\$ -	\$ -
15	\$ 91.75	\$ 69.30	\$ 100.82
16	\$ -	\$ -	\$ -
17	\$ 91.75	\$ 45.28	\$ -
18	\$ -	\$ -	\$ -
19	\$ 91.75	\$ 45.28	\$ -
20	\$ -	\$ -	\$ -
21	\$ -	\$ -	\$ -
22	\$ 91.75	\$ 69.30	\$ 100.82
23	\$ -	\$ -	\$ -
24	\$ 91.75	\$ 45.28	\$ -
25	\$ -	\$ -	\$ -
26	\$ 91.75	\$ 45.28	\$ -
27	\$ -	\$ -	\$ -
28	\$ -	\$ -	\$ -
29	\$ 91.75	\$ 69.30	\$ 100.82
30	\$ -	\$ -	\$ -
Total	\$ 1,743.32	\$ 2,534.47	\$ 2,419.62

LIQUIDATED DAMAGES ASSESSMENT:

The parties agree that the liquidated damages calculated herein for the project listed below is a fair and reasonable estimate of the damages the OWNER will sustain each day by the failure of the CONTRACTOR to complete the work on time. This calculation of estimated daily rate for liquidated damages is not to be construed as a penalty in any way. This calculation shall be incorporated into the Agreement between the OWNER and CONTRACTOR.

PROJECT DESCRIPTION:

Project Number: ST2301
 Description: Acts Court Retaining Wall
 Start Date: _____
 Anticipated Date of Completion: _____
 Amount of the Project: _____

ACCEPTED AND AGREED:

Owner/City of North Richland Hills Contractor
 By: _____ Name _____
 Nathan Frohman Title _____
 City Engineer
 Date: _____ Date: _____

Grand Total: \$ 6,697.41
Per Day: \$ 223.25
LD Amount:** \$ 250.00

** For ease of calculation and reporting, the daily rate has been rounded up to the nearest \$50 increment.

SECTION IV

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS

For this contract, the Site Protection & Preparation (Division 200), Roadway Construction (Division 300), Roadway Maintenance & Rehabilitation (Division 400), Underground Construction & Appurtenances (Division 500), Conduit and Appurtenance Rehabilitation (Division 600), Structures (Division 700) and Miscellaneous Construction & Materials (Division 800) of the “Public Works Construction Standards – North Central Texas” adopted by the North Central Texas Council of Governments (NCTCOG), November 2017 Edition, with all amendments thereto, shall govern and shall constitute as the Technical Specifications except as herein amended, modified or supplemented. Omission of any section from the Project’s Contract Documents does not mean that such section is not applicable to this Project. The NCTCOG Technical Specifications will be referred to as the Technical Specifications (TS) and will not be physically bound with the other contract documents. Copies may be obtained from the North Central Texas Council of Governments.

EXPLANATION OF BID ITEMS

In this section, NCTCOG Items refer to “Public Works Construction Standards - North Central Texas” adopted by the North Central Texas Council of Governments (NCTCOG), November 2017 Edition. TxDOT Standard Specification Item refers to Texas Department of Transportation’s “Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges” 2014.

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

12.1.00 GENERAL

12.1.01 DESCRIPTION

This section covers the requirements for submittal data for equipment and material items to be furnished on this project.

12.2.00 MATERIAL

12.2.01 GENERAL EXECUTION

The CONTRACTOR shall submit to the Engineer, with such promptness as to cause no delay in his/her own work or in that of any other CONTRACTOR, five (5) copies of all shop drawings, manufacturer's catalog sheets, brochures, performance charts, diagrams, schedules and other standard descriptive data required for the work. The Engineer shall review these submittals with reasonable promptness, making any necessary corrections. If the submittals

indicate variances from the requirements of the contract, the CONTRACTOR shall make specific mention of such variation in his/her letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment. Otherwise, the CONTRACTOR shall not be relieved of the responsibility of executing the work in compliance with the contract even though the submittals have been reviewed.

12.2.02 FORM OF SUBMITTALS

The submittals shall be numbered consecutively and shall present the following data as applicable:

- A. Name of project
- B. Date of submittal
- C. References to applicable section(s) of the specifications
- D. Applicable standards
- E. Identification of revisions on re-submittals
- F. Kinds of materials and finishes
- G. All working and erection dimensions and clearances
- H. All arrangement and section views
- I. Connections between functional parts

The Engineer may decline to consider any submittal that does not contain complete data on the work and full information on related matters.

12.2.03 SUBMITTAL PROCEDURE

The procedure for review of submittals shall be as follows:

- A. **The CONTRACTOR shall submit three (3) copies of the submittal to the Engineer for his/her approval.** The submittal shall be accompanied by a letter of transmittal containing the following:
 - 1. Name of the project
 - 2. Name of the CONTRACTOR
 - 3. Name of the submittal
 - 4. References to applicable section(s) of the specifications
 - 5. Other pertinent information as indicated in Section 12.2.02: "Form of Submittals"
- B. When the submittal is satisfactory to the Engineer, all three (3) copies will be stamped and/or marked "Approved" or "Approved as Noted", be dated, receive the signature of the Engineer and two (2) copies will be returned to the CONTRACTOR by separate letter.

- C. Should a submittal be unsatisfactory to the Engineer, he/she will stamp and/or mark thereon "Revise and Resubmit" or "Rejected" and will send two (2) copies to the CONTRACTOR with necessary corrections and changes indicated. The CONTRACTOR must make such corrections and/or changes and submit at least three (3) copies of the re-submittal for approval to the Engineer. The CONTRACTOR shall review and resubmit as required by the Engineer until his/her approval is obtained.
- D. The CONTRACTOR shall allow sufficient time for preliminary review, corrections, resubmission and final review of all submittals. The CONTRACTOR shall allow not less than fourteen (14) days for each review. Submittals critical to the progress of the project, when requested in writing by the CONTRACTOR, will be given priority review.

12.2.04 LIST OF REQUIRED SUBMITTALS

- A. List of all subcontractors
- B. Project Construction Schedule
- C. Pipe manufacturer certification that the pipe meets specifications.
- D. Proposed Concrete Mix Designs, including the documentation of all proposed concrete admixtures.
- E. Stormwater Pollution Prevention Plan
- F. Construction signing and traffic control plan. Contractor may use the provided traffic control plans for intersection signing. Contractor to provide construction signing and traffic control plan for portions of roadway where detailed traffic control has not been provided. Construction signing and traffic control plan must be in accordance with TMUTCD and be signed by a licensed professional engineering in the state of Texas.
- G. Trench Safety Plan
- H. Proposed Concrete Block Wall Information

12.3.00 CONSTRUCTION

N/A

12.4.00 MEASUREMENT AND PAYMENT

Any and all Work called for in the Contract Documents or which is required for the proper construction of items called for in the Contract Documents is to be performed by CONTRACTOR unless specifically noted otherwise. The cost of all work for which there is no separate pay item in the proposal shall be included in the price for a related pay item such that work called for or required by the Contract Documents will be constructed for the Contract Price.

The following descriptions are intended to clarify the nature of the work required for this project, the provisions of the standard technical specifications shall apply, except as otherwise noted herein.

BID ITEM N/A: CONSTRUCTION STAKING

The provisions of Item 105.4 of the COG Specifications are hereby revised to state that Construction Stakes shall be provided by the CONTRACTOR. There shall be no separate pay provided for Construction Staking. Construction Staking shall be considered subsidiary to Mobilization.

BID ITEM 1: GENERAL SITE PREPARATION

General Site Preparation shall be in accordance with 203.1 of the NCTCOG Specifications. This pay item will include removal of improvements or obstructions not specifically provided for in other pay items of the Bid Proposal which includes but is not limited to removing gravel, riprap, stumps (all sizes), landscaping, planter boxes, shrubbery, plantings, fences, brick columns, and other items located within the right-of-way.

In addition, the work will consist of trimming, if required, removal of above ground foliage and tree formations, and complete removal of all root systems below grade for trees / shrubs less than 3" in trunk diameter which are not specifically identified for removal on the plans but which must be removed because they are in conflict with the proposed sidewalk or will have exposed roots due to parkway grading. Any backfill necessary after stump removal is subsidiary to this bid item. The City's representative shall authorize any tree/shrub removal which is not specifically identified in the plans.

Only trees, landscaping and plantings located within the right-of-way and designated for removal on the plans shall be removed. All other trees and landscaping shall be protected from damage as shown in the plan details. Trees or shrubs which overhand the proposed sidewalk shall be trimmed to be clear of the sidewalk to a height of 72". Tree/shrub trimming is subsidiary to ROW maintenance. All other trees and landscaping shall be protected from damage as shown in the plan details. This item includes all safety measures and additional traffic control as needed to complete the work. All trees and plant materials shall be properly disposed of offsite.

Pavements and sidewalks shall be patched if necessary to allow for vehicular and pedestrian traffic. All excavated areas shall be backfilled and compacted to prevent additional damage to pavement or other structures. Any damage to yard areas shall be restored at no additional pay, including planters and landscape edging and irrigation systems.

Contractor will be responsible for minimum dust on a daily basis and when instructed by the City. Dust control shall include, but is not limited to, operations such as watering stockpiles, subgrade, pavement, sawing, concrete joint sealing, routing, and crack sealing. Equipment necessary for capturing particulate matter during the process of routing, cleaning, and sealing cracks and joints shall be considered subsidiary. The necessary application of water for dust shall be considered subsidiary.

Irrigation systems that extend into the ROW shall be capped at the property line prior to pavement removal, leaving the system operable on the resident's property. Systems shall be restored to working order within the ROW once the work is complete. This Item includes all safety measures and additional traffic control as needed to complete work associated with site preparation beyond what is shown in the traffic control plan.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price of Lump Sum.

BID ITEM 2: MOBILIZATION

The work under this item shall include establishment of facilities on the project site and the movement of personnel, construction equipment and supplies to the project site or to the vicinity of the project site in order to enable the CONTRACTOR to begin work on the contract. The cost of all bonds and insurance for the project will also be considered part of this specification. Construction Staking is also considered subsidiary to Mobilization.

Mobilization will be measured as a lump sum item as the work progresses. Partial payments for mobilization shall be paid for at the Total Unit Price as shown in the bid proposal with the regular monthly estimates as follows: The adjusted contract amount for construction items as used below is defined as the total contract amount less the lump sum for Mobilization.

- a. When 1% and less than 5% of the adjusted contract amount for construction items is completed, 50% of the mobilization lump sum bid will be paid.
- b. When 5% and less than 10% of the adjusted contract amount for construction items is completed, 75% of the mobilization lump sum bid

will be paid. Previous payments under this section will be deducted from this amount.

- c. When 10% or more of the adjusted contract amount for construction items is completed, 95% of the mobilization lump sum bid will be paid. Previous payments under this section will be deducted from this amount.
- d. Payment for the remainder of the lump sum bid for "Mobilization" will be made on the final estimate.

BID ITEM 3: PROJECT SIGN

The provisions of Item 107.20 of the NCTCOG Specifications and City Specifications shall govern for the erection of project signs.

The CONTRACTOR shall install two (2) Project Signs on Starnes Road. The exact locations shall be approved by the OWNER prior to installation.

These signs shall be in accordance with Figure 2M (R 07-01-2009) of the City of North Richland Hills' Public Works Design Manual. These signs shall be installed within 15 calendar days from the date the OWNER awards the contract and shall remain in place during the entire construction period. These Signs shall be removed within 15 calendar days after the OWNER's acceptance of the project improvements. The CONTRACTOR shall maintain the signs for the duration of the construction. The Project Signs shall be measured and paid for at the bid price "per each".

Sign Data:

Project Name: Acts Court Retaining Wall Project

Project - \$: To Be Determined After Contract Award

Projected Completion: To Be Determined After Contract Award

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each project sign furnished.

BID ITEM 4: REMOVE CONCRETE SIDEWALK

This item shall include the removal of the existing concrete sidewalk to the limits as shown on the plans. Removing Concrete Sidewalk shall comply with Item 423 of the TxDOT Specifications, and City Specifications.

MEASUREMENT AND PAYMENT: This item shall be on the bases of price bid per square yard of concrete sidewalk removed.

BID ITEM 5: REMOVE RETAINING WALL

This item shall include the removal of the existing retaining wall to the limits as shown on the plans, including “dead man” anchors. Remove Retaining Wall shall comply with Item 496 of the TxDOT Specifications, and City Specifications.

MEASUREMENT AND PAYMENT: This item shall be on the bases of price bid per linear foot of structural retaining wall removed.

BID ITEM 6: REMOVE WOOD FENCE AND POSTS

This item shall include the removal of all the wood fence including posts to the limits as shown on the plans. Remove Wood Fence and Posts shall comply with Item 496 of the TxDOT Specifications, and City Specifications.

MEASUREMENT AND PAYMENT: This item shall be on the bases of price bid per linear foot of wood fence removed.

BID ITEM 7: REMOVE SIGN

For location shown on the Plans, remove the existing sign structure, and salvage the lights, panels, existing sign post and all other components. The CONTRACTOR shall coordinate with the OWNER as to where the sign should be stored. Remove Sign shall comply with Item 644 of the TxDOT Specifications, and City Specifications.

MEASUREMENT AND PAYMENT: This item shall be on the bases of price bid per each sign removed. Salvaging the sign structure is subsidiary to this item.

BID ITEM 8: RETAINING WALL (CONC BLOCK)

This item shall comply with Item 423 of the TxDOT Specifications. This item shall consist of the work, labor, and materials necessary for furnishing and placing the retaining wall.

MEASUREMENT AND PAYMENT: This item shall be on the basis of price per square foot of concrete wall to be constructed.

BID ITEM 9: EMBANKMENT (FINAL)(ORD COMP)(TY C2)(DS)

This item shall comply with Item 132 of the TxDOT Specifications. This item shall consist of the work, labor, and materials necessary for furnishing and placing embankment.

MEASUREMENT AND PAYMENT: This item shall be on the basis of price per cubic yard of embankment material.

BID ITEM 10: PIPE UNDERDRAIN (TY 6)(6")

This item shall comply with Item 556 of the TxDOT Specifications. This item shall consist of the work, labor, and materials necessary for furnishing and placing the pipe underdrain.

MEASUREMENT AND PAYMENT: This item shall be on the basis of price per linear foot of underdrain.

BID ITEM 11: 4" CONCRETE SIDEWALK

Four inch (4") thick reinforced concrete sidewalk, including reinforcing steel, shall be constructed in accordance with the width and details shown on the Plans and TxDOT Specification Items 360 and 531. Reinforced concrete paving shall be constructed in accordance with TxDOT Specification Items 360 and 531 with the appropriate strength. One (1") inch thick layer of cushion sand under the sidewalk is subsidiary to the unit price of the sidewalk.

Sidewalk widths vary and shall be installed per the Plans. Expansion joint material and elastomeric filler shall be placed along the full length of the sidewalk between the back of curb and sidewalk (for areas where sidewalk is adjacent to back of curb), and shall be included in the unit price for the sidewalk. Sidewalks located adjacent to the back of curb shall have a sidewalk lug installed per Figure 11P-3 on the Plans. This is subsidiary to sidewalk installation.

The Contractor shall be responsible to ensure all sidewalk construction is in accordance with the Americans with Disabilities Act (ADA) and Texas Accessibility Standards (TAS). Any portions of sidewalks which are constructed and do not meet the requirements of ADA and TAS will be required to be removed and replaced at the Contractor's Expense.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per square yard including excavation, concrete, reinforcing steel, cushion sand, joint sealer, expansion joint material and elastomeric filler complete in place.

BID ITEM 12: WOOD FENCE (INSTALL)

Install wood fence supported by posts at limits as shown on the plans. All new posts, rails, and pickets shall be of the same type of material and configuration as the existing adjacent fence being connected to. Use all new materials for installed fence and do not reuse any of the existing fence unless approved by the Engineer.

Provide a permanent wood fence that is equal to or better than the existing wood fence. Provide a wood fence in the proposed location that is equal to the design, quality, wood species and appearance of the existing adjacent wood fence.

Fence posts shall be spaced at intervals equal or closer than the existing fence. Posts shall be set in a vertical position. All posts shall be placed to the minimum depth below ground as directed by the Engineer of manufacturer. Posts shall be set plumb and firm to the line shown on the plans.

Provide concrete footings at no additional cost. Center posts in their footings. Place concrete and compact by tamping or other approved methods. Use forms for footings where the ground cannot be satisfactorily excavated to neat lines. Crown the concrete to disperse water from the post. Keep the forms in place for at least 24 hours. Backfill the footing with moistened material as soon as each form is removed.

Stain fence as needed to match the existing adjacent fence.

MEASUREMENT AND PAYMENT: This item shall be on the basis of price per linear foot of wood fence. This price is full compensation for furnishing and installing fencing; cleaning, grading, and backfilling; staining; removing and disposing of surplus material; and equipment, labor, tools and incidentals.

BID ITEM 13: BARRICADES, SIGNS, AND TRAFFIC HANDLING

This item shall include the furnishing and installing traffic control devices in accordance with the Traffic Control Plan in the Plans. Traffic control shall comply with the Texas Manual of Uniform Traffic Control Devices, Item 502 of the TxDOT Specifications, and City Specifications. All traffic control items required to implement the Traffic Control Plan shall be subsidiary to this item. This shall include, but is not limited to, barrels, barricades, panels, signs, removal of existing pavement markings, installation of and removal of temporary pavement markings, concrete traffic barrier, signal modifications, and temporary water/sewer connections.

The standard details shall be considered the minimum requirements necessary to construct the project. Additional measures may be needed to address local traffic control issues and additional sequencing not covered.

Prior to construction, the CONTRACTOR will be required to submit a detailed construction sequencing and temporary traffic control plan to address all portions of roadway traffic control not covered by the construction plans. The CONTRACTOR shall also submit a signal modification plan.

A schedule shall also be submitted to address times of completion of each stage of the construction sequence and projected dates of road closings, detours, and utility interruptions. The CONTRACTOR shall update this schedule on a monthly basis.

The CONTRACTOR shall follow the sequence of construction provided in these plans. Any deviations from the plans must be submitted in writing to the CITY for

approval. Proper notification must be given to all affected property owners at least 48 hours in advance of all construction operations. No street shall be closed except upon written authority from the OWNER.

Access to adjacent properties must be maintained except for short periods of time when construction actually blocks the driveway. The CONTRACTOR shall place gravel or take other means to insure all-weather access to properties after working hours and during weekends and holidays. All driveways shall be constructed in 2 phases. See Traffic Control Plan. This item shall also include providing temporary all-weather access to local residences and temporary mailboxes at each driveway location if needed.

All signal modifications shall be performed in accordance with the approved submittal and shall be subsidiary to this item.

The amount bid for this item shall be paid over the duration of the project with the amount paid on each monthly progress estimate determined by the percent complete on all other bid items.

MEASUREMENT AND PAYMENT: The monthly unit price shall include, but not be limited to all labor, equipment, and materials necessary to implement, maintain, move and remove traffic control devices during all phases of construction.

BID ITEM 14: SWPPP PLAN AND EROSION CONTROL ITEMS

It will be the responsibility of the CONTRACTOR to develop a SWPPP. The CONTRACTOR shall submit the plan to the OWNER in accordance with NCTCOG Specification 202. Once the SWPPP is deemed acceptable by the OWNER, the CONTRACTOR shall obtain a National Pollutant Discharge Elimination System (NPDES) permit. The SWPPP is to be kept on the construction site and implemented throughout the construction duration.

This item shall govern the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the Texas Commission on Environmental Quality's (TCEQ) Texas Pollution Discharge Elimination System (TPDES) General Permit Number TXR150000. Implementation of the SWPPP, installation of erosion control devices, maintenance of such devices, removal of the devices after completion of the project and vegetation has been re-established in all disturbed areas, and all required documentation, and any required application fees as outlined in the TPDES General Permit TXR150000 shall be included in the price of this item. The Contractor shall submit to the City a copy of TPDES documents, as appropriate, prior to commencing construction. See NCTCOG Item 202 for erosion control devices.

Cost for furnishing and installing any and all BMP's specified in the SWPPP including, but not limited to, silt fence, inlet protection, rock berms, curlex and stabilized construction entrances shall be subsidiary to this bid item.

If the OWNER or Owner's Representative including the Engineer or City Inspector deems the SWPPP devices deficient, CONTRACTOR will make necessary adjustments to adhere to the SWPPP plan at CONTRACTOR'S expense. No additional payment will be made for repair to erosions control devices.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price of lump sum for installing and maintaining all necessary erosion control items and the preparation of the SWPPP and its implementation, including any site postings from the beginning of construction through final acceptance and establishment of grass coverage. Payment will be made on a monthly basis by dividing the lump sum contract price by the total contract time (months) for the project.

BID ITEM 15 AND 16: FURNISHING AND PLACING TOPSOIL AND BLOCK SODDING

Topsoil and Sod shall be installed per TxDOT Specification Items 160 and 162. The type of sod placed shall match the type of grass in the adjacent lawn area. A 4-inch layer of topsoil, furnished in accordance with Item 162, shall be placed on all areas to be sodded. Suitable on-site topsoil may be utilized, or topsoil shall be imported to achieve 4-inches. Fertilizer shall be furnished in accordance with Item 166 and applied at time of initial sodding only. Fertilizer shall be considered subsidiary to Block Sod placement. Watering during construction will be considered subsidiary to block sodding and will be done in accordance with Item 168. Watering shall be done until accepted by the owner and the City.

The topsoil shall be uniformly distributed on the designated area(s) and it shall be a minimum of 4 inches (75 mm) deep after firming. Spreading shall be performed in such a manner that sod installation can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets. Topsoil shall not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or in a condition that may otherwise be detrimental to proper grading or proposed for turfgrass sod installation.

After the topsoil has been spread and the final grade approved, it shall be cleared of all grade stakes, surface trash or other objects that would hinder installation and/or maintenance of turfgrass sod and other plantings. Paved areas over which hauling operations are conducted shall be kept clean and any soil which may be brought upon the surfacing shall be promptly removed. The wheels of all vehicles shall be kept clean to avoid tracking soil on the surfacing of roads, walks or other paved areas.

The first row of turfgrass sod shall be laid in a straight line, with subsequent rows placed parallel to and tightly against each other. Lateral joints shall be staggered

to promote more uniform growth and strength. Care shall be exercised to insure that the pieces are not stretched or overlapped and that all joints are butted tightly to prevent voids that would cause air drying of the roots.

The installation contractor shall water the turfgrass sod immediately after transplanting to prevent drying. As sodding is completed in any one section, the entire area shall be lightly rolled. It shall then be thoroughly watered to a depth sufficient to ensure the underside of the new sod pad and soil immediately below the pad are thoroughly wet. The general contractor shall be responsible for having adequate water available at the site prior to and during installation.

The general contractor shall supply adequate water to the site. The single-most important factor in the successful rooting of newly installed turfgrass sod is adequate, regular watering. Watering should begin immediately after installation. The amount of water required will vary depending upon season, weather, temperature, wind, slope and turfgrass variety. The general contractor shall designate the party responsible to ensure adequate water supply and application.

MEASUREMENT AND PAYMENT: Topsoil shall be measured per cubic yard. Block sodding shall be measured and paid per square yard of block sod installed. Both items include all labor, equipment and materials necessary to complete the work including preparation of topsoil, watering, fertilizing and maintenance until accepted by the property owner and the City. The cost of fertilizer and watering is incidental to the unit price of sodding.

BID ITEM 17: PROJECT CONTINGENCY AS DIRECTED BY OWNER

Project Contingency is provided to be used at the discretion of the OWNER for any unforeseen items. Any work performed without prior authorization from the OWNER shall not be paid under this item. The CONTRACTOR shall include this amount within their bid and understand the intent is not to utilize this item. A maximum contingency amount of \$10,000 is provided for this item. At the completion of the work, funds not utilized in this item shall be removed from the Contract.

MEASUREMENT AND PAYMENT: Payment for contingency work shall be made by the lump sum price agreed on in writing by the OWNER and the CONTRACTOR before said work is commenced. The Work is subject to all other conditions of the contract. The CONTRACTOR will only charge the fraction of the allowance that yields the agreed upon price which will be considered payment in full for all labor, materials, tools, equipment, and incidentals.

SECTION V

SPECIAL PROVISIONS

SPECIAL PROVISIONS

INDEX

SP-1	General	SP-26	Prosecution of Construction
SP-2	Project Description	SP-27	Liquidated Damages
SP-3	Definitions	SP-28	Occupational Safety and Health Act
SP-4	Information Concerning Conditions	SP-29	Easements/Right-Of-Way
SP-5	Addenda	SP-30	Right of Entry
SP-6	Proposed Guaranty	SP-31	Authority and Duties of Inspector
SP-7	Filing of Proposal	SP-32	Owner-Engineer Relationship
SP-8	Rejection of Proposals	SP-33	Professional Inspection by Engineer
SP-9	Disqualification of Bidders	SP-34	Copies of Plans and Specifications Furnished
SP-10	Qualification to Perform	SP-35	Verification of Measurements
SP-11	Award of Contract	SP-36	Pay Items – Incidental Construction
SP-12	Bonds – Amount and Terms	SP-37	Omissions
SP-13	Insurance Requirements	SP-38	Minimum Wage Rates
SP-14	Policy Endorsements and Special Conditions	SP-39	Losses from Natural Causes
SP-15	Order of Work	SP-40	Explosives, Blasting, Etc.
SP-16	Priority of Contract Documents	SP-41	Work with Own Forces
SP-17	Warranty	SP-42	Project Name Construction Signs
SP-18	Lines and Grades	SP-43	Water for Construction
SP-19	Inspection and Testing	SP-44	Owner's Right to Suspend Work and Annul Contract
SP-20	Indemnification	SP-45	Ownership of Drawings
SP-21	Sales Tax	SP-46	Adequacy of Design
SP-22	Traffic Control		
SP-23	Trench Safety		
SP-24	Work-Site Area and Clean-Up		
SP-25	Existing Structures, Facilities and Improvements		

SPECIAL PROVISIONS

SP-1: GENERAL

For this contract, the General Provisions (Division 100) of the "Public Works Construction Standards - North Central Texas" adopted by the North Central Texas Council of Governments (NCTCOG), Fifth Edition, adopted in November 2017, with all amendments thereto, shall govern and shall constitute as the Special Provisions except as herein amended, modified or supplemented. Omission of any section from this Project's Contract Documents does not mean that such section is not applicable to this Project. The NCTCOG General Provisions will be referred to as the General Provisions (GP) and will not be physically bound with the other contract documents. Copies may be obtained from the North Central Texas Council of Governments.

The following Special Provisions shall take precedence over all other contract conditions, specifications and agreements.

SP-2: PROJECT DESCRIPTION

The work associated with this Project includes, but is not limited to, the following tasks:

1. Construction Staking
2. Traffic and Erosion Control
3. Roadway Grading
4. Concrete and Asphalt Paving
5. Driveway Reconstruction
6. Storm Drain Improvements
7. Water Improvements
8. City Utility Adjustments
9. Pavement Marking and Signage

SP-3: DEFINITIONS

Modify GP Item 101.1 Definitions as follows:

The word "City" or "OWNER" in these documents shall be understood as referring to:

The City of North Richland Hills, Texas
4301 City Point Drive
North Richland Hills, Texas 76180

The word "Engineer" in these documents shall be understood as referring to a professional engineer employed by the City of North Richland Hills.

The word "Inspector" in these documents shall be understood as referring to the technical construction inspector within the OWNER's Public Works Department.

The word "OWNER's Representative" in these documents shall be understood as referring to the OWNER's Director of Public Works, Public Works Technical Construction Inspector(s), Engineer of the OWNER, or such other Engineer or Supervisor as may be authorized by the OWNER to act in any particular position.

Any reference to "Special Conditions" or "Supplemental Special Conditions" shall be understood as referring to these Special Provisions.

SP-4: INFORMATION CONCERNING CONDITIONS

Add the following to GP Item 102.3. Examination of Plans, Specifications and Site of the Work:

Prospective bidders shall make a careful examination of the entire site of the project and shall make such explorations as may be necessary to determine the subsoil and water conditions to be encountered; improvements and obstructions which may be encountered, especially those to be protected; methods of providing ingress and egress to private as well as public property; methods of handling traffic during construction and maintenance of the entire project as well as any section thereof; protection of all existing structures both above and below ground; and how the plans fit the proposed project and especially if any discrepancies exist.

The accuracy of the information furnished by the Engineer or the plans and specifications as to underground structures and surface structures, foundation conditions, character of soil, position and quality of ground and subsoil water, etc., are not guaranteed by the OWNER.

Subsurface exploration, to ascertain the nature of the soils at the project site, including the amount of rock, if any, is to be the responsibility of any and all prospective bidders. Whether prospective bidders perform this subsurface exploration jointly or independently, it shall be left to the discretion of such prospective bidders. Subsurface exploration shall not be attempted without the approval of the Engineer.

SP-5: ADDENDA

Bidders wanting further information, interpretation or clarification of the Contract Documents must make their request in writing to the Engineer **at least seven (7) days prior to the Bid Opening**. Answers to all such requests will be made a part of the Contract Documents. No other explanation or interpretation will be considered official or binding.

Should a bidder find discrepancies in, or omission from the Contract Documents, or should he/she be in doubt as to their meaning, he/she should at once notify the Engineer in order that a written addendum may be sent to all bidders. Any addenda issued will be mailed or be delivered to each prospective bidder who has requested and received a bid packet. The bid proposal as submitted by the bidder must be so constructed as to include any addenda issued by the Engineer prior to 24 hours of the bid opening, with the appropriate recognition of addenda so noted in the bid proposal.

SP-6: PROPOSED GUARANTY

Modify GP Item 102.5. Proposal Guaranty to include:

The five percent (5%) proposal guaranty shall be five percent (5%) of the largest possible total for the bid submitted.

SP-7: FILING OF PROPOSAL

Add the following to GP Item 102.6. Filing of Proposals:

Bids, affidavits and proposed construction schedules must be submitted in sealed envelopes within the time limit for receiving proposals, as stated in the "NOTICE TO BIDDERS", which envelopes bear a legible notation, "PROPOSAL", and the name of the project. The original copy shall be filed with the City of North Richland Hills in the office of the City Secretary at City Hall.

SP-8: REJECTION OF PROPOSALS

Add the following reasons to GP Item 102.11. Rejection of Proposals:

- (7) Proposals that are incomplete insofar as the required signatures, proposal guaranty, or containing any material irregularities.

SP-9: DISQUALIFICATION OF BIDDERS

Add the following reason to GP Item 102.12. Disqualification of Bidders:

- (9) where more than one proposal for an individual firm, partnership, or corporation is filed under the same or different names and where such proposals are not identical in every respect.

SP-10: QUALIFICATION TO PERFORM

The OWNER may make such investigations as he/she deems necessary to determine the bidder's ability to perform the work, and the bidder shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any bid if the evidence submitted fails to satisfy the OWNER that such bidder can properly carry out the obligations of the contract and to complete the work contemplated therein.

SP-11: AWARD OF CONTRACT

Add the following to GP Item 103.2. Award of Contract and Commencement of Work:

The award, if made, shall be on the basis of the lowest acceptable bid submitted by a qualified responsible bidder, as determined by the OWNER, within 60 days after the opening of proposals. In determining the lowest acceptable bid, the OWNER will consider all relative factors such as: efficiency of a single contractor in the project area, increase in public safety due to a single contractor's operations, length of construction, coordination of construction activities, previous experience the OWNER may have had with the bidder, effects on area traffic due to construction detours and efficient use of City funds. The right is reserved, as the interest of the OWNER may require, to reject any and all bids and to waive any formality in bids received. It is the intention of the OWNER to award a single contract for this work.

SP-12: BONDS - AMOUNT AND TERMS

In addition to GP Item 103.3. Surety Bonds, add the following:

With the execution and delivery of the contract, the CONTRACTOR shall furnish and file with the City in the amount herein required, the following surety bonds:

- (1) A good and sufficient Performance Bond in an amount equal to one hundred percent (100%) of the total awarded contract price, guaranteeing the full and faithful execution of the work and performance

of the contract and for the protection of the City against any improper execution of the work or the use of inferior materials.

- (2) A good and sufficient Payment Bond in an amount equal to one hundred percent (100%) of the total awarded contract price, guaranteeing payment for all labor, materials and equipment used in the construction of the project.
- (3) A good and sufficient Maintenance Bond in an amount equal to twenty percent (20%) of the final contract price, guaranteeing the maintenance in good condition of such project for a period of two (2) years from and after the time of its completion and acceptance by the City.

General conditions for bonds are as follows:

1. The surety on each bond must be a responsible surety company which is licensed and qualified to do business in the State of Texas (surplus lines carriers are not acceptable) and satisfactory to the City. No surety will be accepted who is in default or delinquent on any bond or who is interested in any litigation against the City. Should any surety on the contract be determined unsatisfactory at any time by the City, notice will be given to the CONTRACTOR to the effect, and the CONTRACTOR shall forthwith substitute a new Surety or Sureties satisfactory to the City. (Texas Lloyd's Plan carriers are not acceptable.) No payment will be made under the contract until the new Surety or Sureties, as required, have qualified and have been accepted by the City. The contract shall not be operative nor shall any payments be due until approval of the bonds has been made by the City.
2. The surety company should be listed in the current circular of the "Federal Register - Department of the Treasury - Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsurance Companies".
3. The surety shall/must have an underwriting limitation (as shown in the Federal Register) to cover 110% of the project cost. Exceptions to a requirement may be made in unusual circumstances, subject to approval by the Office of Risk Management and the City Attorney's Office.
4. All bonds shall be made on forms furnished by the City and shall conform to the requirements as set forth herein.
5. Each Bond shall be executed by the CONTRACTOR and the Surety. The name and residence of each individual party to the bond shall be

inserted in the body thereof, and each such party shall sign the bond with his/her usual signature on the line opposite the scroll seal, and if signed in the States of Main, Massachusetts, or New Hampshire, an adhesive seal shall be fixed opposite the signature.

6. If the principals are partners, their individual names will appear in the body of the bond or on proceeding pages to be included with said bond with the recital that they are partners composing a firm, naming it, and all the members of the firm shall execute the bond as individuals.
7. The signature of a witness shall appear in the appropriate place, attesting the signature of each individual party to the bond.
8. The principal or surety shall be a corporate surety; the name of the state in which incorporated shall be inserted in the appropriate place in the body of the bond or on proceeding pages to be included with said bond, and said instrument shall be executed and attested under the corporate seal, the fact shall be stated, in which case a scroll or adhesive seal shall appear following the corporate name.
9. The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary according to the form attached hereto. In lieu of such certificate, records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.
10. The date of any bond must not be prior to the date of the contract in connection with which it is given.

SP-13: INSURANCE REQUIREMENTS

In addition to the provisions of GP Item 103.4. Insurance, add the following:

Workmen's Compensation Insurance: Statutory requirements as specified by the Workmen's Compensation Law of the State of Texas and adopted by the Texas Workers' Compensation Commission per Title 28, TAC §110.110.
Workers' Compensation Insurance Coverage:

A. Definitions:

- (1) Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission or a coverage agreement (TWCC-81, TWCC-82,

TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees (including those subject to a coverage agreement) providing services on a project for the duration of the project.

- (2) Building or construction - Has the meaning defined in the Texas Labor Code, §406.096(e)(1).
- (3) Contractor - A Person bidding for or awarded a building or construction project by a governmental entity.
- (4) Coverage - Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).
- (5) Coverage Agreement - A written agreement on form TWCC-81, form TWCC-82, form TWCC-83, or form TWCC-84, filed with the Texas Workers' Compensation Commission which establishes a relationship between the parties for purposes of the Workers' Compensation Act, pursuant to the Texas Labor Code, Chapter 406, Subchapters F and G, as one of employer/employee and establishes who will be responsible for providing workers' compensation coverage for persons providing services on the project.
- (6) Duration of the project - Includes the time from the beginning of the work on the project until the work on the project has been completed and accepted by the governmental entity.
- (7) Persons providing services on the project ("subcontractor" in §406.096) - Includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the CONTRACTOR and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

- (8) Project - Includes the provision of all services related to a building or construction contract for a governmental entity.
- B. The CONTRACTOR shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the CONTRACTOR providing services on the project for the duration of the project.
- C. The CONTRACTOR must provide a certificate of coverage to the governmental entity prior to being awarded the contract.
- D. If the coverage period shown on the CONTRACTOR's current certificate of coverage ends during the duration of the project the CONTRACTOR must prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.
- E. The CONTRACTOR shall obtain from each person providing services on the project and provide to the governmental entity:
- (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and
 - (2) no later than seven days after receipt by the CONTRACTOR, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- F. The CONTRACTOR shall retain all required certificates of coverage for the duration of the project and for one year thereafter.
- G. The CONTRACTOR shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the CONTRACTOR knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- H. The CONTRACTOR shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

- I. The CONTRACTOR shall contractually require each person with whom it contracts to provide services on a project, to:
 - (1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;
 - (2) provide to the CONTRACTOR, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
 - (3) provide the CONTRACTOR, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (4) obtain from each other person with whom it contracts, and provide to the CONTRACTOR:
 - (a) a certificate of coverage, prior to the other person beginning work on the project; and
 - (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (6) notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
 - (7) contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificates of coverage to be provided to the person for whom they are providing services.

- J. By signing this contract or providing or causing to be provided a certificate of coverage, the CONTRACTOR is representing to the governmental entity that all employees of the CONTRACTOR who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the CONTRACTOR to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- K. The CONTRACTOR's failure to comply with any of these provisions is a breach of contract by the CONTRACTOR which entitles the governmental entity to declare the contract void if the CONTRACTOR does not remedy the breach within ten (10) days after receipt of notice of breach from the governmental entity.

In accordance with statutory requirements, the CONTRACTOR shall:

- (1) provide coverage for its employees providing services on the project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;
- (2) provide a certificate of coverage showing workers' compensation coverage to the governmental entity prior to beginning work on the project;
- (3) provide the governmental entity, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the CONTRACTOR's current certificate of coverage ends during the duration of the project;
- (4) obtain from each person providing services on the project, and provide to the governmental entity:
 - (A) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

- (B) no later than seven (7) days after receipt by the contract, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
- (6) notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project;
- (7) post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30 point bold type and text in at least 19 point normal type, and shall be in both English and Spanish and any other language common to the worker population. The text for the notices shall be the following text in Figure 1 provided by the commission on the sample notice, without any additional words or changes:

Figure 1:

REQUIRED WORKERS' COMPENSATION COVERAGE

"The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes persons providing, hauling, or delivering equipment or materials, or providing labor or transportation or other service related to the project, regardless of the identity of their employer or status as an employee"

"Call the Texas Workers' Compensation Commission at (512) 440-3789 to receive information on the legal requirement for

coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage."

In GP Item 103.4.1.2. Commercial General Liability, change the respective limits as follows:

Contractor's General Liability and Property Damage Insurance:

Bodily Injury (or Death) \$ 600,000 each occurrence

Property Damage \$ 600,000 each occurrence

SP-14: POLICY ENDORSEMENTS AND SPECIAL CONDITIONS

In addition to the provisions of GP Item 103.4.5. Policy Endorsements and Special Conditions, add the following:

- (a) CONTRACTOR will not be issued a Work Order to commence work on this Contract until he/she has obtained all the insurance required under this section and such insurance has been approved by the OWNER or his representative.
- (b) CONTRACTOR shall procure and shall maintain during the life of this Contract, insurance coverage as herein specified, and in case of any work sublet, shall require any subcontractor in like manner to secure and maintain such minimum limits of insurance coverage, also.
- (c) The CONTRACTOR shall furnish the OWNER with certificates showing the type, amount, class of operations covered, effective dates, and dates of expiration of policies. Such certificates shall contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered except after thirty (30) days written notice has been received by the OWNER."

SP-15: ORDER OF WORK

Add the following to GP Item 103.6. Notice to Proceed and Commencement of Work:

The CONTRACTOR shall be fully responsible for proper coordination for the relocation of utilities (i.e. power poles, electrical lines, gas lines, telephone lines, television (TV) cable lines, buried cables, etc.) public and private unless otherwise noted on the plans/drawings.

SP-16: PRIORITY OF CONTRACT DOCUMENTS

Delete GP Item 105.1.1. Priority of Contract Documents and substitute the following:

In case of conflict between contract documents, priority of interpretation shall be in the following order:

- (1) This Agreement
- (2) Addendum(s)
- (3) "Notice to Bidders" advertisement
- (4) Bidder's Proposal
- (5) Special Instruction to Bidders
- (6) Performance, Payment and Maintenance Bonds
- (7) Certification of Insurance
- (8) Notice to Proceed
- (9) Technical Specifications
- (10) City of North Richland Hills' Public Works Design Manual
- (11) Special Provisions
- (12) General Provisions
- (13) Special Specifications
- (14) Project Construction Plans/Drawings
- (15) Special Material and/or Equipment Specifications
- (16) Special Material and/or Equipment Drawings
- (17) "Public Works Construction Standards - North Central Texas" adopted by the North Central Texas Council of Governments (NCTCOG), Fifth Edition, Adopted November 2017
- (18) TxDOT Standard Specifications for Construction and Maintenance of Highways, Street, and Bridges (TxDOT Specifications)
- (19) North Central Texas Council of Government references

SP-17: WARRANTY

In GP Item 105.2.2. Special Warranty, change all references from one year to two (2) years and add the following:

Notwithstanding any certificate which may have been given by the Engineer, if any materials, equipment or any workmanship which does not comply with the requirements of this contract shall be discovered within two (2) years after completion of construction of the project, and acceptance by the OWNER, the CONTRACTOR shall replace such defective materials or equipment, or remedy any such defective workmanship within ten (10) days after notice in writing of the existence thereof shall have been given by the OWNER or City Engineer. In the event of failure of the CONTRACTOR to replace any such defective materials or equipment or to remedy defective workmanship as herein

provided, the OWNER may replace such defective materials or equipment or remedy such workmanship as the case may be and in such event the CONTRACTOR shall pay to the OWNER the cost and expense thereof.

SP-18: LINES AND GRADES

Add the following to GP Item 105.4. Construction Stakes:

The CONTRACTOR is responsible to provide all construction staking under this contract.

All work under this contract shall be constructed in accordance with the lines and grades shown on the plans/drawings. The full responsibility for the holding to alignment and grade shall rest upon the CONTRACTOR.

The CONTRACTOR shall protect all property corner markers, and when any such markers or monuments are in danger of being disturbed, they shall be properly referenced and if disturbed shall be reset at the expense of the CONTRACTOR.

SP-19: INSPECTION AND TESTING

Add the following to GP Item 106.5. Samples and Tests of Materials:

The CONTRACTOR shall be responsible for paying for all testing and testing related items (acquiring specimens, proper specimen control, etc.) on this Project.

During the progress of the work, all materials, equipment and workmanship shall be subjected to such inspections and tests as will assure conformance with the contract requirements.

The CONTRACTOR shall furnish at his/her expense all necessary specimens and samples for testing.

Sampling and testing of all materials or construction methods shall be performed by a commercial laboratory, approved by the City Engineer, and permitted with the City of North Richland Hills' Public Works Department.

When the CONTRACTOR's materials, construction items or products incorporated in the project fail to satisfy the minimum requirements of the initial test and he/she has to bear the cost of any retesting, he/she shall be responsible for any and all cost associated with such retesting. If in this situation, the CONTRACTOR utilizes the same testing laboratory as the OWNER, the CONTRACTOR shall pay said testing laboratory in full or the

testing laboratory shall be able to gain recourse through the CONTRACTOR's Payment Bond.

In the event a conflict arises concerning the interpretation of A.S.T.M., A.C.I., A.W.W.A., etc., specifications/standards, the City Engineer shall make his/her determination of the interpretation and his/her determination shall be final.

SP-20: INDEMNIFICATION

The CONTRACTOR shall familiarize himself/herself with GP Item 107.3. Indemnification and GP Item 107.20.3.2. Indemnification. Additionally, the following shall be added to both Indemnification items:

This agreement, however, does not waive any governmental immunity available to the OWNER under Texas law and nor any defenses of the parties under Texas law. The provisions of this paragraph are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

SP-21: SALES TAX

Add the following to GP Item 107.15. State and Local Sales and Use Taxes:

The OWNER qualifies for exemption from state and local sales and use taxes, pursuant to the provisions of Section 151.309 of the Texas Limited Sales, Excise and Use Tax Act, as amended. Therefore, the OWNER shall not be liable for, or pay the CONTRACTOR's cost of such sales and use taxes which would otherwise be payable in connection with the performance of this contract.

SP-22: TRAFFIC CONTROL

Add the following to GP Item 107.20.2. Protection of Persons and Property:

The CONTRACTOR shall not remove any regulatory sign, instructional sign, street name sign, or other sign which has been erected by the City. If it is determined that a sign must be removed to permit required construction, the CONTRACTOR shall contact the City to remove the sign. In the case of regulatory signs, the CONTRACTOR must replace the permanent sign with a temporary sign meeting the requirements of the above referenced manual and such temporary sign must be installed prior to the removal of the permanent sign. If the temporary sign is not installed correctly or if it does not meet the required specifications, the permanent sign shall be left in place until the temporary sign requirements are met. When construction work is completed to the extent that the permanent sign can be reinstalled, the CONTRACTOR

shall again contact the City to reinstall the permanent sign and shall leave his temporary sign in place until such installation is completed.

The CONTRACTOR shall prosecute his traffic control work in such a manner as to create a minimum of interruption to traffic and pedestrian facilities and to the flow of vehicular and pedestrian traffic within the project area.

Access to adjacent property shall be maintained at all times unless otherwise approved by the OWNER.

SP-23: TRENCH SAFETY

Add the following paragraph to GP Item 107.20.3. Trench Safety:

Per Chapter 756, Texas Health & Safety Code, it shall be the responsibility of the CONTRACTOR to provide and maintain a viable trench safety system at all times during construction activities. The CONTRACTOR is directed to become knowledgeable and familiar with the standards as set forth by the Occupational Safety and Health Administration for trench safety that will be in effect during the period of construction of the project and the CONTRACTOR is responsible for conforming to such regulations as prescribed by Occupational Safety and Health Administration standards.

SP-24: WORK-SITE AREA AND CLEAN-UP

Add the following to GP Item 107.22. Working Area:

During construction the CONTRACTOR shall at all times keep the job site free from waste, debris and rubbish, and shall maintain a daily routine of clean-up.

The working operations of the CONTRACTOR shall at all times be conducted so as to create a minimum of inconvenience to the OWNER or to the public. Stringing of pipe, stockpiling of materials, etc., will be allowed only where no inconvenience is caused and only in amounts that can be readily used by the CONTRACTOR.

All trees, stumps, slashings, brush or other debris to be removed from the site, shall be disposed of in a manner consistent with Local Ordinances and all State Regulations. Burning of trash, etc., will only be permitted where allowed by Local Ordinances and State Pollution Regulations.

All excavated earth in excess of that required for project embankments and/or backfilling shall be removed from the job site and disposed of in a satisfactory manner. Disposal of excess material into area creeks and drainageways will not be allowed.

Any trees or other landscape features scarred or damaged by the CONTRACTOR's operations shall be restored or replaced at the CONTRACTOR's expense. Trimming or pruning to facilitate the work will be permitted only by experienced workmen in an approved manner. Pruned limbs of one inch (1") diameter or larger, shall be thoroughly treated as soon as possible with a tree wound dressing.

The CONTRACTOR shall take all precautions required to prevent soil erosion during construction. If, in the opinion of the City Engineer, excessive erosion occurs, the CONTRACTOR shall take immediate measure to prevent further erosion and restore the disturbed surface with topsoil at completion of the work.

All property along and adjacent to the CONTRACTOR's operations including lawns, yards, shrubs, trees, etc., shall be preserved or restored after completion of the work, to a condition equal to or better than existed prior to start of work.

Upon completion of the work as a whole and prior to final acceptance, the CONTRACTOR shall clean and remove from the site all surplus and discarded materials, temporary structures and all debris. He/She shall leave the site in a neat and orderly condition with an appearance satisfactory to the City Engineer and OWNER. Method and location of disposal or surplus and waste materials shall be satisfactory to the City Engineer.

The CONTRACTOR shall then thoroughly clean all equipment and materials installed by him/her and shall present for final inspection materials and equipment in a clean, bright and new condition.

No extra payment will be made for any of this type of work required on the project.

SP-25: EXISTING STRUCTURES, FACILITIES AND IMPROVEMENTS

Add the following to GP Item 107.24. Existing Structures, Facilities and Appurtenances:

The CONTRACTOR's attention is directed to the necessity of taking adequate measures to protect all existing structures, facilities, improvements and utilities, including sprinkler systems, encountered.

The plans show the locations of most known surface and subsurface structures. However, the OWNER assumes no responsibility for failure to show any or all of these structures on the plans or in their exact location. It is mutually agreed that such failure shall not be considered sufficient basis for claims for additional compensation for extra work, or for increasing the pay quantities in any manner,

unless the obstruction encountered is such as to necessitate substantial changes in the lines or grades, or requires the building of special works not provided for in the Contract Documents.

Any non-City utilities (cable, electric, gas, telephone, etc.) damaged by the CONTRACTOR shall be the responsibility of the CONTRACTOR for relocation and/or repair as well as the costs associated with the relocation and/or repair of utilities. Any City utilities (sanitary sewer main and water distribution main) damaged by the non-negligent acts of the CONTRACTOR will not be the responsibility of the CONTRACTOR for repair. Any delays associated with the relocation and/or repair of utilities shall not be basis for a claim for extra pay.

In the progress of the work, the CONTRACTOR may have to relocate certain existing utility service lines. All relocation, repairs and replacement work shall be done at the expense of the CONTRACTOR to the satisfaction of the OWNER, except those for which specific pay items appear in the Bid Proposal.

Any utilities damaged during construction work shall be immediately repaired at the CONTRACTOR's expense.

The CONTRACTOR shall at all times maintain streets and drives in a condition which will provide easy ingress and egress and upon completion of the work, repair all damages to roads and streets used during construction, to a condition at least as good as existed prior to the start of work.

SP-26: PROSECUTION OF CONSTRUCTION

Add the following to GP Item 108.2. Prosecution of the Work:

The CONTRACTOR will, unless otherwise approved by the City Engineer, prosecute the construction of this project during normal working hours as defined below:

- (a) Normal Work Day shall mean the normal eight (8) hour working day between the hours of 8:00am and 5:00pm
- (b) Normal Work Week shall mean the forty (40) hour work week encompassing the five (5) eight-hour days, Monday through Friday.

- (c) Holidays to be observed and to be included into the normal work week will be:

New Years Day	January 1 st
Martin Luther King Day	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4 th
Labor Day	First Monday in September
Thanksgiving Holiday	Fourth Thursday in November and the following Friday
Christmas Holiday	December 24 th & December 25 th

Any of the above dates falling on a Sunday shall be observed on the following Monday.

- (d) All work contemplated to be done which will not be in accordance with the normal hours will require prior approval from the City Engineer. The CONTRACTOR shall request permission by the City Engineer 72 hours in advance of the time he/she intends to work.

Work which is of necessity performed at times other than normal working hours will not require prior approval unless construction scheduling can be arranged to prevent such conflict of time requirements.

All work performed other than the normal working hours, whether scheduled or required, will in no way increase the cost to the OWNER for the performance of such work. The CONTRACTOR shall pay the OWNER for inspection services, city administrative fees, etc. when work has been approved to be performed on Weekends, Holidays and outside any normal working hours. These services shall be charged at the rate of \$75.00 per hour and shall include a four (4) hour minimum charge.

- (e) Calendar Days is defined as any day of the week or month; no days being excepted, such as, Saturdays, Sundays, holidays and inclement weather days. Counting of contract time will only be stopped when the Owner issues a written notice stating this fact, or when the project is noted as substantially complete by written notice from the Owner. The Owner shall determine when such action is necessary.

Extensions of time due to weather delays shall be determined in accordance with the following formula:

$E = R - P$ where P is greater than or equal to R, and

E = Extra Precipitation Days
P = Average Precipitation Days
R = Total Precipitation Days

Average Precipitation Days (P) is defined as a day of rain, sleet, hail, snow or any combination thereof, and shall be based upon the average precipitation for each month of the year as defined in the Local Climatological Data summaries issued by the National Climatic Data Center in Asheville, North Carolina, and for this contract shall be as follows:

Average Precipitation

Month No. of Days	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
	6	6	7	7	8	6	4	4	6	6	6	6

Partial months shall be prorated uniformly for the entire month and the sum of all the months used will be rounded to the nearest whole number. This number shall be P.

Total Precipitation Days (R) is defined as a day of rain, sleet, hail, snow or any combination thereof, if determined by the Owner's Project Representative that the Contractor's construction cannot progress substantially due to precipitation and thus be put in the Daily Inspection Logs as a precipitation day. The sum of all precipitation says shall be R.

The total number of Extra Precipitation Days (E) shall be granted to the Contractor as extension of time due to weather delays, and no additional time due to drying time for saturated soil will be allowed.

SP-27: LIQUIDATED DAMAGES FOR FAILURE TO COMPLETE ON TIME

Delete the Table [Schedule 108.8.1.(a) Liquidated Damages] within GP Item 108.8.1. Liquidated Damages for Failure to Complete on Time and substitute the following:

The contract time for the entire project is based on one project phase. The contract time for Phase I from the "Notice to Proceed" issuance date through completion is 60 consecutive calendar days. For additional information, refer to Article 3 of the Standard Form of Construction Agreement.

Liquidated damages will be assessed at the rate of **\$250** per consecutive calendar day for any unfinished work beyond the 60th calendar day after the "Phase I Notice to Proceed" issuance date. This rate shall continue until such time that the Project is complete and accepted by the OWNER.

SP-28: OCCUPATIONAL SAFETY AND HEALTH ACT

All work performed under this contract shall meet the requirements of the Occupational Safety and Health Act. It is the responsibility of the CONTRACTOR to familiarize himself/herself with the latest provisions of regulations published by the Occupational Safety and Health Administration in the Federal Register and to perform all of his/her responsibilities thereunder.

The CONTRACTOR shall comply with the provisions of the Occupational Safety and Health Act and the standards and regulations issued thereunder and warrant that all work, materials and products furnished under this contract will conform to and comply with said standards and regulations which are in existence on the date of this contract. The CONTRACTOR further agrees to indemnify, defend, and hold harmless the OWNER for all damages suffered by the OWNER as a result of the CONTRACTOR's failure to comply with the Act and the Standards issued thereunder and for the failure of any material and/or equipment furnished under this contract to so comply.

The CONTRACTOR shall also comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc., if not in conflict with those of the Occupational Safety and Health Act and shall maintain an accurate record of all cases of death, occupational disease and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment or work under the contract.

The CONTRACTOR alone shall be responsible for the safety, efficiency and adequacy of his/her equipment and employees and for any damage which may result from their failure or their improper construction, maintenance or operation.

SP-29: EASEMENTS/RIGHTS-OF-WAY

Without cost to the CONTRACTOR, the OWNER will provide the necessary easements or rights-of-way required for the project. However, the CONTRACTOR may desire additional temporary easements for the duration of the work for his/her construction, storage or access. All such temporary easements shall be obtained by the CONTRACTOR at no additional cost to the contract or the OWNER.

Unless specifically provided otherwise, the CONTRACTOR, as part of his/her work, shall clear all easements or rights-of-way of all obstructions to the work. On conclusion of his/her operations, he/she shall replace, repair or restore any improvements which may have been removed or damaged, as directed by the City Engineer.

SP-30: RIGHT OF ENTRY

The OWNER reserves the right to enter the property or location on which the works herein contracted for are to be constructed or installed, by such agent or agents as he/she may elect, for the purpose of inspecting the work, or for the purchase of constructing or installing such collateral work as said OWNER may desire.

SP-31: AUTHORITY AND DUTIES OF INSPECTOR

Inspectors, designated by and acting under the direction of the OWNER, shall have the authority to inspect all work done and all materials furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication or manufacture of the materials to be used. He/She is authorized to call to the attention of the CONTRACTOR any failure of the work or materials to conform to the plans, specifications and contract documents. He/She shall have the authority to reject materials or suspend the work until any situation at issue can be referred to and decided by the OWNER.

The Inspector is not authorized to revoke, alter or waive any requirements of the plans and specifications. He/She shall in no case act as foreman or perform other duties for the CONTRACTOR, interfere with the management of the work by the latter. Any advice which the Inspector may give the CONTRACTOR shall otherwise not be construed as binding the City Engineer in any way, or releasing the CONTRACTOR from fulfilling all of the terms of the Contract.

If the CONTRACTOR refuses to suspend operations on verbal order of the Inspector, a written order will be presented to the CONTRACTOR by the Inspector giving the reason for suspension of work. After placing the order in the hand of the "man-in-charge", the Inspector shall immediately leave the job. Work performed during the absence of the Inspector will not be accepted nor paid for, and shall be removed and replaced.

Notwithstanding any other provision of this agreement or any other Contract Documents, the Inspector shall not be in any way responsible or liable for any act, errors, omissions or negligence of the CONTRACTOR, any subcontractor or any of the CONTRACTOR's or subcontractor's agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the work.

SP-32: OWNER-ENGINEER RELATIONSHIP

The Engineer will be the OWNER's representative during construction. The duties, responsibilities and limitations of authority of the Engineer as the OWNER's Representative during construction are as set forth in the Contract Documents and shall not be extended or limited without written consent of the OWNER and Engineer. The Engineer will advise and consult with the OWNER, and all of OWNER's instructions to the CONTRACTOR shall be issued through the Engineer.

SP-33: PROFESSIONAL INSPECTION BY ENGINEER

The Engineer shall make periodic visits to the Site to familiarize himself/herself generally with the progress of the executed work and to determine if such work generally meets the essential performance and design features and the technical and functional engineering requirements of the Contract Documents; provided and except, however, that the Engineer shall not be responsible for making any detailed, exhaustive, comprehensive or continuous on-site inspection of the quality or quantity of the work or be in any way responsible, directly or indirectly, for the construction means, methods, techniques, sequences, quality, procedures, programs, safety precautions or lack of same incident thereto or in connection therewith.

Notwithstanding any other provision of this agreement or any other Contract Documents, the Engineer shall not be in any way responsible or liable for any acts, errors, omissions or negligence of the CONTRACTOR, any subcontractor or any of the CONTRACTOR's or subcontractor's agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the work.

SP-34: COPIES OF PLANS AND SPECIFICATIONS FURNISHED

Four (4) sets of plans and specifications (not including the General Provisions) shall be furnished to the CONTRACTOR at no charge for construction purposes. Additional sets may be obtained from the Engineer at **\$ 50.00 per set**.

SP-35: VERIFICATION OF MEASUREMENTS

Before ordering any material or doing any work, the CONTRACTOR shall verify all measurements involved and shall be responsible for the correctness of these measurements. No extra charge or compensation will be allowed because of differences between actual dimensions and the dimensions shown on the drawings; any difference which may be found shall be called to the attention of the Engineer for consideration before proceeding with the work.

SP-36: PAY ITEMS - INCIDENTAL CONSTRUCTION

The CONTRACTOR shall be paid only for those items which are listed in the proposal or which are added to the job through a change order. All construction or removal considerations which are not listed as a separate pay item shall be considered as incidental construction. Cost for these items shall be considered in the most appropriate item listed in the schedule(s) of pay items.

SP-37: OMISSIONS

- (a) In the event that the specifications inadvertently omit some of the usual and customary work, auxiliary equipment or material required for the satisfactory installation and operation of all work, equipment or material, the CONTRACTOR shall provide these items as directed by the Engineer at his/her own expense. The CONTRACTOR will be assumed to be an experienced and qualified CONTRACTOR in this type of work, and to have studied the purpose of operation of the equipment and the results to be obtained, and is to furnish equipment suitable for the work to be done.
- (b) In the event that the specifications inadvertently fail to contain a specification for work to be done and material to be furnished, then the Standard Current Specification or Requirements of the A.W.W.A., A.S.T.M., A.S.C.E., A.S.E.E., A.S.M.E., N.B.F.U., N.E.C., N.E.M.A., O.S.H.A., NCTCOG "Standard Specifications for Public Works Construction" or TxDOT "Standard Specifications for Construction of Highways, Streets and Bridges" shall apply. Should the above specifications not apply, then the work done, equipment or material furnished shall be as directed by the Engineer.

SP-38: MINIMUM WAGE RATES

For the work required of this project, the CONTRACTOR and all sub-contractors shall pay his/her employees the prevailing wage rates in accordance with the Texas Government Code, Chapter 2258. The prevailing wage rates determined applicable for this project are the current prevailing wage rate schedules of the United States Department of Labor adopted in accordance with the Davis-Bacon Act (40 U.S.C. Section 276a, et. seq.) and its subsequent amendments. These prevailing wage rates can be obtained from the following web page: www.access.gpo.gov/davisbacon/tx.html (Tarrant County).

A CONTRACTOR or sub-contractor who does not pay his/her employees in accordance with these prevailing wages shall pay \$ 60.00 for each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated in these prevailing wage rates to the CITY.

SP-39: LOSSES FROM NATURAL CAUSES

Unless otherwise specified, all loss or damage to the CONTRACTOR arising out of the nature of the work to be done, or from the action of the elements, or from any unforeseen circumstance in the prosecution of same, or from unusual obstructions or difficulties which may be encountered in the prosecution of the work, shall be sustained and borne by the CONTRACTOR at his/her own cost and expense.

SP-40: EXPLOSIVES, BLASTING, ETC.

Neither explosives nor blasting shall be allowed or used on this project.

SP-41: WORK WITH OWN FORCES

The CONTRACTOR shall perform with his own forces work of a value of not less than fifty percent (50%) of the contract amount.

SP-42: PROJECT NAME CONSTRUCTION SIGNS

The CONTRACTOR shall install two (2) Project Name Construction Signs on Starnes Road. One sign shall be at or near the intersection of Acts Court and Starnes Road and one sign shall be at or near the intersection of Holiday Lane and Starnes Road. The exact locations shall be approved by the OWNER prior to installation.

These signs shall be in general accordance with Figure 2M (R 07-01-2009) of the City of North Richland Hills' Public Works Design Manual, but the sign verbiage must be approved by the OWNER prior to fabrication. These signs shall be installed within 15 calendar days from the date the OWNER awards the contract and shall remain in place during the entire construction period. These Signs shall be removed within 15 calendar days after the OWNER's acceptance of the project improvements.

Sign Data:

Project Name: **Acts Court Retaining Wall Project**
Projected Completion: *To Be Determined After Contract Award*

SP-43: WATER FOR CONSTRUCTION

The CONTRACTOR shall make the necessary arrangements for securing and transporting all water required in the construction, including water required for mixing of concrete, sprinkling, testing, flushing or jetting.

The CONTRACTOR may remit the City a deposit for a fire hydrant water meter; additionally, the CONTRACTOR will be billed for the water used on the construction of this contract and measured by such fire hydrant meter. Additionally, the cost of any temporary pipe line, metering or other equipment which may be necessary to make use of such fire hydrant water meter and water, shall be considered as incidental to the work and payment therefore shall be included in the various bid items of the proposal. If the CONTRACTOR chooses to use such fire hydrant water meter, he/she shall assume full responsibility for it and return it in the same or similar condition as received otherwise the CONTRACTOR will not be returned his/her deposit.

SP-44: OWNER'S RIGHT TO SUSPEND WORK AND ANNUL CONTRACT

Delete GP Item 108.9.(2) and replace it with the following:

- (2) failure of the CONTRACTOR to make the progress set out in the Progress Schedule;

SP-45: OWNERSHIP OF DRAWINGS

All drawings, specifications and copies thereof furnished by the Engineer shall not be reused on other work, and, with the exception of the signed contract sets, are to be returned to him on request, at the completion of the work. All models are the property of the OWNER.

SP-46: ADEQUACY OF DESIGN

It is understood that the OWNER believes it has employed competent engineers and designers. It is, therefore, agreed that the Engineer shall be responsible for the adequacy of the design, sufficiency of the Contract Documents, the safety of the structure and the practicability of the operations of the completed project; provided the CONTRACTOR has complied with the requirements of the Contract Documents, all approved modifications thereof, and additions and alterations thereto approved in writing by the OWNER. The burden of proof of such compliance shall be upon the CONTRACTOR to show that he/she has complied with the requirements of the Contract Documents, approved modifications thereof and all approved additions and alternations thereto.

SECTION VI

GEOTECHNICAL REPORT

Limited Geotechnical Report

7501 Acts Court
North Richland Hills, Texas

Prepared for:



Prepared by:
TTL, Inc.
Nashville, Tennessee

Project No. 000230803531.00
March 22, 2024



CONTENTS

1.0 PROJECT INFORMATION.....1

 1.1 Project Description.....1

 1.2 Scope of Services.....1

2.0 EXPLORATION FINDINGS2

 2.1 Site Conditions2

 2.2 Site Geology.....3

 2.3 Subsurface Conditions.....3

 2.4 Groundwater Conditions.....4

3.0 GEOTECHNICAL CONSIDERATIONS.....4

4.0 EARTHWORK RECOMMENDATIONS.....5

 4.1 Site Preparation and Stabilization5

 4.1.1 Stripping.....5

 4.1.2 Proofrolling5

 4.2 Excavation Considerations6

 4.3 Temporary Slopes6

 4.4 Compacted Fill.....6

 4.5 Drainage Considerations7

 4.5.1 Surface Water.....7

 4.5.2 Construction Groundwater Control8

5.0 GEOTECHNICAL RECOMMENDATIONS.....8

 5.1 Retaining Wall Design Recommendations8

 5.1.1 CIP Retaining Walls.....8

 5.1.2 Block Walls9

 5.2 Seismic Site Classification 11

 5.3 Shallow Foundations..... 11

6.0 LIMITATIONS 12

GBA Informational Document

APPENDIX A (ILLUSTRATIONS)

 Site Location Map

 Exploration Location Plan

 Permit

 Legend Sheet – Soil

 Exploration Logs

 Summary of Laboratory Test Data

APPENDIX B (REFERENCE MATERIALS)

 Exploration Procedures

 Laboratory Procedures

1.0 PROJECT INFORMATION

1.1 Project Description

Project information was provided by Mr. Cooper Liebau and Ms. Jill Van Hoewyk (Lamb-Star Engineering) in several e-mail transmissions. We were provided a copy of the following:

- A drawing titled “Topographic Survey of a Portion of Lot 16, Block 23,” prepared by Spooner and Associates, dated January 10, 2022. This drawing shows information about the location of existing improvements on the property and existing topography.
- A file containing photographs depicting existing conditions and a figure depicting conceptual details of the planned improvements.
- A set of two drawings titled “Concrete Block Retaining Wall Design Data,” prepared by Texas Department of Transportation (TxDOT), Bridge Division, dated June 2022. These drawings show information parameters required for concrete block retaining wall design.

Plans are being made to remove and replace a retaining wall along the residence located at 7501 Acts Court. The existing retaining wall includes a one- and two-tiered railroad tie wall. The lower tier is about 42 inches high and the higher tier is about 42 inches high (maximum wall height about 84 inches). The retaining wall extends along a portion of the west and most of the south property margins. A stone masonry wall (about 60 feet long and 3 feet high) is also present near the southwest corner of the property and extends north along the east property perimeter. Information provided indicates the new wall will be a cast-in-place (CIP) concrete retaining wall, with ornamental façade or Concrete Block (Mechanically Stabilized Earth (MSE)). The Concrete Block wall, if used, will be designed in accordance with TxDOT requirements.

Please contact us if the above information is not correct. Modifications to our recommendations may be required in consideration of the new information provided.

1.2 Scope of Services

The purposes of our services were to explore the subsurface conditions and develop geotechnical recommendations for the project. Assessment of environmental conditions was beyond the scope of this exploration. Our services included:

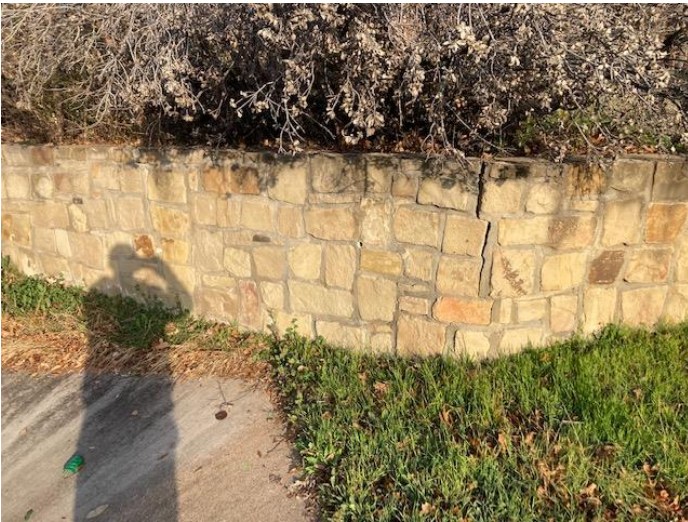
- drilling 7 hand auger borings at the property;
- drilling two soil test borings (one on the property and one at a nearby property);
- laboratory testing of recovered soil samples to evaluate classification; and
- preparing this report which includes recommendations for foundation and retaining wall design and construction.

2.0 EXPLORATION FINDINGS

2.1 Site Conditions

The residentially developed property is located at 7501 Acts Court in North Richland Hills, Texas (reference Site Location Map in Appendix A). The residence is located in the central portion of the property. A retaining wall is present along the south and parts of the east and west property margins. The retaining wall along the southeast and the east property margins consists of a stone masonry wall, which is about 60 feet long with a maximum height of about 3 feet. Several cracks were present in the stone masonry. The retaining wall further west and along the west property margin was constructed using railroad ties. In general, this section of the wall includes two levels which are separated by a near level bench that is about 4 feet wide. The maximum height of each wall section is about 4 feet, for a total height of up to about 8 feet. The railroad tie section appears to include periodic deadmen extending behind the wall facing. An approximately 4-foot-high cast-in-place (CIP) concrete retaining wall is located further west of the railroad tie wall at the southwest property margin. A sidewalk is present immediately south of the retaining wall along the southern property margin.

Photographs of site conditions at the time of our field activities are provided below.



View of stone masonry wall in southeast part of property (Note cracks)

View looking west of retaining wall along south property margin



View looking west of retaining wall along south property margin



View of retaining wall along west property margin

2.2 Site Geology

The Geology of Midcities Area, Tarrant, Dallas, and Denton Counties, Texas, (University of Texas at Austin, Bureau of Economic Development, dated 1976) reveals the property is underlain by the Woodbine Formation. This formation consists of various interlensing sequences of nonmarine, brackish-water, and marine beds of sand, clay, and sandstone. This formation is between 350 and 600 feet thick.

2.3 Subsurface Conditions

We explored the subsurface conditions by drilling 9 borings (excluding off-set borings). Seven borings were drilled using hand auger methods and two borings were drilled using a conventional drill rig. Prior to drilling operations, we obtained a "Permit" from the City of North Richland Hills (copy included in Appendix A). The borings were drilled at the approximate locations shown on the Exploration Location Plan (ELP) in Appendix A. The exploration methods and laboratory testing referenced below are described in Appendix B. Soil descriptions follow the Unified Soil Classification System (USCS), which is described in ASTM D2487 and D2488.

Information about the subsurface stratigraphy encountered at the boring locations is provided on the logs in Appendix A. The logs represent our interpretation of the subsurface conditions at the test boring locations based on tests and observations performed during the drilling operations, visual classification of the soil samples by a geoprofessional, and laboratory tests conducted on select soil samples. The lines designating the interfaces between various strata on the logs represent the approximate strata boundary. The transition between strata may be more gradual than shown, especially where indicated by a broken line. Conditions may vary at locations away from or between the boring locations.

Underlying topsoil, the borings sampled either a layer of fill underlain by residual soils or, where fill was absent, residual soils to either refusal or termination. The consistency or density of the fill cannot necessarily be correlated with conventional indicators, such as drive-sample blow counts or estimates

of unconfined compressive strength of cohesive soils. For this reason, consistency descriptions of fill layers are not included on the logs. The following table summarizes the materials encountered in the borings.

STRATIGRAPHY AND DESCRIPTIONS

Stratum	Approximate Stratum Boundary Depths	Material Description	Index Properties ¹
Surface Material	3 inches to 6 inches	Topsoil	Not Applicable
Fill (Absent in Borings B-01, B-02, HA-06 and HA-07)	1 foot to 6 feet	Lean Clay (CL), tan and red-brown or red-brown, with trace fine-sand, moist	MC: 18% to 20% LL = 30 and 35 PI = 17 and 23
Residuuum	Below topsoil or fill to refusal or termination	Lean Clay (CL), soft to hard but typically stiff to very stiff, tan and gray, or brown, tan and gray, moist to wet Boring B-01 sampled a layer of silty sand (USCS - SM) from 4 to 6 feet	N-values: 4 bpf to 33 bpf, with most values between 10 bpf and 18 bpf DCP values: 9 bpi to 11 bpi PPV values: 2.5 tsf to 2.75 tsf MC: 11% to 26%, with most values between 15% and 25% LL = 30 and 34 PI = 16 and 23
Termination	Borings B-01 and B-02 were terminated at a depth of 15 feet below existing grades.		
Refusal	The hand auger borings encountered refusal at depths ranging between 1 and 8 feet. Refusal is likely the result of materials which could not be penetrated by the hand auger and not bedrock.		
¹ Includes N-values of applicable samples not amplified by gravel or refusal. bpf = blows per foot DCP = Dynamic Cone Penetrometer bpi = blows per increment PPV = Pocket Penetrometer Values tsf = tons per square foot MC = Moisture Content, LL = Liquid Limit, PI = Plasticity Index			

2.4 Groundwater Conditions

Groundwater was encountered at a depth of 13-½ feet in Boring B-02. The remaining borings were dry upon completion. The groundwater surface, sometimes called the “water table,” can fluctuate up or down throughout the year due to seasonal changes in climate, precipitation, vegetation, surface runoff, water levels in nearby water bodies, and other factors. The groundwater level below the site may fluctuate up or down in response to such changes and may be at different levels than indicated on the exploration logs at times after the exploration.

3.0 GEOTECHNICAL CONSIDERATIONS

The subsurface data shows stiff native clays will be present at the foundation support level and that the materials behind the retaining walls will generally consist of lean clay soils. We anticipate shallow spread foundations can be used to support the retaining wall. Recommendations for site preparation, placement of compacted fill, and foundation and retaining wall design and construction are provided in the following sections of this report.

4.0 EARTHWORK RECOMMENDATIONS

The recommendations contained in this report were developed based on our understanding of the project (Section 1.1). If the project information previously described in this report is not accurate or is revised, we should be provided the additional or revised information and authorized for additional services to review and modify our recommendations, if needed.

4.1 Site Preparation and Stabilization

4.1.1 Stripping

Initial site preparation should consist of removing existing improvements that will not be incorporated into the project. Resulting debris should be disposed at an off-site location. Existing utilities which will not be incorporated into the construction should also be completely removed, including bedding and backfill. Resulting excavations should be backfilled with compacted fill or flowable fill.

Subgrade preparation should then continue with clearing and stripping to remove organic-laden topsoil from planned construction areas.

- Stripping should extend 10 feet beyond construction limits or to the property lines, whichever is less.
- Organic-laden strippings should be removed from the site or disposed of at designated on-site areas located outside limits of current or future development.
- Strippings may be stockpiled for re-use as topsoil during landscaping if they are suitable for that purpose.
- Strippings should not be used to build permanent slopes.

4.1.2 Proofrolling

After the site is stripped and cuts made to final grade, exposed subgrades should be evaluated by proofrolling. Recommendations for proofrolling are provided below:

- Perform proofrolling with a rubber-tired vehicle having a gross vehicle weight of at least 20 tons (such as a loaded tandem-axle dump truck).
- Proofrolling equipment should make multiple closely-spaced overlapping passes in perpendicular directions over the subgrade at a walking pace.
- The subgrade should be relatively smooth and free of wheel ruts, sheepsfoot roller dimples, loose clods of soil, or loose gravel, and the subgrade should not be desiccated, cracked, wet, or frozen.
- A representative of the geotechnical engineer should observe the proofrolling to identify, document, and mark areas of unstable subgrade response, such as pumping, rutting, or shoving, if any.

Weak subgrades identified should be undercut to stable materials.

4.2 Excavation Considerations

We anticipate most excavations made during mass grading will penetrate residual soils. These materials should be able to be removed using conventional construction equipment.

4.3 Temporary Slopes

Temporary construction excavations less than 20 feet deep should be sloped or shored by the contractor in accordance with OSHA requirements. The on-site soils appear to be OSHA Type B soils. OSHA requires temporary excavation slopes no steeper than 1 horizontal to 1-vertical (1H:1V) through Type B soils. The contractor’s “competent person” should evaluate temporary excavations daily and determine the specific soil types and temporary slope or shoring measures necessary according to OSHA requirements. Temporary excavations taller/deeper than 20 feet must be designed specifically by a registered engineer and cannot be made based on OSHA soil types. Design of temporary excavations was not part of our scope of services. TTL assumes no responsibility for excavations, shoring, or job site safety, which are the sole responsibility of the general contractor.

Removal of the existing retaining wall and backfill (if any) will include removing soil below existing grades of adjacent property. Therefore, shoring may be required to prevent excavations from encroaching the adjacent properties. Providing recommendations for shoring was beyond the scope of our authorized services and is the responsibility of the contractor. We should be provided the opportunity to review the contractor’s shoring plans prior to implementation to check whether or not the method appears appropriate.

4.4 Compacted Fill

We do not anticipate the project will include placing a significant amount of compacted fill, except behind the retaining walls. Recommendations for retaining wall backfill are provided later in this report. New fill placed to reach final grades in other areas should meet the criteria provided in this report section. General criteria for fill characteristics, compaction procedures, and compaction control are provided in the table below.

RECOMMENDED FILL CRITERIA

MATERIAL TYPE	CHARACTERISTICS	COMPACTION PROCEDURES	COMPACTION CONTROL ^{1,2}
<p>COMPACTED CLAY FILL</p>	<ul style="list-style-type: none"> ▪ Liquid Limit: less than 40 ▪ Plasticity Index: between 10 and 20 ▪ Maximum particle size: 3 inches ▪ Maximum gravel or oversize particle content: 30 percent retained on a ¾-inch sieve ▪ Maximum allowable organic content: 5 percent by weight, but no large roots should be allowed ▪ USCS Classification: CL 	<p>Placement:</p> <ul style="list-style-type: none"> ▪ Maximum loose lift thickness: 8 inches. Lift thickness should be reduced to 8 inches where hand-guided equipment will be used for compaction. <p>Compaction¹:</p> <ul style="list-style-type: none"> ▪ The fill should be compacted by making multiple passes with an appropriately sized sheepsfoot roller (clay) or 	<ul style="list-style-type: none"> ▪ Retaining wall areas: one in-place density test every 2,000 square feet per lift, with a minimum of two tests per lift. ▪ Trench areas: one in-place density test every 100 linear feet per lift. ▪ Minimum requirement: two tests per lift. ▪ <i>(for preliminary planning only, our technician/engineer</i>

MATERIAL TYPE	CHARACTERISTICS	COMPACTION PROCEDURES	COMPACTION CONTROL ^{1,2}
COARSE-GRAINED SOILS	<ul style="list-style-type: none"> ▪ Maximum gravel size: 3 inches ▪ Maximum gravel content: 30 percent retained on a ¾-inch sieve ▪ Maximum allowable organic content: 5 percent by weight, but no large roots should be allowed ▪ USCS Classifications: SP, SW, SC, SM 	<p>dynamic smooth-drum roller (sands). Compaction should be at least 95 percent of the standard Proctor maximum dry density (ASTM D 698)</p> <p>Moisture Content:</p> <ul style="list-style-type: none"> ▪ Determined based on the results of the standard Proctor test, but generally within minus 2 and plus 2 percent of the optimum moisture content 	<p><i>should determine the actual test frequency)</i></p>
<p>¹ In addition, the fill must be stable under the influence of the compaction equipment. After the soil fill is properly placed and compacted, it will be advisable to limit the amount of heavy construction traffic on the soil subgrade.</p> <p>² Field density tests shall be performed using nuclear method (ASTM D6938), sand cone method (ASTM D1556), or drive-cylinder method (ASTM D2937), as appropriate for the material being tested. Proofrolling should not be used to evaluate compaction of fill for compliance with these requirements.</p>			

If site preparation operations are not continuous from start to finish or if a long period of inclement weather interrupts site preparation after the site has been assessed as previously described, the surface receiving fill should be scarified to a depth of 6 inches and re-compacted before placement of fill resumes. If grading occurs during wet, cool weather, when drying soils is more difficult and time consuming, the grading contractor may have difficulty achieving suitable moisture conditions for proper compaction of soil fill.

4.5 Drainage Considerations

4.5.1 Surface Water

Site development and excavations should not be performed during or immediately following periods of heavy precipitation. Positive surface drainage should be maintained during grading operations and construction to prevent water from ponding on the surface. Surface water run-off from off-site areas should be diverted around the site using berms or ditches. The surface can be rolled smooth to enhance drainage if precipitation is expected, but should be scarified prior to resuming compaction. Maintaining proper site drainage during construction is important for this site because the soils at the site may be sensitive to increases in moisture content and may quickly become wet, soft, and unstable if water is allowed to pond on them.

Subgrades damaged by construction equipment should be promptly repaired. Our geoprofessional should provide recommendations for treatment if the subgrade materials become wet, dry, or frozen. Degradation of the near surface soils should be expected if they are subjected to freeze/thaw. When work activities are interrupted by heavy rainfall, fill operations should not be resumed until the moisture content and density of the previously placed fill materials are as recommended in this report.

4.5.2 Construction Groundwater Control

Groundwater was encountered in Boring B-02 (13-½ feet below existing grade), but was not encountered in the remaining borings. We do not anticipate groundwater will be encountered during the construction. However, localized zones of “trapped” or “perched” water may develop in the soil overburden, especially after extended wet weather. Groundwater flow rates and duration from this source can be highly variable. Experience indicates water flow from these sources can also typically be handled by pumping from a sump near the point of seepage. Our geotechnical engineer should be contacted for guidance if heavy seepage occurs or there is evidence of soil particle migration. Temporary groundwater control during construction is the responsibility of the contractor.

5.0 GEOTECHNICAL RECOMMENDATIONS

Our recommendations for foundation and retaining wall design and construction are provided in the following report sections.

5.1 Retaining Wall Design Recommendations

Our recommendations for CIP and Block Wall retaining wall design and construction are provided in the following sections of this report.

5.1.1 CIP Retaining Walls

CIP retaining walls should be designed using the earth pressure recommendations below.

EARTH PRESSURE RECOMMENDATIONS

Backfill Condition	Total Unit Weight, pcf	At-Rest Earth Pressure Coefficient ²	Active Earth Pressure Coefficient ³
Low plasticity clay (PI less than 20) or clayey sand	120	0.60	0.45
Crushed limestone gravel ¹	105	0.43	0.27

¹ These values assume the zone behind the wall extending from the footing upward at 1H:1V is backfilled entirely with an open-graded stone such as TxDOT No. 57 Stone or low plasticity clay; the backfill surface will be level, no surcharge loads will be applied, and adequate drainage is present behind the wall to prevent the build-up of hydrostatic pressure.

² Use the at-rest earth pressure condition if the top of the wall is restrained against rotation or if rotation of the wall is not desired.

³ Use the active earth pressure condition if the wall is free to rotate outward at least 1 percent of the height of the wall.

Higher lateral earth pressures will develop in areas where surcharges occur (traffic, equipment storage, etc.) adjacent to the walls. The specific stress distribution is dependent in part on the magnitude and location of the load and must be analyzed for each individual condition. Based on the assumption of complete drainage behind the wall, the pressure distribution behind the wall should be increased uniformly over the full depth by an amount equal to the surcharge and multiplied by the appropriate lateral earth pressure coefficient. A factor of safety of at least 1.5 should be used in calculations pertaining to wall stability. If it is anticipated or planned that backfill behind the walls may become saturated or flooded, the hydrostatic pressures developed, plus the buoyancy effect on the backfill, should be considered.

The parameters above are subject to the following requirements:

- The backfill should be separated from the retained materials by a suitable geotextile fabric.
- The zone of backfill behind the wall extends upward from the back of the retaining wall foundation at a slope of 1H:1V, or flatter.
- Seismic forces are not included in the earth pressure coefficients or unit weights.
- Sliding and overturning stability of the retaining wall should include a factor of safety of at least 1.5 or as required by the building code or local code.

We recommend providing a drainage zone behind the wall to collect and drain groundwater or surface water infiltration from behind the wall. The drainage zone should meet the following requirements:

- It should consist of TxDOT No. 57 clean crushed stone at least 2 feet wide behind the wall, extending from about 1 foot below the top of the wall down to the top of the wall footing.
- It should be separated from the retaining wall backfill material by a non-woven needle-punched geotextile filter fabric (Mirafi 140N, or equal). Ends and edges of the geotextile sheets should overlap in accordance with the manufacturers recommendations. If clean crushed stone is used as backfill behind the wall, the geotextile fabric should be placed between the backfill and the sloping soil subgrade instead of 2 feet behind the wall stem within the crushed stone.
- A perforated plastic collector pipe (at least 4 inches diameter) should be provided at the base of the drainage zone to collect water from the zone and drain it from behind the wall via gravity to a suitable daylight outlet away from buildings or pavements. It may be feasible to connect the wall drains to storm drains nearby, or, where possible, the drains could daylight through weep holes through the face of the wall. If gravity flow is used, a check valve should be included to prevent backflow. We recommend all daylight outlets of drains include rodent guards to prevent animals from nesting in the pipes and clogging them.
- A 2-foot thick clay layer should cap the backfill, where practical, to reduce the volume of surface water infiltration into the backfill. The civil design should incorporate appropriate measures to reduce surface water drainage towards retaining walls.

Foundations for retaining walls should be designed and constructed using the recommendations for shallow foundations provided in Section 6.2.

5.1.2 Block Walls

Our recommendations for MSE (Concrete Block) retaining walls are provided below. MSE walls must deflect laterally to develop the active earth pressure condition and engage the geogrid reinforcing layers which provide the stability for the wall. Since fine-grained soils (silts or clays) can take several months for the soils to deflect enough to fully mobilize the active earth condition, and the movements

occurring within this time can be detrimental to retained grades, we recommend the reinforced fill be designed and constructed with relatively free-draining backfill materials (i.e., TxDOT No. 57 crushed stone). The following table summarizes the recommended design criteria for these materials:

DESIGN CRITERIA

Retained Soil	Unit Weight (pcf)	Angle of internal friction (ϕ)	Cohesion (psf)
Retained Soil	125	20	25
Foundation Soil	125	20	25
Select Backfill	105	Use for internal stability (Pullout) and External stability (sliding, overturning, and eccentricity)	
	125	Use for internal stability (rupture) and external stability (bearing)	
Cement stabilized select backfill	125	45	100

These design parameters are based on the assumption the wall backfill materials will be placed in maximum 6-inch thick lifts and compacted using either hand-guided or larger vibratory compactors. Other retaining wall design parameters should be based on the materials (i.e., blocks and geogrids) used in the construction.

The design should include placing a perforated pipe along the base of the wall at a continuous positive slope to collect water for drainage. The pipe should be extended to “daylight” at a location that will not result in softening subgrades at the discharge location. Also, slope stability analysis, should be performed for the anticipated conditions.

Please be aware, the zone of foundation support for the wall extends from the exposed face of the wall to the end of the Reinforced Zone. Therefore, proofrolling should be performed in the entire area during site preparation. Weak or unsuitable soils below the foundation or Reinforced Zone of the wall need to be undercut and replaced.

The MSE walls depend on the geogrid reinforcing layers within the reinforced backfill for stability, so these layers cannot be removed or cut by utility installations, light pole foundations, or other underground structures or utilities after the walls have been constructed. Civil design should attempt to avoid utilities being below or closer to behind the top of wall for an area two times the height of the wall. Where utilities, especially storm drainage pipes, must cross through the reinforced zone behind the wall, the utility should be oriented perpendicular to the face of the wall as much as possible to reduce the interference with geogrid layers. Storm drainage structures, such as curb inlets, yard inlets, or manholes, should not be located within the Reinforced Fill because the backfill and geogrid layers will move which can shift the drainage structures and cause leaks that can lead to saturation of fill and foundation materials or that can overwhelm the wall drainage system and lead to unanticipated hydrostatic pressures within the wall.

Civil design of MSE walls along cut sections of the site near property boundaries must consider that geogrid reinforcing layers extend behind the wall face, which therefore must be located far enough

from the property boundary or construction limits to allow room for the geogrid layers and for the temporary excavation slope or shoring needed behind the ends of the geogrid to permit construction.

The MSE retaining wall foundation design (includes reinforced zone) should be based on expected bearing materials. Recommendations for foundation design and construction are provided in Section 5.2. MSE walls must also be analyzed and designed for allowable foundation bearing capacity and settlement. It is important to recognize the zone of foundation support for the wall extends from the exposed face of the wall to the end of the Reinforced Zone.

5.2 Seismic Site Classification

Based on the 2021 edition of the International Building Code (IBC) and our interpretations of the subsurface conditions, we recommend Seismic Site Class D be used for seismic design of the buildings. If seismic design parameters based on the recommended site class produces excessive forces or an unfavorable Design Category, it may be possible to reduce the seismic design parameters by performing additional testing and analysis. We can assist you with a site-specific seismic study as additional services, if requested.

5.3 Shallow Foundations

Shallow spread foundations may be used to support the planned retaining walls, provided the site is prepared using the recommendations in this report. The table below summarizes design considerations.

Design Considerations	Value
Suitable bearing materials	New compacted fill or residual soils (N>12 bpf)
Minimum bearing depth below exterior grade	18 inches
Minimum Dimensions	18 inches
Allowable net bearing pressure for sustained loads	2,500 psf
Expected total and differential foundation settlement ^{1,2}	Less than 1 inch and ½ inch, respectively
Ultimate coefficient of friction between concrete and bearing material for lateral load resistance	0.35 (soil)
Minimum factor of safety for lateral resistance from friction	1.5
Ultimate passive pressure from soil against vertical face of footing for lateral load resistance (Do Not Use if footing is formed)	250 psf per vertical foot Neglect resistance in top 1 foot unless ground surface is protected by floor slab or pavement
Minimum factor of safety for lateral resistance from passive soil pressure	2.0
Total unit weight for backfill over footings for computing ultimate uplift resistance	100 pcf
Minimum factor of safety for uplift resistance from soil backfill weight	2.0
¹ Provided settlement monitoring is performed where recommended.	
² Differential settlement is between columns spaced 30 feet center-to-center and 50 feet along continuous footings	

Additional design and construction considerations are provided below:

- Foundation excavations should be backfilled with concrete the same day the footing excavations are opened. If footing excavations are left open for more than a day, they should be covered by a “mud-mat” of lean concrete to reduce the potential for damage after they have been evaluated to confirm they are suitable for the design bearing pressure.
- Surface water should not be allowed to pond in open excavations, even if a mud-mat is placed. The footing subgrade should be level and cleaned of soft, loose, or wet material prior to casting foundation concrete.
- Footings should be poured directly against the sides of excavations so water cannot collect behind forms before backfilling. If the footings are formed, the excavated space around the finished footing should be backfilled as soon as practical using soil compacted to the requirements given earlier for compacted fill.

Our geoprofessional should observe the materials exposed at the footing support level to check whether or not the exposed soils are consistent with the materials encountered at the boring locations. We recommend foundation support materials be evaluated by performing penetrometer testing in conjunction with shallow hand auger borings. The test program should be developed at the time of construction and based on foundation dimensions, design bearing capacity and grading requirements. Soft or unsuitable materials present below the footing support level should be undercut to stiff materials. The undercuts should be backfilled with compacted fill, lean concrete or flowable fill.

6.0 LIMITATIONS

This geotechnical report has been prepared for the exclusive use of our Client for specific application to this project. The report has been prepared in accordance with generally accepted geotechnical engineering practices using that level of care and skill ordinarily exercised by licensed members of the engineering profession currently practicing under similar conditions in the same locale. No warranties, expressed or implied, are intended or made.

TTL understands this geotechnical report will be used by the Client and various individuals and firms' designers and contractors involved with the design and construction of the project. Third-parties receiving a copy of this report shall understand it is for information only and not for legal reliance. TTL should be invited and authorized to attend project meetings or to address applicable issues relating to the geotechnical engineering aspects of the project. TTL should also be retained to review the final construction plans and specifications to evaluate if the information and recommendations in this geotechnical engineering report has been properly interpreted and implemented in the design and specifications. This report has not been prepared as, and should not be used as, a design or specification document to be directly implemented by the contractor. The contractor and applicable subcontractors should familiarize themselves with this report prior to the start of their construction activities, contact TTL for any interpretation or clarification of the report, and retain the services of

their own consultants to interpret this report, or perform additional geotechnical testing prior to bidding and construction.

This geotechnical report is based on information provided to us by the Client and various other individuals and entities associated with the project, exploratory borings drilled within the project limits, laboratory testing of selected soil samples recovered from the borings, and our engineering analyses and evaluation. The Client and readers of this geotechnical report should realize that subsurface variations and anomalies can and may exist across the site and between the exploratory boring locations. Site conditions can change due to the modifying effects of seasonal and climatic conditions, such that conditions at times after the exploration may be different than reported herein. The nature and extent of such site or subsurface variations may not become evident until construction commences or is in progress. If site and subsurface anomalies or variations are encountered, TTL should be contacted immediately and authorized to evaluate such conditions and, if necessary, provide applicable recommendations.

Unless stated otherwise in this report or in the contract documents between TTL and Client, our scope of services for this project did not include, either specifically or by implication, any environmental or biological assessment of the site, or any identification or prevention of pollutants, hazardous materials or conditions at the site. If the Client is concerned about the potential for such contamination or pollution, TTL should be contacted to provide a scope of additional services to address the environmental concerns. Also, permitting, site safety, excavation support, and dewatering requirements are the responsibility of others.

Should the nature, design, or location of the project be modified, the geotechnical recommendations and guidelines provided in this document will not be considered valid unless TTL is authorized to review the changes and either verifies or modifies the applicable recommendations in writing.

Additional information about the use and limitations of a geotechnical report is provided within the Geoprofessional Business Association document included at the end of this report.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer

will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the “Findings” Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site’s subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual site-wide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report’s Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals’ misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals’ plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note*

conspicuously that you’ve included the material for information purposes only. To avoid misunderstanding, you may also want to note that “informational purposes” means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled “limitations,” many of these provisions indicate where geotechnical engineers’ responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a “phase-one” or “phase-two” environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer’s services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer’s recommendations will not of itself be sufficient to prevent moisture infiltration.* **Confront the risk of moisture infiltration** by including building-envelope or mold specialists on the design team. **Geotechnical engineers are not building-envelope or mold specialists.**

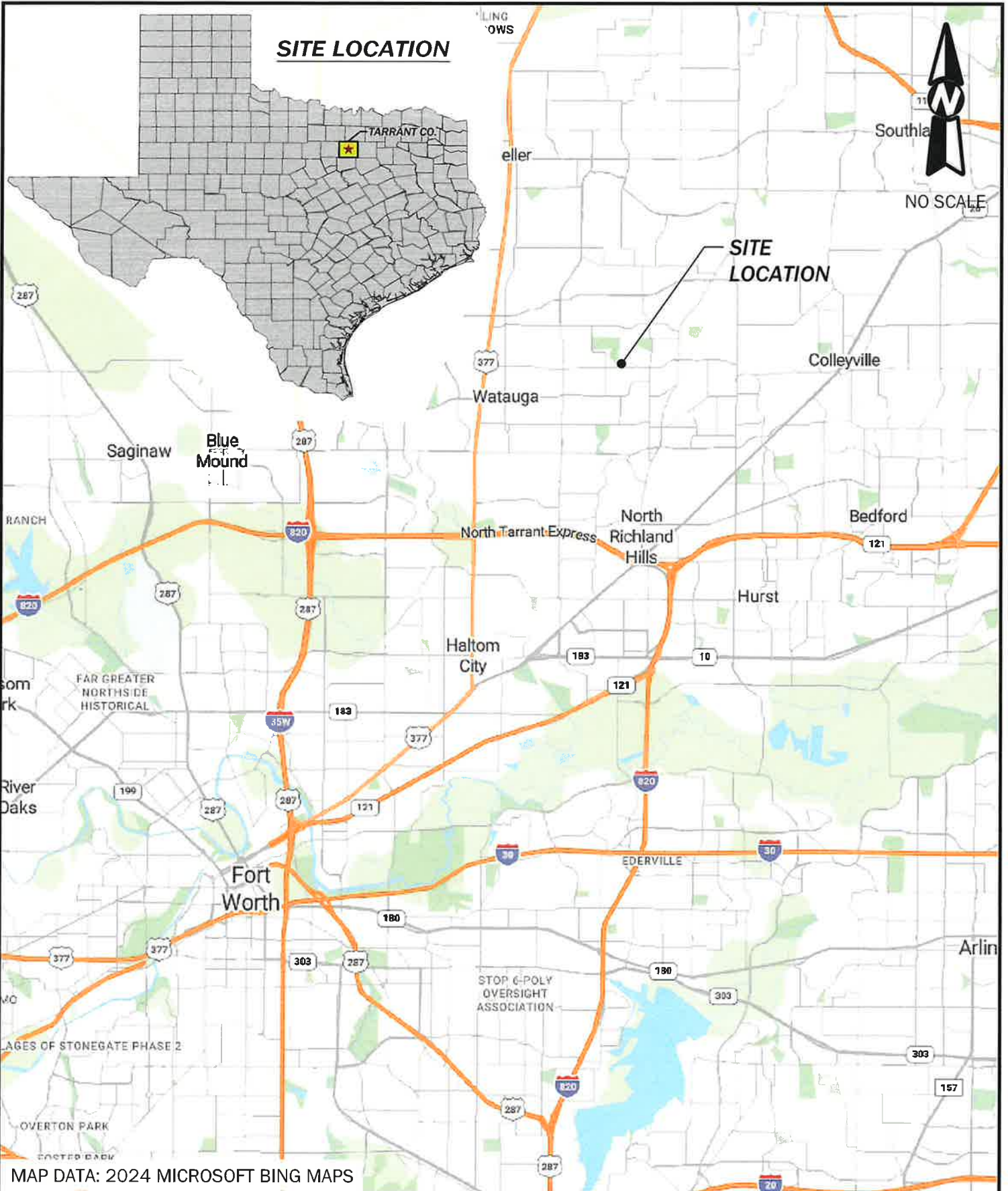


Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

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APPENDIX A ILLUSTRATIONS

SITE LOCATION



MAP DATA: 2024 MICROSOFT BING MAPS



624 Grassmere Park, Suite #14 | Nashville, TN 37211
615.331.7770 | www.ttlusa.com

7501 ACTS COURT

LAMB-STAR ENGINEERING

7501 ACTS COURT
NORTH RICHLAND HILLS, TARRANT COUNTY, TEXAS

Drawn By: J P F
Checked By: M A H
Date: 03-12-2024
Proj. No.: 000230803531.00
File Name:
23-08-03531.00 - 7501 Acts Court

Sheet Title
**SITE LOCATION
MAP**

LEGEND



HA-01

HAND AUGER BORING
LOCATION AND IDENTIFIER



B-01

SOIL BORING
LOCATION AND IDENTIFIER

0 60 120



SCALE IN FEET



NOTES:

- 1. SYMBOLS SHOWN ON THIS DRAWING ARE APPROXIMATE.
- 2. HA-1, HA-3, AND HA-4 WERE DRILLED AT SIDEWALK LEVEL
- 3. HA-2/A-2A AND HA-7 WERE DRILLED AT FIRST LEVEL TIER OF RETAINING WALL

MAP DATA: 2024 GOOGLE MICROSOFT IMAGERY
SOURCE: FIELD NOTES BY M A H, DATED 2-29-2024



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7501 ACTS COURT

LAMB-STAR ENGINEERING

7501 ACTS COURT
NORTH RICHLAND HILLS, TARRANT COUNTY, TEXAS

Drawn By: J P F
Checked By: M A H
Date: 03-19-2024
Proj. No.: 000230803531.00
File Name:
23-08-03531.00 - 7501 Acts Court

Sheet Title
**EXPLORATION
LOCATION PLAN**



CITY OF NORTH RICHLAND HILLS
 4301 CITY POINT DRIVE
 NORTH RICHLAND HILLS, TX 76180

Permit NO.: **ROW-0224-6624**

Permit Type: **Right of Way**

Work Classification: **Right of Way Construction**

Permit Status: **Issued**

Permit

Issue Date: **02/23/2024**

Location Address	Parcel Number
7501 ACTS CT, NRH, TX 76182	P03614

Contacts

Mark Herrmann 1343 General George Patton Road, Nashville, TN 37221	Applicant	Mark Herrmann 1343 General George Patton Road, Nashville, TN 37221	Contractor
Mark Herrmann 1343 General George Patton Road, Nashville, TN 37221	Emergency 24-hour Contact	Mark Herrmann 1343 General George Patton Road, Nashville, TN 37221	Franchise Utility

Description: soil borings

Inspection Requests:

Other Request on-Line

Please post this document in a conspicuous location

Inspections:
Inspection Type
Line Locate
Work Commencement Inspection
Work Completion Inspection

SOIL LEGEND

FINE- AND COARSE-GRAINED SOIL INFORMATION

FINE-GRAINED SOILS (SILTS AND CLAYS)			COARSE-GRAINED SOILS (SANDS AND GRAVELS)		PARTICLE SIZE	
SPT N-Value	Consistency	Estimated Q_u (TSF)	SPT N-Value	Relative Density	Name	Size (US Std. Sieve)
0 - 1	Very Soft	0 - 0.25	0 - 4	Very Loose	Boulders	>300 mm (>12 in.)
2 - 4	Soft	0.25 - 0.5	5 - 10	Loose	Cobbles	75 mm to 300 mm (3 - 12 in.)
5 - 8	Firm	0.5 - 1.0	11 - 30	Medium Dense	Coarse Gravel	19 mm to 75 mm (3/4 - 3 in.)
9 - 15	Stiff	1.0 - 2.0	31 - 50	Dense	Fine Gravel	4.75 mm to 19 mm (#4 - 3/4 in.)
16 - 30	Very Stiff	2.0 - 4.0	51+	Very Dense	Coarse Sand	2 mm to 4.75 mm (#10 - #4)
31+	Hard	4.0+			Medium Sand	0.425 mm to 2 mm (#40 - #10)
					Fine Sand	0.075 mm to 0.425 mm (#200 - #40)
					Silts and Clays	< 0.075 mm (< #200)
















Q_u = Unconfined Compression Strength

RELATIVE PROPORTIONS OF SAND AND GRAVEL		RELATIVE PROPORTIONS OF CLAYS AND SILTS	
Descriptive Terms	Percent of Dry Weight	Descriptive Terms	Percent of Dry Weight
"Trace"	< 15	"Trace"	< 5
"With"	15 - 30	"With"	5 - 12
Modifier	> 30	Modifier	> 12

CRITERIA FOR DESCRIBING MOISTURE CONDITION		CRITERIA FOR DESCRIBING CEMENTATION	
Description	Criteria	Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch	Weak	Crumbles or breaks with handling or little finger pressure
Moist	Damp, but no visible water	Moderate	Crumbles or breaks with considerable finger pressure
Wet	Visible free water, usually soil is below water table	Strong	Will not crumble or break with finger pressure

CRITERIA FOR DESCRIBING STRUCTURE	
Description	Criteria
Stratified	Alternating layers of varying material or color with layers at least 6 mm thick; note the thickness
Laminated	Alternating layers of varying material or color with the layers less than 6 mm thick; note thickness
Fissured	Breaks along definite planes of fracture with little resistance to fracturing
Slickensided	Fracture planes appear polished or glossy, sometimes striated
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lensed	Inclusion of small pockets of different soils such as small lenses of sand scattered through a mass of clay; note thickness
Homogeneous	Same color and appearance throughout

ABBREVIATIONS AND ACRONYMS			
WOH	Weight of Hammer	N-Value	Sum of the blows for last two 6-in increments of SPT
WOR	Weight of Rod		
Ref.	Refusal	NA	Not Applicable or Not Available
ATD	At Time of Drilling	OD	Outside Diameter
DCP	Dynamic Cone Penetrometer	PPV	Pocket Penetrometer Value
Elev.	Elevation	SFA	Solid Flight Auger
ft.	feet	SH	Shelby Tube Sampler
HSA	Hollow Stem Auger	SS	Split-Spoon Sampler
ID	Inside Diameter	SPT	Standard Penetration Test
in.	inches	USCS	Unified Soil Classification System
lbs	pounds		

SAMPLERS AND DRILLING METHODS	
	AUGER CUTTINGS
	BAG/BULK SAMPLE
	GRAB SAMPLE
	CONTINUOUS SAMPLES
	SHELBY TUBE SAMPLE
	PITCHER SAMPLE
	STANDARD PENETRATION SPLIT-SPOON SAMPLE
	SPLIT-SPOON SAMPLE WITH NO RECOVERY
	DYNAMIC CONE PENETROMETER
	ROCK CORE
WATER LEVEL SYMBOLS	
	WATER LEVEL AT TIME OF DRILLING
	PERCHED WATER OBSERVED AT DRILLING
	DELAYED WATER LEVEL OBSERVATION
	CAVE-IN DEPTH
	OBSERVED SEEPAGE



UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

GRAVELS (>50% of coarse fraction is larger than the #4 sieve)		SANDS (>50% of coarse fraction is smaller than the #4 sieve)		FINE GRAINED SOILS (>50% of material is smaller than the #200 sieve)	
GRAVELS (>50% of coarse fraction is larger than the #4 sieve)	CLEAN GRAVEL WITH <5% FINES	$C_u > 4$ $C_c = 1-3$		GW	Well-graded gravels, gravel-sand mixtures with trace or no fines
	GRAVEL WITH 5% TO 12% FINES	$C_u \leq 4$ and/or $C_c < 1$ and $C_c > 3$		GP	Poorly-graded gravels, gravel-sand mixtures with trace or no fines
	GRAVEL WITH MORE THAN 12% FINES	$C_u > 4$ $C_c = 1-3$		GW-GM	Well-graded gravels, gravel-sand mixtures with silt fines
		$C_u > 4$ $C_c = 1-3$		GW-GC	Well-graded gravels, gravel-sand mixtures with clay fines
		$C_u \leq 4$ and/or $C_c < 1$ and $C_c > 3$		GP-GM	Poorly-graded gravels, gravel-sand mixtures with silt fines
		$C_u \leq 4$ and/or $C_c < 1$ and $C_c > 3$		GP-GC	Poorly-graded gravels, gravel-sand mixtures with clay fines
	$C_u > 6$ $C_c = 1-3$		SW	Well-graded sands, sand-gravel mixtures with trace or no fines	
	SAND WITH 5% TO 12% FINES	$C_u \leq 6$ and/or $C_c < 1$ and $C_c > 3$		SP	Poorly-graded sands, sand-gravel mixtures with trace or no fines
	SAND WITH MORE THAN 12% FINES	$C_u > 6$ $C_c = 1-3$		SW-SM	Well-graded sands, sand-gravel mixtures with silt fines
		$C_u > 6$ $C_c = 1-3$		SW-SC	Well-graded sands, sand-gravel mixtures with clay fines
$C_u \leq 6$ and/or $C_c < 1$ and $C_c > 3$			SP-SM	Poorly-graded sands, sand-gravel mixtures with silt fines	
$C_u \leq 6$ and/or $C_c < 1$ and $C_c > 3$			SP-SC	Poorly-graded sands, sand-gravel mixtures with clay fines	
$C_u > 6$ $C_c = 1-3$			SM	Silty sands, sand-gravel-silt mixtures	
$C_u > 6$ $C_c = 1-3$			SC	Clayey sands, sand-gravel-clay mixtures	
SILTS & CLAYS (Liquid Limit less than 50)	$C_u > 6$ $C_c = 1-3$		SC-SM	Clayey sands, sand-gravel-clay-silt mixtures	
	SANDS (>50% of coarse fraction is smaller than the #4 sieve)	$C_u > 6$ $C_c = 1-3$		ML	Inorganic silts with low plasticity
	SANDS (>50% of coarse fraction is smaller than the #4 sieve)	$C_u > 6$ $C_c = 1-3$		CL	Inorganic clays of low plasticity, gravelly or sandy clays, silty clays, lean clays
		$C_u > 6$ $C_c = 1-3$		CL-ML	Inorganic clay-silts of low plasticity, gravelly clays, sandy clays, silty clays, lean clays
		$C_u > 6$ $C_c = 1-3$		OL	Organic silts and organic silty clays of low plasticity
	SANDS (>50% of coarse fraction is smaller than the #4 sieve)	$C_u > 6$ $C_c = 1-3$		MH	Inorganic silts of high plasticity, elastic silts
		$C_u > 6$ $C_c = 1-3$		CH	Inorganic clays of high plasticity, fat clays
$C_u > 6$ $C_c = 1-3$			OH	Organic clays and organic silts of high plasticity	

USCS - HIGHLY ORGANIC SOILS

Primarily organic matter, dark in color, organic odor

	PT	Peat, humus, swamp soils with high organic contents
--	----	-----------------------------------------------------

OTHER MATERIALS

	BITUMINOUS CONCRETE (ASPHALT)
	CONCRETE
	CRUSHED STONE/AGGREGATE BASE
	TOPSOIL
	FILL
	UNDIFFERENTIATED ALLUVIUM
	UNDIFFERENTIATED OVERBURDEN
	BOULDERS AND COBBLES

UNIFORMITY COEFFICIENT

$$C_u = D_{60}/D_{10}$$

COEFFICIENT OF CURVATURE

$$C_c = (D_{30})^2 / (D_{60} \times D_{10})$$

Where:

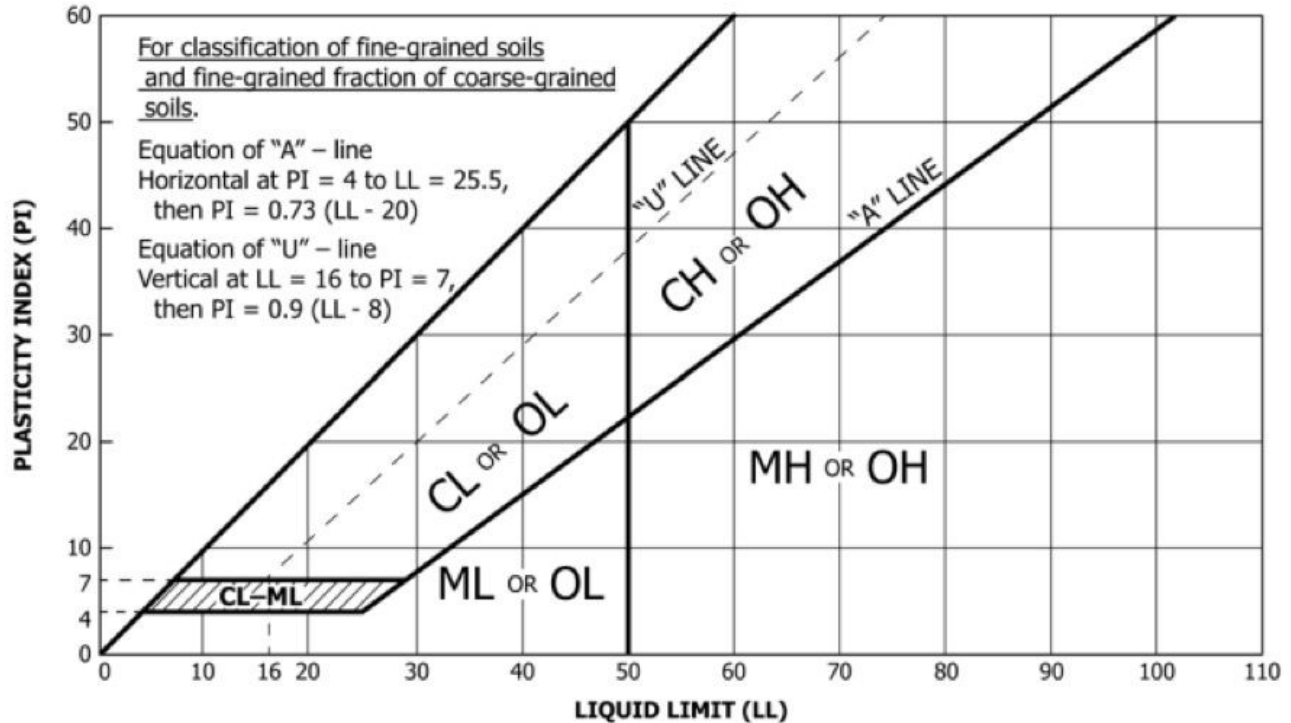
D_{60} = grain diameter at 60% passing

D_{30} = grain diameter at 30% passing

D_{10} = grain diameter at 10% passing

TTL

PLASTICITY CHART FOR USCS CLASSIFICATION OF FINE-GRAINED SOILS



IMPORTANT NOTES ON TEST BORING RECORDS

- 1) The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- 2) Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown. Solid lines are used to indicate a change in the material type, particularly a change in the USCS classification. Dashed lines are used to separate two materials that have the same material type, but that differ with respect to two or more other characteristics (e.g. color, consistency).
- 3) No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- 4) Logs represent general soil and rock conditions observed at the point of exploration on the date indicated.
- 5) In general, Unified Soil Classification System (USCS) designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- 6) Fine-grained soils that plot within the hatched area on the Plasticity Chart, and coarse-grained soils with between 5% and 12% passing the #200 sieve require dual USCS symbols as presented on the previous page.
- 7) If the sampler is not able to be driven at least 6 inches, then 50/X" indicates that the sampler advanced X inches when struck 50 times with a 140-pound hammer falling 30 inches.
- 8) If the sampler is driven at least 6 inches, but cannot be driven either of the subsequent two 6-inch increments, then either 50/X" or the sum of the second 6-inch increment plus 50/X" for the third 6-inch increment will be indicated.
 Example 1: Recorded SPT blow counts are 16 - 50/4", the SPT N-value will be shown as $N = 50/4"$
 Example 2: Recorded SPT blow counts are 18 - 25 - 50/2", the SPT N-value will be shown as $N = 75/8"$



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7501 Acts Court

North Richland Hills, Texas

Log of Boring
HA-01

Page 1 of 1

Drilling Co.:	TTL, Inc.	TTL Job No.:	000230803531.00
Driller:	M. Herrmann	Date Drilled:	2/29/2024
Logged by:	M. Herrmann	Boring Depth:	1.2 inches
Equipment:	Hand Auger	Boring Elevation:	695 feet
Hammer Type:	Not Applicable	Coordinates:	Not Available
Drilling Method:	Hand Auger		

Remarks:
Backfilled upon completion.
Elevation obtained by interpolating between contours on provided drawing.

DEPTH (in)	ELEVATION (ft)	GRAPHIC LOG	USCS CLASSIFICATION	MATERIALS DESCRIPTION	SAMPLE DATA									
					MOISTURE (%)	PPV (tsf)	TYPE	DCP Count (Blows per 1.75")	DYNAMIC CONE PENETROMETER BLOW COUNT (Blows per 1.75 inch)					
									5	10	15	20	25	
	695			TOPSOIL (6 inches)										
1				FILL: LEAN CLAY, tan and red-brown, with trace fine sand, moist (CL) Auger refusal at 1.2 inches.										
2														
3														
4														
5	690													
6														
7														
8														
9														
10	685													
11														
12														
13														
14														
15	680													
16														
17														
18														
19														
20	675													

X:\2023\08\23-08-03531.00 - LAMB STAR ENGINEERING - 7501 ACTS COURT\GEO\TECHNICAL\DATA\000230803531.00 BORING LOGS.GPJ 3/22/24 Report HAND AUGER LOG - SAMPLE (USCS)

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Lamb-Star Engineering, LLC.
7501 Acts Court

Log of Boring
HA-02

North Richland Hills, Texas

Page 1 of 1

Drilling Co.:	TTL, Inc.	TTL Job No.:	000230803531.00	Remarks: Backfilled upon completion. Elevation obtained by interpolating between contours on provided drawing.
Driller:	M. Herrmann	Date Drilled:	2/29/2024	
Logged by:	M. Herrmann	Boring Depth:	1.5 inches	
Equipment:	Hand Auger	Boring Elevation:	700 feet	
Hammer Type:	Not Applicable	Coordinates:	Not Available	
Drilling Method:	Hand Auger			

DEPTH (in)	ELEVATION (ft)	GRAPHIC LOG	USCS CLASSIFICATION	MATERIALS DESCRIPTION	SAMPLE DATA									
					MOISTURE (%)	PPV (tsf)	TYPE	DCP Count (Blows per 1.75")	DYNAMIC CONE PENETROMETER BLOW COUNT (Blows per 1.75 inch)					
									5	10	15	20	25	
0	700			TOPSOIL (6 inches)										
1				FILL: LEAN CLAY, tan and red-brown, with trace fine sand, moist (CL)										
2				Auger refusal at 1.5 inches.										
5	695													
10	690													
15	685													
20	680													

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North Richland Hills, Texas

Log of
HA-02A

Page 1 of 1

Testing Co.: <i>TTL, Inc.</i>	TTL Project No.: <i>000230803531.00</i>	Remarks: Backfilled upon completion. Elevation obtained by interpolating between contours on provided drawing.
Operator: <i>M. Herrmann</i>	Date Drilled: <i>2/29/2024</i>	
Logged by: <i>M. Herrmann</i>	Boring Depth: <i>7.8 feet</i>	
Equipment: <i>Hand Auger</i>	Boring Elevation: <i>700 feet</i>	
Hammer Type: <i>Not Applicable</i>	Coordinates: <i>Not Available</i>	
Drilling Method: <i>Hand Auger w/DCP Sampling</i>	▽ Water Level at Time of Drilling: <i>Not Encount.</i> ☒ Cave-In at Time of Drilling: <i>N/A</i>	▽ Delayed Water Level: <i>N/A</i> Delayed Water Observation Date: <i>N/A</i>

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIALS DESCRIPTION	SAMPLE DATA															
				% PASSING #200 SIEVE	SHEAR STRENGTH (ksf)	TYPE	DYNAMIC CONE PENETROMETER BLOW COUNT (Blows per 1.75")	● DCP BLOW COUNT ■ MOISTURE CONTENT (%) ▲ PLASTIC AND LIQUID LIMIT (%)											
700			TOPSOIL (6 inches)																
	1		FILL: LEAN CLAY, tan and red-brown, with trace fine sand, moist (CL)				DCP = 6 - 7 - 9												
	2																		
	3		FILL: LEAN CLAY, red-brown and tan, with little fine sand, moist (CL)				DCP = 3 - 6 - 9												
	4																		
	5		FILL: LEAN CLAY, red-brown, with little fine sand, (CL)				DCP = 6 - 7 - 9												
695	6		LEAN CLAY, very stiff, tan and gray, with trace fine sand, moist (CL)				DCP = 9 - 11 - 13												
	7																		
	8		Auger refusal at 7.8 feet.																
	9																		
690	10																		
	11																		
	12																		
	13																		
	14																		
685	15																		
	16																		
	17																		
	18																		
	19																		
680	20																		

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Log of Boring
HA-03

North Richland Hills, Texas

Page 1 of 1

Drilling Co.:	TTL, Inc.	TTL Job No.:	000230803531.00
Driller:	M. Herrmann	Date Drilled:	2/29/2024
Logged by:	M. Herrmann	Boring Depth:	1.2 inches
Equipment:	Hand Auger	Boring Elevation:	695 feet
Hammer Type:	Not Applicable	Coordinates:	Not Available
Drilling Method:	Hand Auger		

Remarks:
Backfilled upon completion.
Elevation obtained by interpolating between contours on provided drawing.

DEPTH (m)	ELEVATION (ft)	GRAPHIC LOG	USCS CLASSIFICATION	MATERIALS DESCRIPTION	SAMPLE DATA									
					MOISTURE (%)	PPV (tsf)	TYPE	DCP Count (Blows per 1.75")	DYNAMIC CONE PENETROMETER BLOW COUNT (Blows per 1.75 inch)					
									5	10	15	20	25	
	695			TOPSOIL (6 inches)										
1				FILL: LEAN CLAY, red-brown and tan, moist (CL)										
				Auger refusal at 1.2 inches.										
	690													
	685													
	680													
	675													

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Log of Boring
HA-04

North Richland Hills, Texas

Page 1 of 1

Drilling Co.:	TTL, Inc.	TTL Job No.:	000230803531.00
Driller:	M. Herrmann	Date Drilled:	2/29/2024
Logged by:	M. Herrmann	Boring Depth:	1.2 inches
Equipment:	Hand Auger	Boring Elevation:	695 feet
Hammer Type:	Not Applicable	Coordinates:	Not Available
Drilling Method:	Hand Auger		

Remarks:
Backfilled upon completion.
Elevation obtained by interpolating between contours on provided drawing.

DEPTH (in)	ELEVATION (ft)	GRAPHIC LOG	USCS CLASSIFICATION	MATERIALS DESCRIPTION	SAMPLE DATA									
					MOISTURE (%)	PPV (tsf)	TYPE	DCP Count (Blows per 1.75")	DYNAMIC CONE PENETROMETER BLOW COUNT (Blows per 1.75 inch)					
									5	10	15	20	25	
0	695			TOPSOIL (6 inches)										
0.2				FILL: LEAN CLAY, red-brown and tan, moist (CL)										
1.2				Auger refusal at 1.2 inches.										
5	690													
10	685													
15	680													
20	675													

3/22/24 Report: HAND AUGER LOG - SAMPLE (USCS) X:\2023\08\23-08-03531.00 - LAMB STAR ENGINEERING - 7501 ACTS COURT\GEO\TECHNICAL\DATA\000230803531.00 BORING LOGS.GPJ

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North Richland Hills, Texas

Log of Boring
HA-05

Page 1 of 1

Drilling Co.:	TTL, Inc.	TTL Job No.:	000230803531.00
Driller:	M. Herrmann	Date Drilled:	2/29/2024
Logged by:	M. Herrmann	Boring Depth:	2.5 inches
Equipment:	Hand Auger	Boring Elevation:	700 feet
Hammer Type:	Not Applicable	Coordinates:	Not Available
Drilling Method:	Hand Auger w/DCP Sampling		

Remarks:
Backfilled upon completion.
Elevation obtained by interpolating between contours on provided drawing.

DEPTH (in)	ELEVATION (ft)	GRAPHIC LOG	USCS CLASSIFICATION	MATERIALS DESCRIPTION	SAMPLE DATA									
					MOISTURE (%)	PPV (tsf)	TYPE	DCP Count (Blows per 1.75")	DYNAMIC CONE PENETROMETER BLOW COUNT (Blows per 1.75 inch)					
									5	10	15	20	25	
0	700		CL	TOPSOIL (3 inches)										
1			CL	RESIDUUM: LEAN CLAY, stiff, red-brown, with little fine sand, moist (CL)			▼	9 - 12			●			
2			CL	LEAN CLAY, very stiff, tan and red-brown, with trace fine sand, moist (CL)			▼	11 - 12			●			
3				Auger refusal at 2.5 inches.										
5	695													
10	690													
15	685													
20	680													

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North Richland Hills, Texas

Log of Boring
HA-06

Page 1 of 1

Drilling Co.:	TTL, Inc.	TTL Job No.:	000230803531.00	Remarks: Backfilled upon completion. Elevation obtained by interpolating between contours on provided drawing.
Driller:	M. Herrmann	Date Drilled:	2/29/2024	
Logged by:	M. Herrmann	Boring Depth:	3.2 inches	
Equipment:	Hand Auger	Boring Elevation:	702 feet	
Hammer Type:	Not Applicable	Coordinates:	Not Available	
Drilling Method:	Hand Auger			

DEPTH (in)	ELEVATION (ft)	GRAPHIC LOG	USCS CLASSIFICATION	MATERIALS DESCRIPTION	SAMPLE DATA									
					MOISTURE (%)	PPV (tsf)	TYPE	DCP Count (Blows per 1.75")	DYNAMIC CONE PENETROMETER BLOW COUNT (Blows per 1.75 inch)					
									5	10	15	20	25	
0				TOPSOIL (3 inches)										
1			CL	RESIDUUM: LEAN CLAY, stiff, red-brown, with little fine sand, moist (CL)										
2	700		CL	LEAN CLAY, very stiff, red-brown and tan, with trace fine sand, moist (CL)		2.5	☞							
3			CL	LEAN CLAY, very stiff, tan and gray, with trace fine sand, moist (CL)		2.75	☞							
4				Auger refusal at 3.2 inches.										
5														
6														
7	695													
8														
9														
10														
11														
12	690													
13														
14														
15														
16														
17	685													
18														
19														
20														

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7501 Acts Court

North Richland Hills, Texas

Log of Boring
HA-07

Page 1 of 1

Drilling Co.:	TTL, Inc.	TTL Job No.:	000230803531.00
Driller:	M. Herrmann	Date Drilled:	2/29/2024
Logged by:	M. Herrmann	Boring Depth:	2.7 inches
Equipment:	Hand Auger	Boring Elevation:	701 feet
Hammer Type:	Not Applicable	Coordinates:	Not Available
Drilling Method:	Hand Auger		

Remarks:
Backfilled upon completion.
Elevation obtained by interpolating between contours on provided drawing.

DEPTH (m)	ELEVATION (ft)	GRAPHIC LOG	USCS CLASSIFICATION	MATERIALS DESCRIPTION	SAMPLE DATA									
					MOISTURE (%)	PPV (tsf)	TYPE	DCP Count (Blows per 1.75")	DYNAMIC CONE PENETROMETER BLOW COUNT (Blows per 1.75 inch)					
									5	10	15	20	25	
1	700		CL	TOPSOIL (3 inches) RESIDUUM: LEAN CLAY, brown, with trace fine sand, moist (CL)										
2			CL	LEAN CLAY, gray and tan, moist (CL)										
3				Auger refusal at 2.7 inches.										
6	695													
11	690													
16	685													

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APPENDIX B
REFERENCE MATERIALS

EXPLORATION PROCEDURES

Field Locating of Explorations

Exploratory borings were located in the field by pacing distances and estimating right-angles from on-site landmarks and should not be considered more accurate than implied by the methods used. Ground surface elevations (except at boring location B-02) were obtained by interpolating between contours on a provided drawing and should be considered approximate. No information was provided relative to the ground surface elevation at Boring B-02. Surveying the test locations for vertical and horizontal control was beyond the scope of this exploration.

Soil Borings

The borings were drilled using hollow-stem auger drilling methods by a track-mounted drilling rig. Soil samples were obtained at selected depths in general accordance with the Standard Penetration Test (SPT) as described in ASTM D1586. For this test, a split-barrel sampler is driven into the soil through three increments of 6 inches with blows from a 140-pound hammer falling 30 inches. The number of hammer blows required to advance the split-barrel sampler through each increment is recorded, and the sum of the final two 6-inch increments is called the "N-value," with units of blows per foot (bpf).

Hand Auger Borings

Hand-auger borings were drilled by manually twisting a steel bucket-auger into the ground. Grab samples of the auger cuttings were collected at regular depth intervals. The consistency of the soil was evaluated by observing the amount of force required to penetrate the soil with the hand auger. At some locations, the consistency of the soil was measured using a Dynamic Cone Penetrometer (DCP) or pocket penetrometer (PP) as each test location was advanced. The DCP test involved driving a conical steel point into the soil with repeated blows from a 15-pound hammer free-falling 20 inches. The point was driven through three increments of 1-3/4 inches, and the number of hammer blows was recorded for each increment. The average of the final two blow counts is termed the DCP resistance value, which has units of blows per increment (bpi). Additional information about the DCP test is available in ASTM STP-399.

The pocket penetrometer test consists of forcing a circular-tip steel device, which is attached to a calibrated spring, a prescribed distance into the soil. The force required to insert the penetrometer is measured by a calibrated spring. The measured pocket penetrometer value (PPV) is correlated to the unconfined compressive strength of the soil in tons per square foot (tsf). The consistency of the soils recovered from the hand auger cuttings was measured using Pocket Penetrometer (PP) testing. PP testing consisted of forcing a flat-tipped steel rod with a 1/4-inch-diameter circular cross-section into the soil a distance of 1/4 inch. The steel rod is connected to a calibrated spring which measures the force required to push the rod into the soil and correlates the force with the unconfined compressive strength of the soil in tons per square foot (tsf).



Groundwater Measurements

Each borehole was checked for the presence of groundwater after removing the drill tools by lowering a measuring tape down the open borehole. The depth to groundwater or the depth at which the borehole caved-in was recorded, if present.

Backfilling Boreholes

Each borehole was backfilled to the ground surface with cuttings generated during advancement. Please be aware some settlement may occur.

LABORATORY TESTING PROCEDURES

Classification and Index Testing

The recovered soil samples were visually classified in the field by a geoprofessional using the USCS as a guide. Selected samples were tested for the following properties in general accordance with the applicable ASTM standards:

- Moisture content (ASTM D2216), and
- Atterberg limits (ASTM D4318).

