

**CONTRACT DOCUMENTS
AND
CONSTRUCTION SPECIFICATIONS
FOR
IRON HORSE BOULEVARD
WEST RECONSTRUCTION
BROWNING DRIVE TO RUFÉ SNOW
DRIVE
FOR THE
CITY OF NORTH RICHLAND HILLS**



MARCH 2023

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

Project RFB 23-017



Handwritten signature and date:
3-14-23

Handwritten text:
Firm: F-469

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SECTION I

NRH PURCHASING GUIDANCE



PURCHASING DEPARTMENT

REQUEST FOR BID

23-017 IRON HORSE BOULEVARD

WEST RECONSTRUCTION

BROWNING DRIVE TO RUFÉ SNOW DRIVE

BIDS DUE THURSDAY, APRIL 20, 2023

BY 3:00 P.M. CDT

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CONTRACT DOCUMENTS / SPECIFICATIONS ATTACHED

INVITATION TO BID

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

- Bid Number: 23-017
- Bid Type: REQUEST FOR BID
- Bid Name: IRON HORSE BOULEVARD WEST RECONSTRUCTION
- Bid Due Date: Thursday, April 20, 2023
- Bid Due Time: 3:00 P.M. Central Daylight Time
- Pre-Bid Conference: 2:00 P.M. Central Daylight Time Wednesday March 29th, 2023
- Location: Community Room, 4301 City Point Dr, North Richland Hills, TX 76180
- Deadline for questions:
 - Date: Thursday, April 13, 2023
 - Time: 12:00 P.M. Central Daylight 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 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 **3:00 P.M. Thursday, April 20, 2023**. 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 contract 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. 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.

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/CIQ.pdf>

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

FORM CIQ

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

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

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

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

OFFICE USE ONLY

Date Received

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

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

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

Name of Officer

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

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

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

7

Signature of vendor doing business with the governmental entity

Date

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

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

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

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

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

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

- (2) the vendor:

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

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

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

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

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

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

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

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

- (1) the date that the vendor:

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

- (2) the date the vendor becomes aware:

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

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. Iron Horse Boulevard West Reconstruction Contract
2. Iron Horse Boulevard West Reconstruction 100% Plans
3. Iron Horse Boulevard West Reconstruction E-Bid Tab

SECTION II

BIDDING DOCUMENTS

NOTICE TO BIDDERS

UPLOADED BIDS on forms prepared by the Engineer will be received until 3:00PM on Thursday, April 20th, 2023 for furnishing all labor, material, equipment and the performance of all work required for:

IRON HORSE WEST 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 **2:00 p.m. on Wednesday, March 29th, 2023**, at **City Hall 4301 City Point Dr North Richland Hills, Texas 76180 in the Community Room** keeping in accordance with the latest CDC guidelines.

PUBLIC PURCHASE: Bidders are encouraged to register with the City of North Richland Hills Purchasing Manager, Scott Kendall, 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 Reconstruction of Iron Horse Boulevard West from Browning Drive to Rufe Snow Drive including approximately 12,700 square yards of 8" concrete pavement, 14,000 square yards of lime stabilized subgrade, 1,300 square yards of sidewalk, and other associated items.

CITY OF NORTH RICHLAND HILLS

Scott Kendall
Purchasing Manager

ADVERTISEMENT DATES:

- **MARCH 17, 2023**
- **MARCH 19, 2023**

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 pages shown on pages II-9, 10, and 11, 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 pre-bid conference will be held at 2:00 p.m. on Wednesday, March 29th, 2023, at City Hall located at 4301 City Point Drive, North Richland Hills, Texas 76180 in the Community Room.

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 Scott Kendall, Purchasing Manager by 12:00pm (noon) CDT on Thursday, April 13th, 2023. 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 Scott Kendall, 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 Scott Kendall, Purchasing Manager or directly through Public Purchase and to be given consideration, must be received by 12:00PM (noon) on Thursday, April 13th, 2023. 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

List of Surety Bonds in Force on above Uncompleted Work:

Date of Contract Award	Type of Bond	Amount of Bond ¹	Name and Address of Surety

(1) List every type of bond separately. If one project has more than one type of bond, list each and every bond for that project on a separate line.

EQUIPMENT SCHEDULE

List of Equipment owned by bidder that is in serviceable condition and available for use:

Portions of work Bidder proposes to sublet if Awarded the Contract including amount and type:

BID FORM
FOR
IRON HORSE BOULEVARD WEST
RECONSTRUCTION
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: 3:00PM (CDT), April 20th, 2023

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

FOR: IRON HORSE BOULEVARD WEST RECONSTRUCTION
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:

BASE BID						
SECTION I - GENERAL AND REMOVALS						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
1	01 29 10	MOBILIZATION	1	LS	\$	\$ 0.00
		dollars and cents per unit				
2	NCTCOG 801.1	TRAFFIC CONTROL	1	LS	\$	\$ 0.00
		dollars and cents per unit				
3	TxDOT 502	DETOUR ROUTES	3	EA	\$	\$ 0.00
		dollars and cents per unit				
4	NCTCOG 202	TEMPORARY EROSION, SEDIMENTATION AND WATER POLLUTION PREVENTION	1	LS	\$	\$ 0.00
		dollars and cents per unit				
5	NCTCOG 203.1	PREPARING ROW	1	LS	\$	\$ 0.00
		dollars and cents per unit				
6	NCTCOG 107.21	PROJECT SIGNS	2	EA	\$	\$ 0.00
		dollars and cents per unit				
7	NCTCOG 203.1	REMOVE ASPHALT PAVEMENT	10470	SY	\$	\$ 0.00
		dollars and cents per unit				
8	NCTCOG 203.1	REMOVE CONCRETE CURB AND GUTTER	6395	LF	\$	\$ 0.00
		dollars and cents per unit				
9	NCTCOG 203.1	REMOVE CONCRETE DRIVEWAY	472	SY	\$	\$ 0.00
		dollars and cents per unit				
10	NCTCOG 203.1	REMOVE CONCRETE PAVEMENT	971	SY	\$	\$ 0.00
		dollars and cents per unit				
11	NCTCOG 203.1	REMOVE CONCRETE SIDEWALK	555	SY	\$	\$ 0.00
		dollars and cents per unit				
12	NCTCOG 201.1	TREE REMOVAL	2	EA	\$	\$ 0.00
		dollars and cents per unit				
13	TxDOT 644	REMOVE AND SALVAGE SIGN	10	EA	\$	\$ 0.00
		dollars and cents per unit				
SUBTOTAL - SECTION I - GENERAL AND REMOVALS						
			DOLLARS			
			CENTS	\$		0.00

SECTION II - PAVING						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
14	NCTCOG 203.2	UNCLASSIFIED ROADWAY EXCAVATION	3050	CY	\$	\$ 0.00
		dollars and cents per unit				
15	NCTCOG 303	8" CONCRETE PAVEMENT	12738	SY	\$	\$ 0.00
		dollars and cents per unit				
16	TXDOT 360	8" HES PORTLAND CEMENT CONCRETE PAVEMENT	275	SY	\$	\$ 0.00
		dollars and cents per unit				
17	NCTCOG 302	ASPHALT TRANSITION ZONE	95	SY	\$	\$ 0.00
		dollars and cents per unit				
18	NCTCOG 301.2	8" LIME TREATED SUBGRADE (48 LB/SY)	13390	SY	\$	\$ 0.00
		dollars and cents per unit				
19	NCTCOG 301.2	LIME MATERIAL FOR TREATED SUBGRADE	321.4	TON	\$	\$ 0.00
		dollars and cents per unit				
20	NCTCOG 305.2	BARRIER FREE RAMP	8	EA	\$	\$ 0.00
		dollars and cents per unit				
21	NCTCOG 305.2	4" CONCRETE SIDEWALK	1305	SY	\$	\$ 0.00
		dollars and cents per unit				
22	NCTCOG 305.2	SIDEWALK RETAINING WALL	245	LF	\$	\$ 0.00
		dollars and cents per unit				
23	NCTCOG 305.1	6" INTEGRAL CONCRETE CURB	6180	LF	\$	\$ 0.00
		dollars and cents per unit				
24	NCTCOG 305.2	6" CONCRETE DRIVEWAY APPROACH	466	SY	\$	\$ 0.00
		dollars and cents per unit				
25	NCTCOG 305.1	6" CURB AND GUTTER	513	LF	\$	\$ 0.00
		dollars and cents per unit				
26	TxDOT 531	DETECTABLE WARNING TILE AT DRIVEWAYS (NO RAMP)	18	EA	\$	\$ 0.00
		dollars and cents per unit				
27	NCTCOG 305.4	PAVEMENT HEADER (INCLUDES SAWCUT)	330	LF	\$	\$ 0.00
		dollars and cents per unit				
28	NCTCOG 303	STAMPED CONCRETE	300	SY	\$	\$ 0.00
		dollars and cents per unit				
29	NCTCOG 804	MEDIAN NOSE	7	EA	\$	\$ 0.00
		dollars and cents per unit				
30	PROJECT MANUAL	REPLACE SIGNAL LOOPS	3	EA	\$	\$ 0.00
		dollars and cents per unit				
SUBTOTAL - SECTION II - PAVING						
			DOLLARS			
			CENTS		\$	0.00

SECTION III - UTILITIES						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
31	NCTCOG 502.3	ADJUST FIRE HYDRANT	2	EA	\$	\$ 0.00
		dollars and cents per unit				
32	NCTCOG 502.3	REMOVE & RELOCATE FIRE HYDRANT	2	EA	\$	\$ 0.00
		dollars and cents per unit				
33	NCTCOG 502.1	ADJUST MANHOLE	4	EA	\$	\$ 0.00
		dollars and cents per unit				
34	NCTCOG 502.6	ADJUST WATER VALVE	8	EA	\$	\$ 0.00
		dollars and cents per unit				
35	TxDOT 465	10' INLET TOP REPLACEMENT	4	EA	\$	\$ 0.00
		dollars and cents per unit				
SUBTOTAL - SECTION III - UTILITIES			DOLLARS CENTS \$ 0.00			
SECTION IV - PAVEMENT MARKINGS AND SIGNING						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
36	TxDOT 644	INSTALL SIGN PANEL AND POST	9	EA	\$	\$ 0.00
		dollars and cents per unit				
37	TxDOT 666	PAVEMENT MARKING AND MARKERS COMPLETE IN PLACE	1	LS	\$	\$ 0.00
		dollars and cents per unit				
SUBTOTAL - SECTION IV - PAVEMENT MARKINGS AND SIGNING			DOLLARS CENTS \$ 0.00			
SECTION V - LANDSCAPING						
38	NCTCOG 204	LANDSCAPING RESTORATION ALLOWANCE	1	LS	\$ 10,000.00	\$ 10,000.00
		dollars and cents per unit				
39	NCTCOG 204.2	4" TOPSOIL	3043	SY	\$	\$ 0.00
		dollars and cents per unit				
40	TXDOT 340	BLOCK SODDING	3043	SY	\$	\$ 0.00
		dollars and cents per unit				
SUBTOTAL - SECTION V - LANDSCAPING			DOLLARS CENTS \$ 10,000.00			
SECTION VI - CONTINGENCY						
Item No.	Spec. Item	Name of Pay Item with Unit Price in Words	Est. Quantity	Unit	Unit Bid Price	Amount Bid
A-1	PROJECT MANUAL	CONTINGENCY	1	LS	\$ 20,000.00	\$ 20,000.00
		dollars and cents per unit				
SUBTOTAL - SECTION VI - CONTINGENCY			DOLLARS CENTS \$ 20,000.00			
TOTAL - BASE BID (SECTIONS I THROUGH VI)			DOLLARS CENTS \$ 30,000.00			
SECTION 1 ALTERNATIVE BID #1						
A-1	TXDOT 531	INSTALL 2" & 4" SCH40 PVC CONDUIT (ALT BID)	65	LF	\$	\$ 0.00
		dollars and cents per unit				
TOTAL - ALTERNATIVE BID #1			DOLLARS CENTS \$ 0.00			

BID SCHEDULE

Total Amount Bid: Base Bid:

Section I – General and Removals	\$ _____
Section II – Paving	\$ _____
Section III – Utilities	\$ _____
Section IV – Pavement Marking and Signing	\$ _____
Section V – Landscaping	\$ _____
Section VI – Contingency	\$ <u>20.000</u>

\$ _____
(Total Amount Bid, Numerical Value)

Total Amount Bid: Bid Alternative #1*:

<u>Irrigation Sleeves</u>	\$ _____
	\$ _____

(Total Amount Bid Alternate #1, Numerical Value)

*- The Owner reserves the right to delete any bid items or portions thereof. It is the intent of the City to evaluate the Alternate Bid and at the cities sole discretion choose to accept or reject the Alternate Bid with no effect on the Base Bid.

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 **300 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: _____

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 HILLLS, 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:

IRON HORSE BOULEVARD WEST RECONSTRUCTION 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 bid 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 to 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. Each subsequent phase after Phase 1 (Phase 2 and 3) shall start immediately following the previous phase. There shall be no stopping of work or delay of work between phases.

Traffic Control Phase	Duration (Calendar Days)	Anticipated Start Timeframe
<u>Phase 1</u> <i>(South side paving and driveway/side street connections)</i>	<u>120 Days</u>	Within 10 days from date on "Notice to Proceed"
<u>Phase 2</u> <i>(North side paving and driveway/side street connections)</i>	<u>120 Days</u>	Immediately after Phase 1 is complete
<u>Phase 3</u> <i>(Median pavement, islands, and left turn lanes)</i>	<u>60 Days</u>	Immediately after Phase 2 is Complete
<u>Final Acceptance</u>	<u>Within 300 days from date on "Notice to Proceed"</u>	

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 with 300 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.

d. Milestones included in this contract are as follows:

- 1) **Completion of Traffic Control Phase 1 per the Traffic Control Plan** provided in the Construction Drawings within 120 calendar days and starting within 10 days from the date on the "Notice to Proceed" (subject to such extensions of time as are indicated in the Special Provisions). For purposes of this section, to considered completed, all construction activities included in the Sequence of Construction provided in the Construction Drawings must:
 - a. be in place;
 - b. be functional;
 - c. all storm drain pipes, inlets, and structures within Phase 1 must be completed and operational as determined by the OWNER;
 - d. outfall storm drain connection must be complete as determined by the OWNER;

- e. all temporary surfaces must be smooth and traversable by property owners;
- f. all proposed pavement within Phase 1 shall be paved and traversable, AND;
- g. all erosion control devices shall be inspected, repaired, and/or modified as needed.

In the event that this milestone is not met, OWNER shall have the right to terminate the contract upon thirty (30) days' written notice to CONTRACTOR, if CONTRACTOR does not complete all items within the limits of Phase 1 to the OWNER's satisfaction.

2) Completion of Traffic Control Phase 2 per the Traffic Control Plan provided in the Construction Drawings within 120 calendar days starting from the completion of Traffic Control Phase 1 (subject to such extensions of time as are indicated in the Special Provisions).

- a. be in place;
- b. be functional;
- c. all storm drain pipes, inlets, and structures within Phase 2 must be completed and operational as determined by the OWNER;
- d. all temporary surfaces must be smooth and traversable by adjacent property owners;
- e. all proposed pavement within Phase 2 shall be paved and traversable, AND;
- f. all erosion control devices shall be inspected, repaired, and/or modified as needed.

In the event that this milestone is not met, OWNER shall have the right to terminate the contract upon thirty (30) days' written notice to CONTRACTOR, if CONTRACTOR does not complete all items within the limits of Phase 2 to the OWNER's satisfaction.

3) Completion of Traffic Control Phase 3 per the Traffic Control Plan provided in the Construction Drawings within 60 calendar days starting from the completion of Traffic Control Phase 2 (subject to such extensions of time as are indicated in the Special Provisions).

- a. be in place;
- b. be functional;
- c. all storm drain pipes, inlets, and structures within Phase 3 must be completed and operational as determined by the OWNER;
- d. all proposed pavement within Phase 3 shall be paved and traversable;
- e. all erosion control and traffic control devices shall be removed and the site is cleaned.

In the event that this milestone is not met, OWNER shall have the right to terminate the contract upon thirty (30) days' written notice to CONTRACTOR, if CONTRACTOR does not complete all items within the limits of Phase 3 to the OWNER's satisfaction.

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 days 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) \$900 per Calendar Day for any unfinished work beyond 300 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 365th 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) 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), November 2017 Edition
- (18) TxDOT Standard Specifications for Construction and Maintenance of Highways, . Street, and Bridges (TxDOT Specifications)
- (19) 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:

By: _____

Mark Hindman

City Manager

Date: _____

CONTRACTOR:

By: _____

Name: _____

Title: _____

Date: _____

ATTEST:

By: _____

Alicia Richardson

City Secretary

ATTEST:

By: _____

Name: _____

Title: _____

APPROVED TO FORM AND LEGALITY:

By: _____

Maleshia B. McGinnis, City Attorney

Bond No. _____

PERFORMANCE 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 _____ **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:

IRON HORSE BOULEVARD WEST RECONSTRUCTION PROJECT

Dated as of _____, 20____

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

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__.

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

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)

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.XX) [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:

IRON HORSE BOULEVARD WEST RECONSTRUCTION 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__.

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

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)

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:

IRON HORSE BOULEVARD WEST RECONSTRUCTION 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__.

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

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

TO: CITY OF NORTH RICHLAND HILLS

RE: IRON HORSE BOULEVARD WEST RECONSTRUCTION PROJECT

This is to certify that _____, by acceptance
(NAME OF CONTRACTOR)
of this final payment, hereby releases the OWNER, the City of North Richland Hills, from all claims and all liabilities of the City of North Richland Hills for all things done or furnished in connection with work on this project and further releases the City of North Richland Hills from any and all liabilities arising from any act of the OWNER or his/her agent arising in connection with this project. This release in no way operates to release the CONTRACTOR or his/her Surety from any obligations under this contract or the bond tendered pursuant thereto.

(NAME OF CORPORATION)

(AUTHORIZED AGENT)

CORPORATION ACKNOWLEDGMENT

STATE OF TEXAS §
 §
COUNTY OF _____ §

BEFORE ME, the undersigned authority in and for Tarrant County, Texas, on this day personally appeared _____ known to me to be the person and officer whose name is subscribed to the foregoing instrument and acknowledged to me that he/she is the _____ of the said _____, a corporation, and that he/she is authorized by said corporation to execute the foregoing instrument as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

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 _____ (a
(NAME OF COMPANY)

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 **IRON HORSE BOULEVARD WEST RECONSTRUCTION PROJECT** (hereinafter referred to as the "Work"), for a total consideration of and XX/100 Dollars (\$ XXX,XXX.XX) 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: _____

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.
- H. Trench Safety Plan
- I. Proposed Concrete Placement Machine Information (slip-form required)

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: 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 2: TRAFFIC CONTROL

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 801.1 of the NCTCOG Specification, 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 and removal of temporary asphalt pavement, 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. City intends to handle the signal modification but will require coordination with contractor to adjust signal heads or timing.

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: Measurement and payment for this item shall be at the contract unit price of Lump Sum, 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 3: DETOUR ROUTES

This item shall include the furnishing and installing traffic control devices, signing, and portable message boards in accordance with the Detour Maps in the Plans. Traffic control devices shall comply with the Texas Manual of Uniform Traffic Control Devices, Item 502 of the TxDOT Specifications, and City Specifications.

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.

Measurement and Payment: Detour routes will be measured and paid for by each of the duration the detour route will be used. The unit price shall include, but not be limited to all labor, equipment, and materials necessary to implement, maintain, move and remove traffic control devices for each detour route.

BID ITEM 4: TEMPORARY EROSION, SEDIMENTATION AND WATER POLLUTION PREVENTION PLAN (SWPPP)

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 5: PREPARING ROW

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. Any backfill necessary after stump removal is subsidiary to this bid item.

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.

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 paving work is complete. This work shall include, but not be limited to, any relocation/replacement of spray heads, control valves, piping, sleeving, and all other irrigation equipment that may be encountered during construction. 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.

All trees and plant materials shall be properly disposed of offsite. 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.

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

BID ITEM 6: PROJECT SIGN

The provisions of Item 107.21 of the NCTCOG Specifications and City Specifications shall govern for the erection of project signs.

The CONTRACTOR shall install two (2) Project Signs. 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: Iron Horse Boulevard West Reconstruction

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 7-11: REMOVAL ITEMS

Pavement removal covered by this specification shall be only where designated on the Construction Plans or upon specific direction from the Owner's Project Representative.

The CONTRACTOR shall make every effort to remove pavement along existing joints. The CONTRACTOR shall saw cut at no extra cost full-depth at the existing joint or along straight, neat lines to remove the area of pavement specified in the Construction Plans. If the adjacent pavement is damaged during the removal process, the CONTRACTOR shall be responsible to saw cut the damaged portion of the pavement until a clean edge is achieved at no cost to the OWNER. The

CONTRACTOR will not be compensated for the additional pavement removal or replacement if the damage was caused by the CONTRACTOR during the removal process. If the pavement is in poor condition prior to the CONTRACTOR beginning the removal process, the CONTRACTOR shall coordinate with the Owner's Project Representative to determine the limits of the concrete removal. In this case, the CONTRACTOR shall be compensated for the removal and replacement of the additional pavement; however, the CONTRACTOR will only be paid for the original length saw cut detailed in the construction plans.

The CONTRACTOR shall exercise appropriate care not to damage other improvements in the process, and the CONTRACTOR shall be responsible for correction of any such damage caused during the removal process. All material removed shall become the property of the CONTRACTOR and be disposed in accordance with local, state and federal guidelines. Item 203.1 of the NCTCOG Specifications shall govern the removal of existing concrete and asphalt.

MEASUREMENT AND PAYMENT: Refer to the Unit Price Bid Form. Removal of any concrete or asphalt shall include the cost of saw cutting.

BID ITEM 12: TREE REMOVAL

This item governs the removal of trees as shown on the plans. Trees not specifically identified to be removed shall not be removed prior to permission from the City. Tree protection shall be in place for trees not specifically identified to be removed if near construction area. Contractor shall replace at their own cost any tree removed or damaged by construction that does not have tree protection installed.

MEASUREMENT AND PAYMENT: This item shall be on the basis of price bid per each tree identified to be removed. This item shall include removal of tree and roots, hauling off of removed tree and other incidental items.

BID ITEM 13: REMOVE SIGN POST AND SALVAGE SIGN

For locations shown on the Plans, remove the existing sign panels, clean and salvage panels and dispose of the existing sign post. Refer to the Plans for the location of sign panels to be salvaged and installed on a new post.

MEASUREMENT AND PAYMENT: This item shall be on the basis of price bid per each sign post removed. Salvaging and cleaning all sign panels on the existing post and disposing of the existing post is subsidiary to the existing post.

BID ITEM 14: UNCLASSIFIED STREET EXCAVATION

Excavation shall consist of all the required excavation within the project limits as shown on the Plans, the removal, proper utilization or disposal of all excavated material, and the shaping and finishing of all earthwork in conformity with the lines and grades as shown on the Plans or as established by the OWNER. Any usable

material from excavation shall be compacted in the areas of the project limits needing fill or embankment, and the required compaction testing of this excess material shall be included in this bid item and be completed in accordance with City standards. Excavation (Roadway) shall comply with NCTCOG Specification 203.2. This is a plans only quantity measured by end area calculation and shall include any embankment necessary as minimal is anticipated or shown.

MEASUREMENT AND PAYMENT: Unclassified Street Excavation shall be measured and paid for by the cubic yard for excavation from its original position, and shall include all materials excavated without regard to the materials encountered. **There shall be no compensation for any quantities in addition to what is provided in the Bid documents unless the lines and grades are changed by the Engineer.**

BID ITEM 15: 8" CONCRETE PAVEMENT

Reinforced concrete paving shall be constructed with 3,600 psi Class "C" Portland Cement Concrete and shall be furnished and placed in accordance with the details provided in the Plans and NCTCOG Specification Item 303. Admixtures shall otherwise adhere to the applicable provisions of NCTCOG Specification Item 303 & TxDOT Specification Item 360. Fly ash will not be approved as an admixture. Reinforcement shall be in accordance with the Plans and City Standard Details. This item shall include all necessary materials, labor, tools and incidentals required to construct 8" thick reinforced concrete paving in conformance with the lines and grades shown on the Plans.

CONCRETE QUALITY AND WORKMANSHIP

The finished concrete pavement construction under these specifications is expected to meet certain quality standards for surface of the concrete including the durability, texture, riding surface and appearance.

For this project, the main lane pavement shall be slip-form machine placed concrete with a broom finish in accordance with the specifications below. The contractor shall complete the first 12 concrete panels in the presence of the City Inspector. The quality of the broom finish shall be acceptable to the City Inspector prior to proceeding with additional panels.

The surface must be durable, firm, dense and well bonded to the aggregate to maintain an appearance and texture that is satisfactory to the Owner. Concrete pavement having a poor surface that has spalled (exposed aggregate) due to poor quality paste, high water-cement ratio, over-vibration, improper curing, extreme weather or any other reason, or does not have a satisfactory riding surface shall be removed and replaced at the Contractor's expense. It is extremely important that the pavement have a good riding surface, free from undulations and rough joints. The City Engineer shall determine the acceptability of the pavement.

Broom Finish

If the surface texture is to be a broom finish, it shall be applied when the water sheen has practically disappeared. The broom shall be drawn from the center to the edge of the pavement with adjacent strokes slightly overlapping in the direction of vehicular travel. The broom operation shall be so executed that the corrugation produced in the surface shall be uniform in appearance and not more than 1/16-inch in depth. Brooming shall be completed before the concrete is in such condition that the surface will be torn or unduly roughened by the operation. The surface thus finished shall be free from rough and porous areas, irregularities, and depressions resulting from improper handling of the broom. Brooms shall be the quality, size, and construction and shall be operated to produce a surface finish meeting the approval of the Owner. Subject to the approval of the Owner, the Contractor may be permitted to substitute mechanical brooming in lieu of the manual brooming as herein described.

Hand Finishing

Hand finishing of concrete pavement will be permitted in areas where it is not practical or possible to construct with finishing machines. These areas include, but are not limited to, intersections, left turn lanes, crossovers, transition areas and where the pavement width is not uniform. In hand finished areas, the concrete shall be struck off with an approved strike-off screed to such elevation that when consolidated and finished the surface of the pavement shall conform to the required section and grade. The strike template shall be moved forward with a combined transverse and longitudinal motion in the direction the work is progressing, maintaining a slight excess of material in front of the cutting edge. The concrete shall then be tamped with an approved tamping template to compact the concrete thoroughly and eliminate surface voids and the surface screeded to required section. After completion of a strike-off, consolidation and transverse screeding; a hand-operated longitudinal float shall be operated to test and level the surface to the required grade.

Workmen shall operate the float from approved bridges riding on the forms and spanning the pavement. The longitudinal float shall be held in contact with the surface and parallel to the centerline and operated with short longitudinal strokes while being passed from one side of the pavement to the other. If contact with the pavement is not made at all points, additional concrete shall be placed, if required, and-screeded, and the float shall be used to produce a satisfactory surface. Care shall be exercised to keep the ends of the float from digging into the surface of the pavement. After a section has been smoothed so that the float maintains contact with the surface at all points in being passed from one side to the other, the bridges may be moved forward half the length

of the float and the operation repeated. Other operations and surface tests shall be as required for machine finishing.

Edging at Forms and Joints

After the final finish, but before the concrete has taken its initial set, the edges of the pavement along each side of each slab, and on each side of transverse expansion joints, formed joints, transverse construction joints, and emergency construction joints shall be worked with an approved tool and rounded to the radius required by the plans. A well-defined and continuous radius shall be produced and a smooth, dense, mortar finish obtained. The surface of the slab shall not be unduly disturbed by tilting of the tool during use.

At all joints, any tool marks appearing on the slab adjacent to the joints shall be eliminated by brooming the surface. In doing this, the rounding of the edge shall not be disturbed. All concrete on top of the joint filler shall be completely removed.

All joints shall be tested with a straightedge before the concrete has set, and correction shall be made if one side of the joint is higher than the other or if they are higher or lower than the adjacent slabs.

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per square yard, complete in place and include all concrete, monolithic curb, reinforcing steel, required joint work, expansion material, approved elastomeric joint seal material, and other incidentals. Measurement and payment by the square yard for concrete pavement shall be made to the gutter line. Payment shall be based on Plan dimensions and no separate payment shall be provided for monolithic curb or extra thickness of concrete pavement placed.

BID ITEM 16: 8" HES CONCRETE PAVEMENT

Reinforced High Early Strength (HES) concrete paving shall be constructed with 4,000 psi Class "P" Portland Cement Concrete and shall be furnished and placed in accordance with the details provided in the Plans and TxDOT Specification Item 360. Admixtures shall otherwise adhere to the applicable provisions of Specification Item 360. Fly ash will not be approved as an admixture. Reinforcement shall be in accordance with the Plans and City Standard Details. This item shall include all necessary materials, labor, tools and incidentals required to construct 8" thick reinforced concrete paving in conformance with the lines and grades shown on the Plans.

CONCRETE QUALITY AND WORKMANSHIP

The finished concrete pavement construction under these specifications is expected to meet certain quality standards for surface of the concrete including the durability, texture, riding surface and appearance.

For this project, the main lane pavement shall be slip-form machine placed concrete with a broom finish in accordance with the specifications below. The contractor shall complete the first 12 concrete panels in the presence of the City Inspector. The quality of the broom finish shall be acceptable to the City Inspector prior to proceeding with additional panels.

The surface must be durable, firm, dense and well bonded to the aggregate to maintain an appearance and texture that is satisfactory to the Owner. Concrete pavement having a poor surface that has spalled (exposed aggregate) due to poor quality paste, high water-cement ratio, over-vibration, improper curing, extreme weather or any other reason, or does not have a satisfactory riding surface shall be removed and replaced at the Contractor's expense. It is extremely important that the pavement have a good riding surface, free from undulations and rough joints. The City Engineer shall determine the acceptability of the pavement.

Broom Finish

If the surface texture is to be a broom finish, it shall be applied when the water sheen has practically disappeared. The broom shall be drawn from the center to the edge of the pavement with adjacent strokes slightly overlapping in the direction of vehicular travel. The broom operation shall be so executed that the corrugation produced in the surface shall be uniform in appearance and not more than 1/16-inch in depth. Brooming shall be completed before the concrete is in such condition that the surface will be torn or unduly roughened by the operation. The surface thus finished shall be free from rough and porous areas, irregularities, and depressions resulting from improper handling of the broom. Brooms shall be the quality, size, and construction and shall be operated to produce a surface finish meeting the approval of the Owner. Subject to the approval of the Owner, the Contractor may be permitted to substitute mechanical brooming in lieu of the manual brooming as herein described.

Hand Finishing

Hand finishing of concrete pavement will be permitted in areas where it is not practical or possible to construct with finishing machines. These areas include, but are not limited to, intersections, left turn lanes, crossovers, transition areas and where the pavement width is not uniform. In hand finished areas, the concrete shall be struck off with an approved strike-off screed to such elevation that when consolidated and finished the surface of the pavement shall conform

to the required section and grade. The strike template shall be moved forward with a combined transverse and longitudinal motion in the direction the work is progressing, maintaining a slight excess of material in front of the cutting edge. The concrete shall then be tamped with an approved tamping template to compact the concrete thoroughly and eliminate surface voids and the surface screeded to required section. After completion of a strike-off, consolidation and transverse screeding; a hand-operated longitudinal float shall be operated to test and level the surface to the required grade.

Workmen shall operate the float from approved bridges riding on the forms and spanning the pavement. The longitudinal float shall be held in contact with the surface and parallel to the centerline and operated with short longitudinal strokes while being passed from one side of the pavement to the other. If contact with the pavement is not made at all points, additional concrete shall be placed, if required, and-screeded, and the float shall be used to produce a satisfactory surface. Care shall be exercised to keep the ends of the float from digging into the surface of the pavement. After a section has been smoothed so that the float maintains contact with the surface at all points in being passed from one side to the other, the bridges may be moved forward half the length of the float and the operation repeated. Other operations and surface tests shall be as required for machine finishing.

Edging at Forms and Joints

After the final finish, but before the concrete has taken its initial set, the edges of the pavement along each side of each slab, and on each side of transverse expansion joints, formed joints, transverse construction joints, and emergency construction joints shall be worked with an approved tool and rounded to the radius required by the plans. A well-defined and continuous radius shall be produced and a smooth, dense, mortar finish obtained. The surface of the slab shall not be unduly disturbed by tilting of the tool during use.

At all joints, any tool marks appearing on the slab adjacent to the joints shall be eliminated by brooming the surface. In doing this, the rounding of the edge shall not be disturbed. All concrete on top of the joint filler shall be completely removed.

All joints shall be tested with a straightedge before the concrete has set, and correction shall be made if one side of the joint is higher than the other or if they are higher or lower than the adjacent slabs.

MEASUREMENT AND PAYMENT: Measurement and Payment for this item shall be at the contract unit price per square yard, complete in place and include all concrete, monolithic curb, reinforcing steel, required joint work, expansion material, approved elastomeric joint seal material, and other incidentals.

Measurement and payment by the square yard for concrete pavement shall be made to the gutter line. Payment shall be based on Plan dimensions and no separate payment shall be provided for monolithic curb or extra thickness of concrete pavement placed.

BID ITEM 17: ASPHALT TRANSITION ZONE

Asphaltic concrete shall meet the requirements for 2" Type "D" over 4" Type B of NCTCOG Specification Item 302. A prime coat shall be applied to the prepared subgrade before placing the first lift. Prime coat is considered subsidiary to the asphalt item.

This item also includes removal of existing pavement and curb within the limits specified on the Plans. No separate pay will be given for removal of existing pavement (concrete or asphalt) and existing curb or existing curb and gutter.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per square yard asphalt in place. Prime Coat shall be subsidiary to this item.

BID ITEM 18: 8" LIME STABILIZED SUBGRADE (48LB/SY)

This item provides for the treating of the subgrade by pulverizing, addition of lime in slurry form, mixing and compacting the mixed material to the required density in conformity with the typical section, lines and grades as shown in the Plans or as established by the Owner's Project Representative. The Contractor will not be required to expose the secondary subgrade except in unstable areas.

Once the final subgrade elevations are achieved during construction and all utilities are in place, the subgrade shall be sampled to determine the required lime application rate at a cost subsidiary to this bid item. Any offsite fill brought in for use on the project is subject to geotechnical evaluation to determine lime application rate at a cost subsidiary to this bid item.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per each square yard of subgrade thickness as specified in the construction plans from a point 12" behind the backs of the proposed curbs or edges of proposed HMAC transition pavement.

BID ITEM 19: LIME MATERIAL FOR TREATED SUBGRADE

Hydrated lime for subgrade stabilization shall be furnished in accordance with NCTCOG Specification 301.2.

MEASUREMENT AND PAYMENT: Lime will be measured by the ton and paid for at the price bid per ton after its incorporation into the subgrade. The actual amount of lime ordered by the Owner's Project Representative for stabilization and

incorporation into the project will be paid for at the price bid per ton. Quantities were computed based on 48 pounds per square yard at an 8-inch depth.

BID ITEM 20: BARRIER FREE RAMP

This item shall govern the installation of Curb Ramps in accordance with the details provided in the Plans and NCTCOG Specification Item 305.2.

Concrete for curb ramps shall be constructed with 3,000 psi Class "A" Portland Cement Concrete with 5 sacks of cement per cubic yard, with a maximum slump of 5 inches. Rebar shall be #3 bars spaced at 18" o.c.e.w. Concrete shall meet the requirements of NCTCOG Specification Item 303.

The Contractor shall be responsible to ensure all barrier free ramp construction is in accordance with the Americans with Disabilities Act (ADA) and Texas Accessibility Standards (TAS). Any portions of the barrier free ramp 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.

Per Texas Accessibility Standards Technical Memorandum TM 08-01 Issues: June 30, 2008, "The ONLY surface texture TDLR is currently aware of that meets the intent of both the Texas Accessibility Standards and the currently enforceable federal Americans with Disabilities Act Accessibility Guidelines are detectable warnings (aka truncated domes) meeting the technical specifications of TAS 4.29.2." Truncated dome surface shall be provided by using precast detectable warning plates or approved equal in a color approved by the City representative. Truncated dome pavers will not be allowed.

"In accordance with Administrative Rules 68.102 and TAS 2.2, the Department is allowing the detectable warning surface to be a minimum of 24" in depth (in the direction of pedestrian travel) in lieu of the full depth of the curb ramp. The deviation from this particular technical requirement does not require a variance. The truncated domes must still extend the full width of the curb ramp (or landing as applicable at parallel curb ramps) and comply with TAS 4.29.2."

MEASUREMENT AND PAYMENT: Payment for this item shall be on a "per-each" basis furnished and installed and shall include all concrete, reinforcement, formwork, truncated domes, monolithic curb, labor, materials, and incidentals necessary to complete the work per provided details.

BID ITEM 21: 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 NCTCOG Specification Item 305.2. Reinforced concrete paving shall be constructed in accordance with NCTCOG Specification Items 305.2 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.

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 22: SIDEWALK RETAINING WALL

Sidewalk retaining wall installed as shown on the detail in the Plan and shall be constructed in accordance with the width and details shown on the Plans and NCTCOG Specification Item 305.2. The pay limits shall include the wall and footing. The sidewalk quantity is covered under 4" Concrete sidewalk

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

BID ITEM 23: 6" INTEGRAL CONCRETE CURB

Construct 6" Integral Concrete Curb in accordance with NCTCOG Specification 305.1 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot.

BID ITEM 24: 6" CONCRETE DRIVEWAY APPROACH

Construct 6" Concrete Driveway in accordance with NCTCOG 305.2 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per square yard.

BID ITEM 25: 6" CONCRETE CURB AND GUTTER

Construct 6" Concrete Curb & Gutter in accordance with NCTCOG Specification 305.1 and the Plans.

MEASUREMENT AND PAYMENT: Payment for this item shall be at the contract unit price per linear foot.

BID ITEM 26: DETECTABLE WARNING TILE AT DRIVEWAYS (NO RAMP)

Install Detectable Warning Tiles per TxDOT Specification 531 and TxDOT Standard Details. Refer to the Plans for locations.

Per Texas Accessibility Standards Technical Memorandum TM 08-01 Issues: June 30, 2008, "The ONLY surface texture TDLR is currently aware of that meets the intent of both the Texas Accessibility Standards and the currently enforceable federal Americans with Disabilities Act Accessibility Guidelines are detectable warnings (aka truncated domes) meeting the technical specifications of TAS 4.29.2." Truncated dome surface shall be provided by using precast detectable warning plates or approved equal in a color approved by the City representative. Truncated dome pavers will not be allowed.

"In accordance with Administrative Rules 68.102 and TAS 2.2, the Department is allowing the detectable warning surface to be a minimum of 24" in depth (in the direction of pedestrian travel) in lieu of the full depth of the curb ramp. The deviation from this particular technical requirement does not require a variance. The truncated domes must still extend the full width of the curb ramp (or landing as applicable at parallel curb ramps) and comply with TAS 4.29.2."

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

BID ITEM 27: PAVEMENT HEADER (INCLUDES SAWCUT)

This item governs the construction of concrete pavement headers at the locations shown on the plans and in accordance with NCTCOG specification Item 305.4.

MEASUREMENT AND PAYMENT: Measurement and payment for this item shall be by the contract unit price bid per linear foot (LF) and shall be full compensation for all materials, labor, tools, sawcutting, equipment, and incidentals necessary to complete the work.

BID ITEM 28: STAMPED CONCRETE

This item governs the finished pavement constructed of Portland Cement Concrete on the prepared subgrade as shown on the plans and as specified by NCTCOG Item 303, "Portland Cement Concrete." The concrete shall be Class C and have a minimum 28-day compressive strength of 3,600 psi. Pattern to be Running Bond or approved equal. Color to be integral to the concrete and "Concrete Color of Dark Grey" or approved equal. The intent is to match the existing crosswalks at North and South Bold Ruler lanes. Contractor to provide three 1'x1' samples of the selected color and pattern and two similar color samples for City approval prior to

concrete being ordered. Concrete testing shall conform to current applicable ASTM standards. Testing is subsidiary this item.

MEASUREMENT AND PAYMENT: Measurement and Payment shall be by the contract unit price bid per square yard (SY) of completed and accepted work and shall be full compensation for the all manipulations, labor, equipment, appliances, tools, traffic provisions and incidentals necessary to complete the work.

BID ITEM 29: MEDIAN NOSE

This item consists of installation and construction of median noses as shown on the plans and details. Median noses shall be installed as shown on the plans/details and in accordance with NCTCOG Item 804.

MEASUREMENT AND PAYMENT: This item shall be measured and paid on bid per each.

BID ITEM 30: REPLACE SIGNAL LOOPS

This item consists of replacement of signal loops which would be affected during reconstruction of the pavement at Browning and Iron Horse. This item shall include installation of signal loop and connecting back to conduit/communication to signal box.

MEASUREMENT AND PAYMENT: This item shall be on bid per each signal loop replaced.

BID ITEM 31-32: FIRE HYDRANT ASSEMBLY

Adjusting and relocating Fire Hydrant Assembly in accordance with NCTCOG Specification 502.3 and the Plans.

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

BID ITEM 33-34: UTILITY ADJUSTMENT

Adjust existing valve box, water meter, sewer cleanout, and manholes in accordance with NCTCOG Specification 701.2 and 502.1. and the Plans.

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

BID ITEM 35: 10' INLET TOP REPLACEMENT

This item consists of removing and replacing inlet tops to the grades shown on plans and shall be constructed in accordance with City Standard Details and TxDOT Specification 465.

Where applicable, the depth shall be adjusted per the Plan elevations at no additional cost.

All inlet tops shall be cast-in-place. Concrete for inlet shall be Class "C" with a minimum 5 sacks per cubic yard of cement content and a 3,600 psi compressive strength when tested at 28 days.

MEASUREMENT AND PAYMENT: Payment for Standard Curb Inlet Tops shall be on a "per each" basis and shall include excavation, backfill, form work, concrete, reinforcing steel, ring and lid, and labor to perform the work. Existing inlet top, curb removal and replacement where applicable is incidental to this bid item.

BID ITEM 36: INSTALL SIGN PANEL AND POST

For locations shown on the Plans, install the proposed sign panel(s) and post. Sign posts shall be in accordance with TxDOT Specification 636 and 644 and TxDOT Details. Refer to the Plans for proposed sign locations.

Signage shall be installed in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), latest revision. The City of North Richland Hills reserves the salvage rights on surplus/replaced signage. New Street signs will be provided by the CONTRACTOR to be mounted and installed by the CONTRACTOR.

MEASUREMENT AND PAYMENT: This item shall be on the basis of price bid per each sign post installed. Any repairs necessary due to damage caused while installing signs and sign panels be subsidiary to this bid item.

BID ITEMS 37: PAVEMENT MARKINGS & MARKERS COMPLETE IN PLACE

Pavement markings shall be performed in accordance with TxDOT Standard Specifications and the Manufacturer recommendations. This item shall consist of the work, labor, materials, and equipment necessary to install pavement markings as shown on the Plans in accordance with the Texas Department of Transportation Items 666 and 678. All work, labor, materials, and equipment required for surface preparation, installation of pavement markings, and pavement marking sealant shall be subsidiary to each pavement marking bid item placed. Pavement markings are intended to be buttons for lane lines and traffic paint for stop bars and arrows.

MEASUREMENT AND PAYMENT: Pavement Markings and Markers shall be measured and paid on a lump sum basis. This shall include any markings and markers, labor, materials and incidentals needed to complete the work.

BID ITEM 38: LANDSCAPING RESTORATION ALLOWANCE

Landscaping Restoration Allowance shall consist of restoring all existing landscaped areas affected by the construction to an equal or better condition. This

work shall include, but not be limited to, any relocation/replacement of landscape plants, bedding material, edging material, decorative rocks/boulders and any other plan material that may be encountered during construction.

The CONTRACTOR shall only utilize this item when approved and should avoid damaging existing landscaping whenever possible. This item should only be used if damaging the existing landscaping is unavoidable. It is the CONTRACTOR'S responsibility to verify the existing conditions and plant species within landscape areas prior to construction. This item may be used with approval by the Owner. Owner reserves the right to delete any or all of this item from the Contract if it is not needed.

MEASUREMENT AND PAYMENT: Payment for landscape restoration will be provided out of the allowance for Landscaping Restoration Allowance. Payment will be based on a price agreed upon prior to the work being performed. 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.

BID ITEM 39: 4" TOPSOIL

Topsoil shall be installed per NCTCOG Specification Items 204.2. A 4-inch layer of topsoil, furnished in accordance with Item 204.2, 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.

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.

MEASUREMENT AND PAYMENT: Topsoil shall be measured per square yard. This item shall include all labor, equipment and materials necessary to complete the work.

BID ITEM 40: BLOCK SODDING

Sod shall be installed per NCTCOG Specification Items 204.5. The type of sod placed shall match the type of grass in the adjacent lawn area. Fertilizer shall be furnished in accordance with Item 204.5 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. Watering shall be done until accepted by the owner and the City.

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: Block sodding shall be measured and paid per square yard of block sod installed. This item shall include all labor, equipment and materials necessary to complete the work including 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 41: 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 \$20,000 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.

BID ITEM A-1: INSTALL 2" & 4" SCH40 PVC CONDUIT (ALT BID)

This item governs the furnishing and installation of schedule 40 conduit at the sizes and locations shown on the plans and shall be in accordance with the applicable portions of TxDOT Item 618.

MEASUREMENT AND PAYMENT: Measurement and payment for this item shall be by the contract unit price bid per linear foot (LF) and shall include all materials, labor, tools, equipment, and incidentals necessary to complete the work.

SECTION V

SPECIAL PROVISIONS

SPECIAL PROVISIONS

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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
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 three project phases. The contract time for Phase I from the "Notice to Proceed" issuance date through completion of Phase 1 is 120 consecutive calendar days. The contract time for Phase 2 from the end of Phase 1 through final completion of Phase 2 is 120

consecutive calendar days. The contract time for Phase 3 from the end of Phase 2 through final completion of Phase 3 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 **\$900** per consecutive calendar day for any unfinished work beyond the 430th 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 Iron Horse Boulevard West Reconstruction. One sign shall be at or near the intersection of Browning Drive and Iron Horse Boulevard West and one sign shall be at or near the intersection of Rufe Snow Drive and Iron Horse Boulevard West. 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: **Iron Horse Boulevard West Reconstruction**

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



**GEOTECHNICAL PAVEMENT DESIGN ANALYSIS FOR
IRON HORSE BLVD FROM BROWNING DRIVE TO RUFÉ SNOW DR
NORTH RICHLAND HILLS, TEXAS**

Prepared For:

Pacheco koch
7557 Rambler Road # 1400, Dallas, TX 75231

Prepared by:

MAS-TEK ENGINEERING & ASSOCIATES, INC.
Geotechnical Consulting & Materials Testing
10625 Newkirk, Suite 800, Dallas, TX 75220

MTE Report No. 29-046G
August 18, 2022



10625 Newkirk, Suite 800
Dallas, TX 75220
p | 972.709.7384
f | 972.709.7385

August 18, 2022
MTE Project No. 29-046G

Pacheco koch
7557 Rambler Road # 1400, Dallas, TX 75231

Mr. Christopher J. Cha, PE
Principal
Office: 817-412-7155
ccha@pkce.com

**Subject: GEOTECHNICAL PAVEMENT DESIGN ANALYSIS FOR
IRON HORSE BLVD FROM BROWNING DRIVE TO RUFÉ SNOW DR
NORTH RICHLAND HILLS, TEXAS**

Dear Mr. Cha:

This report presents the results of a geotechnical study performed for Iron Horse Blvd from Browning Drive to Rufe Snow Dr, North Richland Hills, Texas.

This study was performed in accordance with our Proposal No:01-04 G.

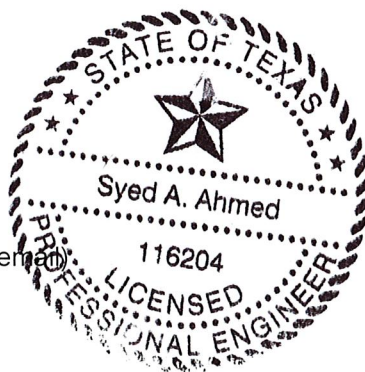
Our engineering analysis as well as the results of the field exploration and laboratory testing are included in this report. Our firm is interested in providing the construction material testing (CMT) that will be required during the construction phase of the project.

We appreciate the opportunity to be of assistance on this project. Please feel free to contact us if you have any questions or if we can be of further service.

Sincerely,

MAS-TEK ENGINEERING & ASSOCIATES, INC.
TBPE Firm Registration No. 1418

Syed A. Ahmed, P.E.
Senior Project Engineer



Copies Submitted: 1 pdf (via email)

Steve Mason
President

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FIGURE

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GEOTECHNICAL PAVEMENT DESIGN ANALYSIS FOR IRON HORSE BLVD FROM BROWNING DRIVE TO RUFÉ SNOW DR NORTH RICHLAND HILLS, TEXAS

1 INTRODUCTION

1.1 PROJECT AND SITE DESCRIPTION

This report presents the results of the geotechnical study for the proposed Iron Horse Blvd from Browning Drive to Rufe Snow Dr, North Richland Hills, Texas as shown on the “Vicinity Map” and “Site and Boring Plan”, Figures 1 and 2, respectively, included in Appendix A.

The project consists of the construction of the new proposed pavement road. We assumed the maximum traffic volume of 500,000 ESAL’s for heavy duty pavement sections and 200,000 ESAL’s for light duty pavement sections to perform the pavement analysis. Our office should be contacted if the locations of the pavement are altered in the final site plan.

At the time of our field exploration the site has native grass in the median and asphalt roadway pavement. Visually, the site was fairly flat during our field investigation.

1.2 PURPOSE AND SCOPE OF WORK

The purpose of this study was to evaluate the subsurface conditions at the site and to develop geotechnical engineering recommendations for the proposed new roadway pavement. To accomplish these intended purposes, the study has been conducted based on the following scope:

- Exploration and evaluation of the soil and rock strata at the boring locations;
- Evaluation of soil swell potential;
- Perform laboratory tests on selected samples to determine classification and engineering properties of the subsurface soil;
- Recommendations for pavement sections; and
- Discussion of construction considerations.

Geotechnical design considerations for any other structures/features at the subject site were not requested and therefore are not part of the scope of services for this study.

2 FIELD EXPLORATION

The subsurface material at the project site were explored by drilling Five (5) borings on June 27, 2022. The boring locations were selected by the client's design team. At the time of drilling and this report preparation, pavement layout drawings were not available.

The borings were drilled to depths of 10 feet below the existing grade at the approximate location as shown on the Site and Boring Plan, Figure 2, in Appendix A. The Logs of Borings, and the terms and symbols used in the logs are provided in Figures 3 through 9.

Borings B-1 thru B-5 were drilled for the surface pavement. Boring B-1 thru B-5 were advanced using a truck-mounted drill rig employing dry sampling techniques.

Undisturbed cohesive soil samples were obtained using 3-inch diameter thin-walled Shelby tube samplers that were advanced into the soils by a continuous thrust of hydraulic rams on the drilling equipment. The undrained compressive strength of cohesive soils was estimated in the field using a calibrated pocket penetrometer.

Cohesionless soils and soils for which good quality open tubes samples could not be obtained were sampled by means of the Standard Penetration Test (SPT). This test consists of measuring the number of blows (N) required for a 140-pound hammer free falling 30 inches to drive a standard split-spoon sampler 12 inches into the subsurface material after being seated six inches. This blow count or SPT N-value is used to evaluate the stratum.

The thin-wall Shelby tube and SPT soil samples were extruded at the site and all samples were sealed in polyethylene bags and stored in sample boxes for transport to our laboratory. After completion of the field investigation, the borings were backfilled with soil cuttings at the surface.

Soil strata boundaries shown on the Log of Boring illustrations are representative of the changes in soil and rock types in the immediate vicinity of each boring. Variation was

observed between borings and should be anticipated away from each boring location. The in- situ transition between material types may be gradual and indistinct.

Field boring logs were prepared by the drill crew as part of the drilling operations. The boring logs include visual classifications of the materials encountered during drilling and the driller's interpretation of the subsurface conditions between samples. The final boring logs included in this report represent the engineer's interpretation of the field logs and include modifications based on observations and testing of the samples in the laboratory. Soil strata boundaries shown on the boring logs are approximate. The stratification boundaries shown on the boring logs represent the approximate locations of the changes in the soil and rock types; in situ, the transition between material types may be gradual and indistinct.

The boring locations should be considered accurate only to the degree implied by the method used in its determination. If a greater degree of accuracy is required or desired, then a licensed land surveyor should be retained to record the coordinates of the borings.

3 LABORATORY TESTING

Samples of subsurface materials from the borings were visually examined and classified in the field. Modifications to the field classifications were made based on the results of the laboratory testing related to material classification according to the Unified Soil Classification System (USCS). These tests included moisture content, unit dry weight, Atterberg limits (Liquid Limit, LL and Plastic Limit, PL), Plasticity Index (PI) and the percent passing No. 200 sieve. Shear strengths of cohesive soils were estimated by field pocket penetrometer tests.

Unconfined Compression (Uc) strength tests were performed by Arias Inc. on selected soil samples to determine the strength parameters. The results of these tests are reported on the boring logs at respective depths.

Selected samples were subjected to Free Swell tests. Free Swell tests were performed by Arias Inc. on undisturbed soil samples to estimate soil volume change characteristics at the present moisture contents. Results of the swell tests are presented in Table 3.1 below.

TABLE 3.1 - SUMMARY OF SWELL TESTS

Boring No.	Depth (feet)	Liquid Limit (%)	Plasticity Index	Surcharge (psf)	Initial Moisture (%)	Final Moisture (%)	Swell (%)
B-2	6-8	48	33	875	11.8	24.2	2.3
B-3	0-2	45	30	250	13.9	28.9	10.2

Eades and Grimm lime series (pH/lime series) test was performed on a selected soil sample to estimate an optimum percentage of hydrated lime required to treat and increase the strength of subgrade cohesive soils. For construction purposes, an additional 1 to 2 percent may be added to the optimum amount of hydrated lime as determined by using Eades and Grimm method. The results of the Eades and Grim lime series tests are presented in Table 3.2 below.

TABLE 3.2 – pH LIME SERIES TEST RESULTS

Boring No.	Depth (feet)	Material	LL	PL	PI	% Lime	pH
B-2	0-2	Lean Clay, Dark Brown	40	13	27	0	7.2
						2	11.0
						4	12.0
						6	12.3
						8	12.3
						10	12.3
Boring No.	Depth (feet)	Material	LL	PL	PI	% Lime	pH
B-5	0-4	Lean Clay, Dark Brown	49	17	32	0	8.2
						2	11.3
						4	12.1
						6	12.3
						8	12.3
						10	12.3

Soluble sulfate tests were performed on selected soil samples using TxDOT Method, Tex-145-E to measure the concentration of soluble sulfate present in the subsurface soils at the borehole locations. The concentration of the soluble sulfate is required to evaluate the sulfate induced

heave potential of the pavement due to the presence of sulfate within subgrade soils underneath the pavement.

TABLE 3.3 – SUMMARY OF SOLUBLE SULFATE CONTENT TEST RESULTS

Boring Number	Sample Depth feet	Soil Description	*Soluble Sulfates Content ppm
B-3	0-2	Lean Clay, Dark Brown	1600
B-4	0-2	Lean Clay, Dark Brown	1920

4 SUBSURFACE CONDITIONS

4.1 GEOLOGY

Atlas maps published by the Bureau of Economic Geology at the University of Texas; Austin indicated that the site is located of Pawpaw Formation, Weno Limestone and Denton Clay Formation Undivided (Kpd). The Pawpaw formation typically consists of claystone, mudstone, and sandstone. The Weno Limestone typically consists of limestone with alternating clay layers. The Denton Clay typically consists of alternating layers of clay, marl and limestone. Soils derived from this formation are typically plastic clays exhibiting a moderate to high shrink/swell potential with variations in moisture content. In addition, unmapped alluvial deposits are present at the subject site. The alluvial deposits consist of clay, silt, sand, and gravel.

4.2 SUBSURFACE CONDITIONS

Specific types and depths of subsurface strata encountered in the borings are shown on the boring logs. The subsurface conditions encountered at the subject site can be generalized as shown below:

Approximately 0 to 10 feet of dark brown lean clays are encountered below existing ground surface. Below lean clays approximately 5 to 10 feet deep we encountered fat/ lean clay with sand very stiff, tan and light brown, with limestone seams.

Generally, the soils encountered in the borings were stiff to hard sandy clays. Based on Atterberg Limits (Liquid Limit and Plastic Limit) test results, the upper dark brown, brown fat/ lean clay soils encountered in the borings are considered to be highly expansive.

Refer to the Logs of Borings in Appendix A for detailed subsurface descriptions. Note that demarcation lines between the strata are interpretive of the field conditions, and that actual strata transitions in the field may be gradual.

4.3 GROUNDWATER CONDITIONS

The borings were advanced using auger drilling and dry sampling methods in order to observe groundwater seepage levels. The ground water level was not encounter for borings B-1 thru B-5 and were dry upon completion of drilling. It is not possible to accurately predict the magnitude of subsurface water fluctuations that might occur based upon short-term observations. The occurrence and variation of groundwater can vary due to many factors. These factors include seasonal changes, site topography, surface runoff, the layering and permeability of subsurface strata; water levels in any waterways, creeks, drainage channels, utilities, and other factors not evident at the time of this study. The possibility of groundwater and its fluctuation should be considered when developing this project.

5 ANALYSIS AND ENGINEERING RECOMMENDATIONS

At the time this report was written, the traffic data and finished grades were not available. We assumed the maximum traffic volume of 500,000 ESAL's for heavy duty pavement sections and 200,000 ESAL's for light duty pavement sections to perform the pavement analysis.

5.1 POTENTIAL VERTICAL RISE

The overburden clayey soils encountered in the borings at the subject site exhibited Plasticity Indices (PI) typically ranging between 18 and 36. These soils are moderately expansive that may exhibit shrink and swell behavior with changes in moisture conditions. The amount of shrink/swell behavior that can occur will depend upon moisture fluctuations of the subgrade soils that occur over the design life of the structure. Usually, the magnitude of soil's potential vertical rises or potential vertical movements (PVR's/PVM's) are dependent upon the moisture content, thickness and nature of the clayey soils present below finished grade at the time of construction, the preceding and prevailing atmospheric conditions, the overall drainage characteristics of the site surface, and the depth of the active moisture zone.

Based on the subsurface conditions encountered in the borings and considering the thickness of the expansive soils below existing grade, estimated PVR calculations for were performed using the Texas Department of Transportation (TxDOT) Method 124-E. The estimated PVR using this method is on the order of 2 to 3 inches at the current (Dry) moisture condition. The TxDOT method is empirical and is based on the Liquid and Plastic limits and moisture content of the subsurface soils.

The results of the swell tests and other laboratory tests performed during this investigation indicate that the soils were in a dry to moisture state at the time the borings were advanced. The free swell test results yielded a PVR of about 1 to 3 inches at the current moisture conditions, which is close to that determined by using the aforementioned TxDOT method. These results indicated that the soils were in dry to moisture conditions at the time of drilling. It should be noted that the amount of swell is dependent on the moisture condition of the soil sample at the time it is sampled and tested. The higher the initial moisture content, the lower the potential swell and vice-versa. However, considerably more movement may occur in areas where the subgrade soils are allowed to dry and where water ponding is allowed to occur during or after construction.

Site grading will have a significant impact on the an aforementioned PVR of the in-situ soils. Substantial cutting or filling, if required during site grading operations, could alter the PVR values and our recommendations for pavement design.

Depending on the tolerable/allowable amount of PVR for the proposed new pavement, it is at the discretions of the client and the design team to choose which PVR will be viable to prepare finished grade for this project.

5.2 SITE AND SURFACE DRAINAGE

Flatwork and pavement could be subject to post construction movement. Maximum grades practical should be used for paving and flatwork to prevent areas where water can pond. In addition, allowances in final grades should take into consideration post-construction movement of flatwork, particularly if such movement would be critical. Consideration should be given to preparing the subgrade as discussed in the previous section of this report in sensitive areas. A curb is recommended between the sidewalks and roadway. The joint between the curb and sidewalk should be sealed. A maintenance program should be established to include periodic inspection for open joints/cracks and resealing as necessary.

5.3 UTILITY AND SERVICE LINES

Utility lines connected to the structures may experience differential movement as these clayey soils are considered to be highly expansive and also in response to soil movements due to variations in the degree of compaction of the fill and natural variations of the underlying soil and variations in moisture content of the sub-soils. These movements may damage utility connections and should be considered during design. Groundwater may be encountered if construction begins in rainy season.

Care should be taken that utility trenches are not left open for extended periods, and they are properly backfilled. Backfilling should be accomplished with properly compacted on-site soils, rather than granular materials.

5.4 EXCAVATION

Excavations will encounter fat/lean clay soils. The clays can be excavated with conventional equipment. The difficulty of excavation will increase with depth. The clays and any clayey sand must be sloped or braced in the interest of safety. Applicable OSHA standards should be followed. During excavation soil type needs to be identified by the contractors "competent person" as defined by OSHA at the time of excavation. Excavations deeper than 20 feet will need to be engineered on a case-by-case basis according to OSHA standards. If construction starts during rainy season, seasonal

seepage can occur in the clay. This is normally handled during construction by perimeter sumps and pumping.

6 SURFACE PAVEMENT RECOMMENDATIONS

6.1 PAVEMENT SUBGRADE

Pavement layout drawing was not available during drilling and at the time of this report preparation. As per the project plans, the new potential roadway pavement will be constructed at or near Borings B-1 thru B-5. Based on the subsurface conditions encountered in Borings B-1 thru B-5 pavement subgrade materials at this site are anticipated to consist of fat clays and lean clays with sand.

The subgrade should be proofrolled prior to subgrade compaction. Proofrolling can generally be accomplished using a heavy (25 ton or greater total weight) pneumatic tired roller making several passes over the areas. Where soft or compressible zones are encountered, these areas should be removed to a firm subgrade. Wet or very moist surficial materials may need to be undercut and either dried or replaced with proper compaction or replaced with a material which can be properly compacted. Any resulting void areas should be backfilled to finished subgrade in 6 inch compacted lifts compacted to a minimum of 95 percent of maximum dry density as determined by ASTM D 698 at optimum to +3% of its optimum moisture content.

Upon completion of proofrolling the pavement subgrade unstabilized, should be uniformly compacted to a minimum of 95 percent the maximum dry density as determined by Standard Proctor (ASTM D 698) between -1 to +3 percentage points of the optimum moisture content of the Standard Proctor. The subgrade should be protected and maintained in a moist condition until the pavement is placed. Pavement subgrade should be graded to prevent ponding and infiltration of excessive moisture on or adjacent to the pavement subgrade and surface.

The subgrade is subject to loss of support with the moisture increases that can occur beneath paving. Clayey subgrade reacts with hydrated lime, which serves to improve and maintain their support value. Therefore, lime stabilization or flexible base is recommended beneath Rigid (concrete) and flexible (asphalt) pavements as described in this report.

6.2 PAVEMENT SECTIONS

We contemplated that Portland Cement Concrete (PCC) pavement (rigid pavement) and Asphaltic Concrete pavement (flexible pavement) will be under consideration for this project. The proposed project may require both heavy-duty and light-duty (standard-duty) pavements.

The pavement thickness calculations for both heavy and light duties were performed using the following parameters that were developed based on assumed traffic data and design parameters, and the procedures outlined by the American Association of State Highway and Transportation Officials (AASHTO). Based on the assumed traffic data, the following types of pavement and corresponding ESAL's (Table 6.1) are considered for both the rigid and flexible pavement recommendations.

TABLE 6.1 – PAVEMENT DESIGN LOADING

Vehicle Type	Type of Pavement	Assumed ESAL ¹
Trash/Delivery /Fire Trucks/ Bus /Truck	Heavy-Duty	500,000
AUTO'S	Light-Duty	200,000

Note: (1) Equivalent Single Axle Load

The design parameters considered for the rigid pavement. When appropriate, the item listed in the parenthesis at the end of each bullet item refers to the source of the value.

- 20 years Design Life (anticipated, depending on periodic/regular maintenance)
- 85% Reliability (AASHTO)
- 0.35 Overall Deviation for rigid (AASHTO)
- 4,500 psi concrete strength at 28 days (minimum value recommended)
- 3,900,000 psi Concrete Elasticity Modulus (estimated from concrete strength)
- 2.7 Load Transfer Coefficient (based on edge support, AASHTO)
- 110 psi/in Modulus of Subgrade Reaction (assumed, AASHTO)
- Drainage Coefficient = 1.0 (assumed, AASHTO)
- 4.5 Initial Serviceability (AASHTO)
- 2.0 Terminal Serviceability (AASHTO)

The design parameters considered for the flexible pavement. When appropriate, the item listed in the parenthesis at the end of each bullet item refers to the source of the value.

- 20 year Design Life (anticipated, depending on periodic/regular maintenance)
- 85% Reliability (assumed, AASHTO)
- 0.40 Overall Deviation for rigid (AASHTO)
- 5160 psi Modulus of Subgrade Reaction (CBR of 3)
- 4.2 Initial Serviceability (AASHTO)
- 2.5 Terminal Serviceability (AASHTO)

Recommended pavement thickness values for rigid (concrete) and flexible (asphalt) pavement systems are provided in Table 6.2. The recommended rigid and flexible sections for each pavement type are considered equivalent with respect to pavement design loading data as presented in Table 6.1.

TABLE 6.2 RECOMMENDED PAVEMENT THICKNESSES

Material Designation	Asphaltic Concrete		Portland Cement Concrete	
	Light Duty	Heavy Duty	Light Duty	Heavy Duty
Asphalt Surface Course	3 inches	4 inches		
Asphalt Base Course	4 Inches	5 Inches		
Portland Cement Course			6 inches	8 inches
Base Material can be Flexible Base or Lime Treated Subgrade				
Flexible Base	8 inches	8 inches	8 inches	8 inches
Lime Stabilized Subgrade*	6 inches	6 inches	6 inches	6 inches

*Minimum 8% Hydrated Lime, by dry weight, (About 36 pounds per square yard)

If ESAL's indicated in the actual traffic data are different than that listed in Table 7.1, then we should be contacted to revise the recommended pavement sections. The recommended pavement is intended to provide an adequate thickness of structural materials, such that wheel loads are distributed over a larger area. The pavement may be adequate from a structural standpoint, yet still experience cracking and deformation

due to soil movements expected at this site beneath the pavement section. Therefore, moisture changes in the subgrade should be prevented. The pavement and adjacent areas should be well drained. Proper and regular maintenance should be performed on cracks in the pavement surface to prevent water passing through to the base or sub-base material. Even with these precautions, some movements and cracking may still occur, which will require periodic maintenance.

The new pavement section may be joined with the existing adjacent concrete pavement at the subject site. Care should be taken not to undermine the support of the existing pavement. Adequate and proper isolation joints should be used wherever the pavement will abut a structural element subject to a different magnitude of movement, e.g., light poles, retaining walls, existing pavements, or manholes, etc. Upon completion of pavement construction, the contraction, construction, and isolation joints should be inspected periodically and resealed, as necessary. Consideration may be given to grading the subgrade and crowning the pavements so that surface runoff will rapidly drain away from the pavement and subgrade.

6.3 PAVEMENT MATERIAL SPECIFICATIONS

6.3.1 Pavement Material Specifications

Recommended material specifications for the recommended pavement sections are provided below.

Asphalt Concrete Pavement - As standard specification TxDOT Item 340 (Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition), For asphalt concrete (AC) pavement, a minimum surface course thickness of 3 inches is recommended. The asphalt surface should conform to Type D and the base course should conform to Type A or B. The coarse aggregate in both courses should be crushed limestone rather than rounded gravel. Compaction of asphalt pavement shall be between 92% and 96% of the Theoretical Maximum Specific Gravity of the Superpave mix.

Portland Cement Concrete - TxDOT Item 360 (Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition), with a minimum flexural strength of 550 psi at 28 days; that corresponds to roughly 4,500-psi compressive strength. Concrete should be steel

reinforced and include joints to control the formation of temperature and shrinkage related cracks. Concrete should include air entrainment to increase the resistance to temperature effects. As a general guide, the air entrainment should vary from 4 to 6 percent.

Lime Stabilization for Pavement Subgrade – As outlined in TxDOT Item 260, Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition.

Based on pH lime series test results, a minimum of about 8 percent hydrated lime (TxDOT Item 264), by dry weight, or 36 pounds per square yard per 6-inch depth may be used for lime stabilization. The lime should be thoroughly mixed and blended with the top 6 inches of the subgrade in accordance with TxDOT, Item 260, Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2004 Edition. Stabilization should extend a minimum of one foot beyond the edge of the pavement. Because the cut and fill operations may change the existing subsurface soil conditions, the actual percentage of hydrated lime needed to stabilize the pavement subgrade soils should be confirmed/verified by laboratory tests at the time of construction.

Project should allow a curing period between initial and final mixing of the lime/soil mixture. After initial mixing, the lime treated subgrade should be lightly rolled and maintained at or within 3 percentage points above the soil's optimum moisture content until final mixing and compaction. We recommend a 3-day curing period for these soils. The following gradation requirements are recommended for the stabilized materials prior to final compaction:

	Percent
Minimum Passing 1 3/4 inches Sieve	100
Minimum Passing 3/4 inches Sieve	85
Minimum Passing No. 4 Sieve	60

The lime treated subgrade material, should be uniformly compacted at -1% below to +2% in above optimum moisture to 98% standard Proctor density (ASTM D698).

Flex Base for pavement base - As standard specification TxDOT Item 247 (Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition). The flex base should conform to grade 1-2 aggregates material requirements. The flex base, aggregate base material, should be uniformly compacted at -2% to +2% in minimum of 6 inches thickness above optimum to 95% Modified Proctor density (ASTM D1557). The base materials should comply with TxDOT Item 247, Type A, Grade 1-2.

6.4 PREVENTATIVE MAINTENANCE

Preventative maintenance should be planned because of the presence of active nature of clayey soils at this site. Differential soil movements can occur that can cause pavement cracking and opening of joints. Water entering joints can reduce the service life of the pavement. Preventative maintenance should be provided for through and on-going pavement management program to enhance future pavement performance. Preventative maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment.

Preventative maintenance consists of both localized maintenance (e.g. crack and joint sealing and patching) and global maintenance (e.g. surface sealing). Preventative maintenance is usually the priority when implementing a planned pavement maintenance program and provides the highest return on investment for pavements. Also, thicker pavement sections could be used to reduce the required maintenance and extend the service life of the pavement. Prior to implementing any maintenance, additional engineering observation is recommended to determine the type and extent of preventative maintenance.

7 LIMITATIONS

In preparation of this report, we have strived to perform our services in a manner consistent with that level of care and skill ordinarily exercised by other members of our profession currently practicing in the same locality under similar conditions and at the time the services are provided. The results, conclusions, opinions and recommendations provided in this report are directed at, and intended to be utilized within, the scope of work contained in the proposal and agreement executed by Mas-Tek Engineering and the client. These are based on a limited number of observations and

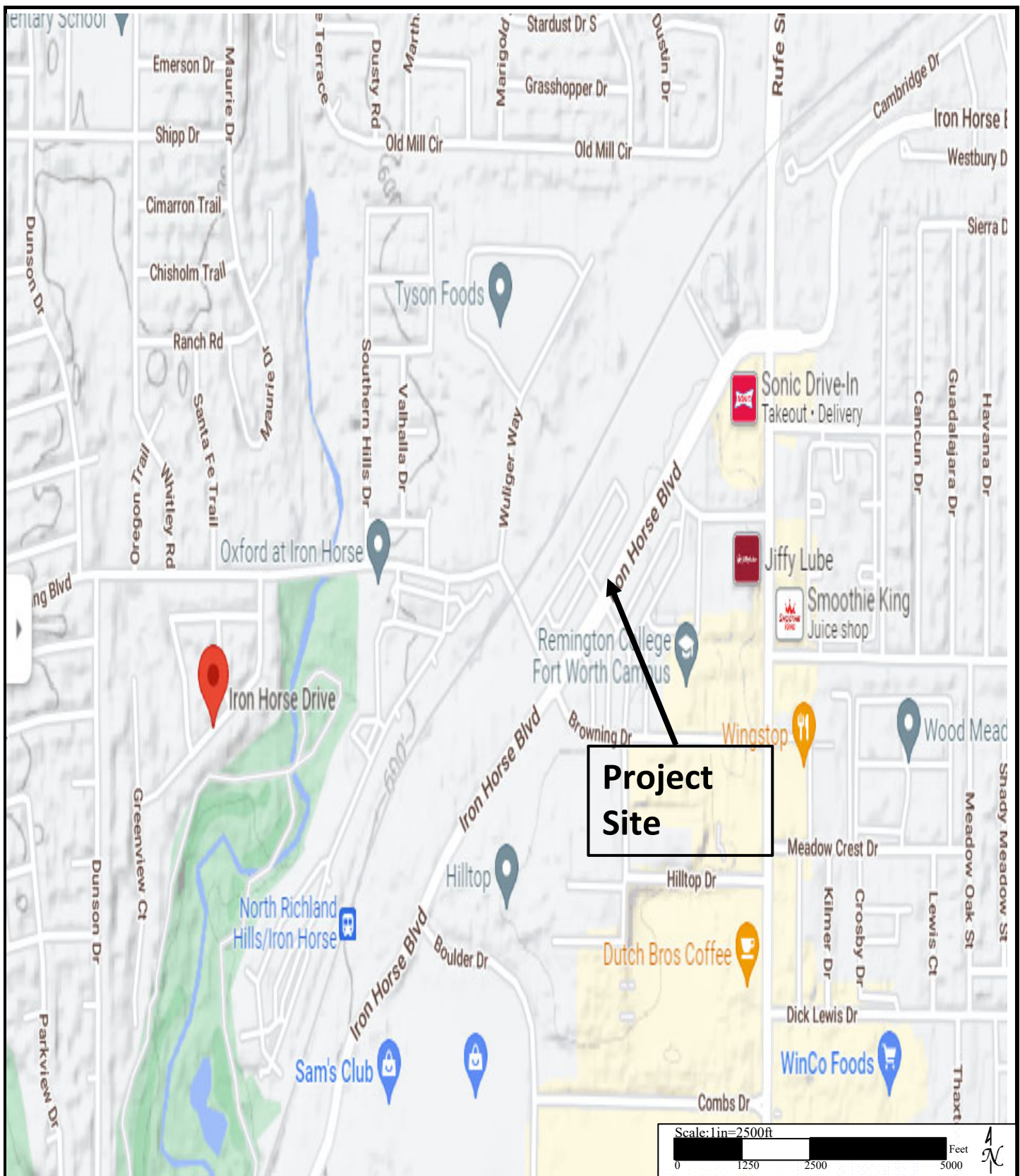
data. It is possible that conditions could vary between or beyond the data evaluated. Mas-Tek Engineering makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.


This report may be used only by the client and the registered design professional in responsible charge and only for the purposes stated for this specific engagement within a reasonable time from its issuance, but in no event later than two (2) years from the date of the report.

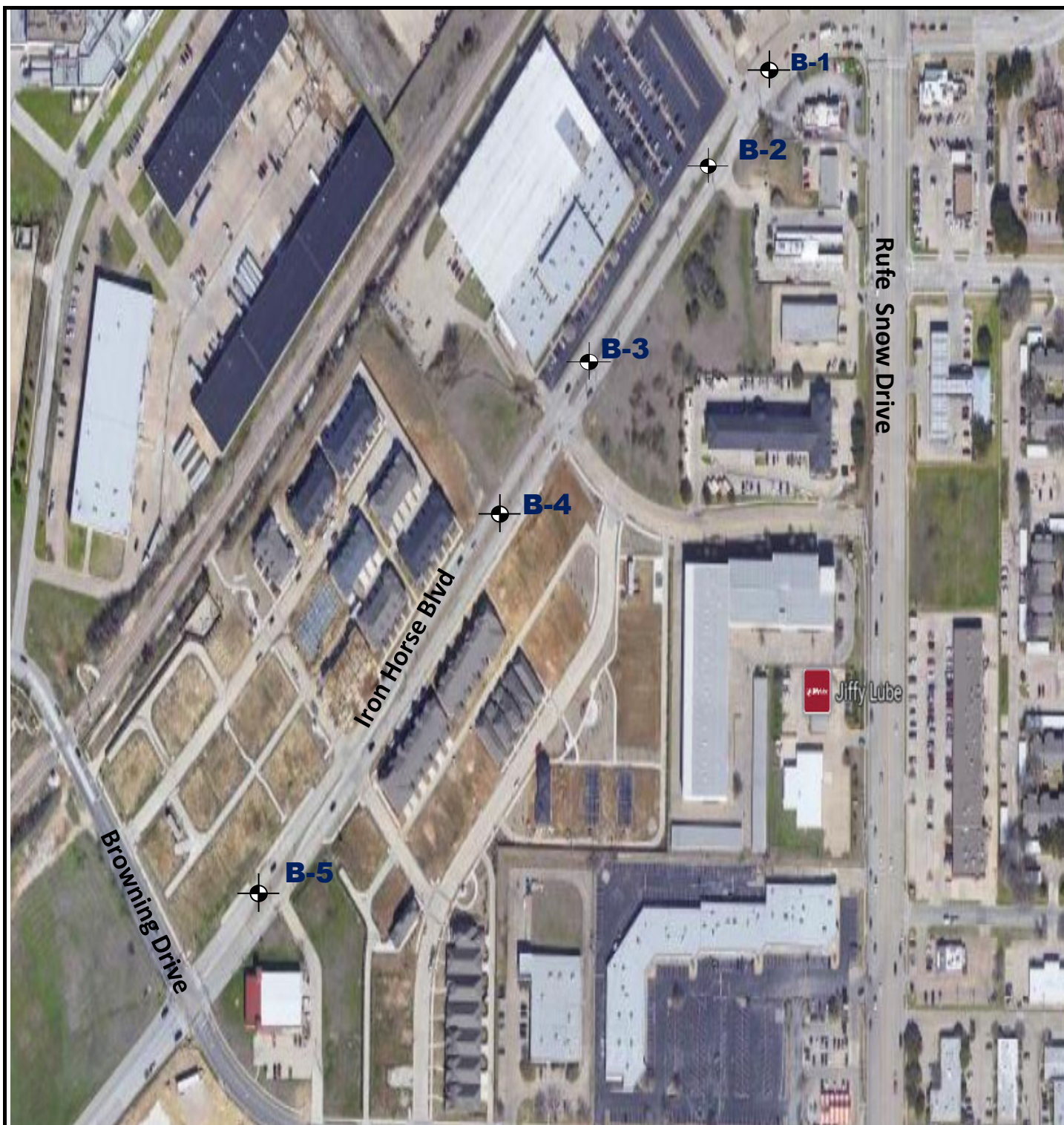
The scope of services was limited to the borings completed at the site. It should be recognized that definition and evaluation of subsurface conditions are difficult. Since some variation was found in subsurface conditions at the specific boring locations for this study, all readers should be aware that a greater variation could occur between the boring locations. Statements in the report as to subsurface variations across the site are intended only as estimations from the data obtained at specific boring locations.

The scope of services did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous substances in the soil, surface water, or groundwater at this site.

APPENDIX A



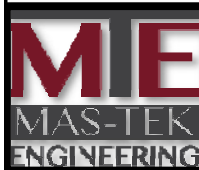
	Project Name: Geotechnical Pavement Design Investigation for Iron Horse Blvd from Browning Drive to Rufe Snow Dr		VICINITY MAP
	Project Location: <u>North Richland Hills, Texas</u>		
	Client: <u>Pacheco Koch</u>	<u>Project No.: 29-046 G</u>	FIGURE: <u>1</u>
	Source: Map Data ©2022 Google	Date: 07-29-2022	



Scale: 1in=100ft



B-1 Thru B-5 (10 Feet) Pavement Borings



Project Name: Geotechnical Pavement Design Analysis for Iron Horse Blvd from Browning Drive to Rufe Snow Dr

Project Location: North Richland Hills, Texas

Client: Pacheco Koch Project No.: 29-046 G

Source: Map Data ©2022 Google

Date: 07-29-2022

**SITE &
BORING**

FIGURE: 2








LOG OF BORING NO. B-1

10625 Newkirk, Suite 800
Dallas, TX 75220
P: 972.709.7384
Fax: 972.709.7385

FIGURE: 3

Project Name: Geotechnical Pavement Design Analysis for Iron Horse Blvd from Browning Drive to Rufe Snow Dr
Project Location: North Richland Hills, Texas
Project No.: 29-046 G
Client: Pacheco Koch

Depth (feet)	Sample Type	Sample Type	Pocket Pen (tsf) REC/RQD (%) TCP/STP	Stratum Description	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing No.200 Sieve (%)	Unit Dry Weight (pcf)	UU, (tsf) Undrained Shear Strength	Uc, (tsf) Unconfined Strength	
5'			3.5	SANDY LEAN CLAY (CL) dark brown with calcareous nodules, stiff	13	47	18	29	69				
			3.0										
				11-13-19									
				12-25-28	SANDY LEAN CLAY (CL) tan with calcareous nodules, stiff	18	45	20	25	55			
10'		21-32-50/3"											
15'													
20'													
25'													
30'													
35'													
40'													

Completion Depth: 10'

Date Drilled: 06-27-2022

Water Level During Drilling: DRY

Water Level Upon Completion: DRY



LOG OF BORING NO. B-2

10625 Newkirk, Suite 800
Dallas, TX 75220
P: 972.709.7384
Fax: 972.709.7385

FIGURE: 4

Project Name: Geotechnical Pavement Design Analysis for Iron Horse Blvd from Browning Drive to Rufe Snow Dr
Project Location: North Richland Hills, Texas
Project No.: 29-046 G
Client: Pacheco Koch

Depth (feet)	Sample Type	Sample Type	Pocket Pen (tsf) REC/RQD (%) TCP/STP	Stratum Description	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing No. 200 Sieve (%)	Unit Dry Weight (pcf)	UU, (tsf) Undrained Shear Strength	Uc, (tsf) Unconfined Strength
5'			7-7-10	LEAN CLAY (CL) tan, dark brown with calcareous nodules, very stiff	7	40	13	27	96	120.3		2.72
			10-13-17									
			11-16-19									
10'			9-15-27	LEAN CLAY (CL) WITH SAND tan with calcareous nodules, stiff	15	48	15	33	72			
			15-26-34									
15'												
20'												
25'												
30'												
35'												
40'												

Completion Depth: 10' Water Level During Drilling: DRY
Date Drilled: 06-27-2022 Water Level Upon Completion: DRY



LOG OF BORING NO. B-3

10625 Newkirk, Suite 800
Dallas, TX 75220
P: 972.709.7384
Fax: 972.709.7385

FIGURE: 5

Project Name: Geotechnical Pavement Design Analysis for Iron Horse Blvd from Browning Drive to Rufe Snow Dr
Project Location: North Richland Hills, Texas
Project No.: 29-046 G
Client: Pacheco Koch

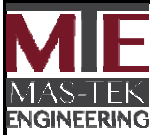
Depth (feet)	Sample Type	Sample Type	Pocket Pen (tsf) REC/RQD (%) TCP/STP	Stratum Description	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing No.200 Sieve (%)	Unit Dry Weight (pcf)	UU, (tsf) Undrained Shear Strength	Uc, (tsf) Unconfined Strength
5'			4.5+	LEAN CLAY (CL), tan, dark brown with calcareous nodules, stiff								
			4.5+		9	45	15	30	91	105.9		3.22
			4.5+									
10'			4.5+	FAT CLAY (CH) WITH SAND, tan and light brown, very stiff to hard with clay seams	12	64	16	48	75			
			4.5+									
			18-23-31									
15'												
20'												
25'												
30'												
35'												
40'												

Completion Depth: 10'

Date Drilled: 06-27-2022

Water Level During Drilling: DRY

Water Level Upon Completion: DRY



LOG OF BORING NO. B-4

10625 Newkirk, Suite 800
Dallas, TX 75220
P: 972.709.7384
Fax: 972.709.7385

FIGURE: 6

Project Name: Geotechnical Pavement Design Analysis for Iron Horse Blvd from Browning Drive to Rufe Snow Dr
Project Location: North Richland Hills, Texas
Project No.: 29-046 G
Client: Pacheco Koch

Depth (feet)	Sample Type	Sample Type	Pocket Pen (tsf) REC/RQD (%) TCP/STP	Stratum Description	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing No. 200 Sieve (%)	Unit Dry Weight (pcf)	UU, (tsf) Undrained Shear Strength	Uc, (tsf) Unconfined Strength
5'			4,5+	FAT CLAY (CH), dark brown with calcareous nodules, hard	14	52	19	33	88			
			16-12-14	LEAN CLAY (CL), tan, light brown with calcareous nodules, stiff	13	32	14	18	85			
			10-17-18									
			19-17-23									
			20-27-30									
10'												
15'												
20'												
25'												
30'												
35'												
40'												

Completion Depth: 10' Water Level During Drilling: DRY
Date Drilled: 06-27-2022 Water Level Upon Completion: DRY



LOG OF BORING NO. B-5

10625 Newkirk, Suite 800
Dallas, TX 75220
P: 972.709.7384
Fax: 972.709.7385

FIGURE: 7

Project Name: Geotechnical Pavement Design Analysis for Iron Horse Blvd from Browning Drive to Rufe Snow Dr
Project Location: North Richland Hills, Texas
Project No.: 29-046 G
Client: Pacheco Koch

Depth (feet)	Sample Type	Sample Type	Pocket Pen (tsf) REC/RQD (%) TCP/STP	Stratum Description	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing No.200 Sieve (%)	Unit Dry Weight (pcf)	UU, (tsf) Undrained Shear Strength	Uc, (tsf) Unconfined Strength
5'			6-15-22	LEAN CLAY (CL) WITH SAND, Dark brown with calcareous nodules, stiff to very stiff	13	49	17	32	73			
			50/4"									
			50/2"	FAT CLAY (CH), Gray and light Gray, hard with shale parting	10	54	18	36	85			
10'			50/2"									
			50/1"									
15'												
20'												
25'												
30'												
35'												
40'												

Completion Depth: 10'

Date Drilled: 06-27-2022

Water Level During Drilling: DRY

Water Level Upon Completion: DRY

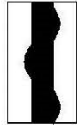
SOIL & ROCK CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
ROCK AND OTHERS				-	GRAY SHALE UNWEATHERED
				-	TAN WEATHERED SHALE
				-	Asphalt
				-	Concrete

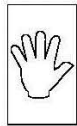
NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

FIGURE: 8

Sampler Graphics Legend



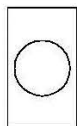
Auger Cuttings



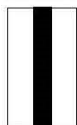
Grab Sample



Modified California Sampler



No Recoverey



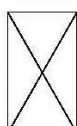
Rock Core



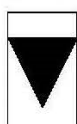
Shelby Tube



Standard Penetration Test



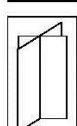
Split Spoon



Texas Cone Penetration



Undisturbed



Vane Shear