

COUNTY OF KAUFMAN | PURCHASING DEPARTMENT
100 N. Washington St. | Kaufman, Texas 75142
469-376-4548 | purchasing@kaufmancounty.net

BID 24-02: CONSTRUCTION OF SH 34-US 175 CONNECTOR ROAD PROJECT

Return deadline is no later than: 2:00 p.m., Thursday November 30, 2023

Vendor Name: _____

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I. Bid Instructions

1. Respondents are prohibited from contacting or communicating in any means with any consultant, employee, manager, or elected official of Kaufman County concerning this solicitation except for questions directed through the Kaufman County Purchasing Agent by email purchasing@kaufmancounty.net. Failure to comply with this guideline could result in disqualification from the solicitation process.
2. All submittals must be sealed when returned to Kaufman County and clearly addressed to the Purchasing Department, including the solicitation name and number on the outside of the package.

SOLICITATION NAME: Construction of SH 34-US 175 Connector Road Project

SOLICITATION NUMBER: Bid# 24-02

Pre-Bid Conference: 11:00 a.m. Monday November 20, 2023
Courthouse-Annex 2nd floor conference room
100 N. Washington, Kaufman, Texas 75142

DUE DATE/TIME: 2:00 p.m., Thursday November 30, 2023

MAIL OR DELIVER TO: Kaufman County Purchasing Department
Attn: Jack Sebastian
Kaufman County Courthouse – Annex
100 N. Washington St.
Kaufman, Texas 75142

3. All documents relating to this solicitation will be posted under the solicitation number on the Kaufman County Purchasing Department website and available for download by respondents and other interested parties. It is the respondent's sole responsibility to review this site and retrieve all related documents prior to the solicitation due date.
4. Accuracy for all mathematical and number entries is the sole responsibility of the respondent. Kaufman County will not be responsible for errors made by the respondent.
5. Project Timetable:

Release Solicitation	Thursday November 9, 2023
Pre-bid / Site Evaluation(s)	Monday November 20, 2023, at 11:00 a.m.
Deadline for written questions	Wednesday November 22, 2023, at 10:00 a.m.
Deadline for Solicitation Submittals	Thursday November 30, 2023, at 2:00 p.m.

II. Standard Terms and Conditions

By returning this solicitation response for Bid # 24-02: Construction of SH 34-US 175 Connector Road Project, in its entirety, Respondent certifies and agrees to the following:

1. This solicitation embodies the complete agreement of the parties hereto, superseding all oral or written previous and contemporary agreements between the parties and relating to matters herein, and except as otherwise provided herein cannot be modified without written agreement of the parties. A contract will be executed after determination of the award.
2. Responses may be withdrawn prior to the official opening. Alterations made before the time of official opening must be initialed by Respondent guaranteeing authenticity. Submittals may not be amended, altered or withdrawn after the official opening, except upon the explicit recommendation of the Purchasing Agent and the formal approval of the Commissioners Court.
3. Alternate bids will not be considered unless authorized. If there is any question as to the specifications or any part thereof, Respondent may submit to the Purchasing Agent a request for clarification. Such requests must be received prior to the deadline for written questions. All questions and/or clarifications must be submitted by email to purchasing@kaufmancounty.net.
4. Non-performance or non-compliance of the Standard Terms & Conditions, or non-performance or non-compliance with the Specifications shall be basis for termination by Kaufman County of the bid or final executed contract. Termination in whole, or in part, by the County may be made solely at the County's option and without prejudice to any other remedy to which Kaufman County may be entitled by law or in equity, or elsewhere under this solicitation or the agreement, by giving thirty (30) days written notice to the Respondent with the understanding that all work being performed under this agreement shall cease upon the date specified in such notice. Kaufman County shall not pay for work, equipment, services, or supplies which are unsatisfactory. The Respondent may be given reasonable opportunity prior to termination to correct any deficiency. This however shall in no way be construed as negating the basis for termination for non-performance or non-compliance.
5. Respondent shall make all inquiries necessary to be thoroughly informed as to the specifications and all other requirements proposed in the solicitation. Any apparent omission or silence of detail in the description concerning any point in the specifications shall be interpreted based on best commercial practices, and best commercial practices shall prevail.
6. The Respondent shall affirmatively demonstrate qualifications by meeting or exceeding the following minimum requirements:
 - a) Have adequate financial resources, or the ability to obtain such resources as required.
 - b) Be able to comply with any required or proposed delivery schedule.
 - c) Have a satisfactory record of performance.
 - d) Have a satisfactory record of integrity and ethics.
 - e) Be otherwise qualified and eligible to receive the award.
7. Only the Commissioners Court of Kaufman County, Texas, acting as a body may enter into any type of agreement or contract on behalf of Kaufman County. Department heads, other elected or appointed officials, are not authorized to enter into any type of agreement or contract on behalf of Kaufman County, or to agree to any type

of supplemental agreements or contracts for goods or services. Contracts are subject to review by the County's attorney prior to signature by the authorized County official.

8. The Respondent shall be considered an independent contractor and not an agent, servant, employee, or representative of the County in the performance of the work. No term or provision, hereof, or act of the Respondent shall be construed as changing that status.
9. The Respondent shall defend, indemnify, and shall hold and harmless the County and all its officers, agents, employees, from and against all suits, actions, or claims of the character, name, and description brought for or on account of any injuries or damages (including but not restricted to death) received or sustained by any person(s) or property on account of, arising out of, or in connection with the performance of the work, including without limiting the generality of the foregoing, any negligent act or omission of the Respondent on the execution or performance of the Contract.
10. The Respondent agrees, during the performance of the work, to comply with all applicable codes and ordinance of the appropriate city, Kaufman County, or State of Texas as they may apply, as these laws may now read or as they may hereafter be changed or amended.
11. The Respondent shall obtain from the appropriate City, Kaufman County, or State of Texas the necessary permit(s) required by the ordinances of the City, County, or State for performance of the work.
12. The Respondent shall not sell, assign, transfer, or convey the agreement in whole or in part, without the prior written consent of the County.
13. The parties herein agree that the agreement shall be enforceable in Kaufman County, Texas, and if legal action is necessary to enforce it, exclusive venue shall lie in Kaufman County, Texas.
14. The agreement shall be governed by, and construed in accordance with, the Laws of the State of Texas and all applicable Federal laws.
15. Funding Clause – Payments required to be made by Kaufman County under the terms of the agreement shall be contingent upon and subject to the initial and continuing appropriation of funding for the agreement by and through the Commissioners Court of Kaufman County, Texas. In the event appropriations for funding of the agreement are not approved by and through the Commissioners Court, the contract shall terminate. Kaufman County shall, submit written notice to Respondent thirty (30) days prior to such termination. Upon notice of termination, as provided in this paragraph, the Respondent may submit a final invoice to the County and coordinate with the Purchasing Agent to remove all property belonging to said Respondent as soon as possible. Payment for final invoice will be subject to verification and approval by the Purchasing Agent. Thereupon, Kaufman County will be released from its obligation and make further payments.
16. Kaufman County is exempt from federal excise and sales taxes, ad valorem taxes, and personal property taxes; therefore, tax must not be included in proposals tendered. Proposals offered must be complete and all inclusive. Kaufman County will not pay additional taxes, surcharges or other fees not included in bid prices.
17. In case any one or more of the provisions contained in the solicitation shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and the agreement shall be considered as if such had never been contained herein.

18. Certificate of Insurance / Additional or alternate bonds – Respondent must provide a certificate of insurance or a statement of Respondent’s insurance carrier certifying that the required coverage shall be obtained by Respondent within ten (10) days of formal award of the Contract. In the case where a certification letter from an insurance carrier is attached to the bid in lieu of an insurance certificate, any formal award of a contract shall be contingent upon required coverage being put into force **prior** to any performance required by subject agreement. Additional or alternate bonds may be required in accordance with Texas statutes as outlined in the specifications. See EXHIBIT A – Standard Insurance & Bonding Requirements.
19. Kaufman County reserves the right to terminate an agreement / contract at any time, without cause, upon thirty (30) days written notice to Respondent. Upon termination, Kaufman County shall pay Respondent for those costs directly attributable to work done or supplies obtained in preparation for completion or compliance with the Contract, except no payment shall be made for costs recoverable by Respondent in the normal course of doing business or which can be mitigated through the sale of supplies or materials obtained for use under this Contract. It is further agreed by Respondent that Kaufman County shall not be liable for loss or reduction of any anticipated profit.
20. Respondents must agree to provide the following information as part of this response:
- Form of business (if corporation, limited partnership, or limited liability company, indicate the state of creation)
 - Name of contact person (single point of contact with the Respondent)
 - List of all criminal charges, civil lawsuits, or dispute resolutions to which Respondent is a part in the past five (5) years and the nature of the issue. Indicate if and how it was resolved.
 - List of all criminal charges, civil lawsuits, or alternative dispute resolutions to which Respondent becomes a party for the period beginning with the submission of the proposal until the rejection of award of the bid / proposal.
 - Current fiscal year-end and year-to-date financial statements.
21. Kaufman County reserves the right to accept or reject any or all responses, with or without cause, to waive technicalities, or to accept the response which, in its sole judgment, best serves the interest of the County, or to award a contract to the next most qualified Respondent if a successful Respondent does not execute a contract within ten (10) business days after approval of the selection by the Kaufman County Commissioners Court. Kaufman County reserves the right to award multiple contracts as necessary and in the best interest of the County.
22. Kaufman County reserves the right to request clarification of information submitted and to request additional information of one or more Respondents.
23. Costs of preparation of a response to this solicitation are solely those of the Respondent. Kaufman County assumes no responsibility for any such costs incurred by the Respondent. The Respondent also agrees that Kaufman County assumes no responsibility for any costs associated with any administrative or judicial proceedings resulting from the solicitation process.
24. The awarding Respondent shall maintain adequate records to justify all charges, expenses, and costs incurred in estimating and performing the work for at least two (2) years after completion of the contract resulting from this solicitation. Kaufman County shall have access to all records, documents and information collected and/or maintained by others during the administration of this agreement.
25. Respondent understands and agrees that in returning a response that it is neither an “offer” nor an “acceptance” until such time a formal contract is authorized /awarded by the Kaufman County Commissioners Court; if any.

26. Responses must be submitted on the forms provided and will not be considered if submitted by facsimile, email, or any other means of rapid dispatch, nor if submitted to any other person or department other than specifically instructed.
27. Gratuities – Kaufman County may, by written notice to the Respondent, cancel this contract without liability if it is determined by Kaufman County that gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by the Respondent, or any agent or representative, to any officer or employee of Kaufman County with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such a contract. In the event this contract is cancelled by Kaufman County pursuant to this provision, Kaufman County shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by Respondent in providing such gratuities.
28. Termination – The performance of work under this order may be terminated in whole or in part by the Buyer in accordance with this provision. Termination of work hereunder shall be affected by the delivery to the Respondent of a “Notice of Termination” specifying the extent to which performance of work under the order is terminated and the date upon which such termination becomes effective. Such right of termination is in addition to and not in lieu of rights of Buyer.
29. Force Majeure – If, by reason of Force Majeure; either party hereto shall be rendered unable to wholly or in part to carry out its obligations under this Agreement then such party shall give sixty (60) day notice and full particulars of such Force Majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied upon, and the obligation of the party giving such notice, so far as it is affected by such Force Majeure, shall be suspended during the continuance of the inability then claimed, except as hereinafter provided, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch. The term Force Majeure as employed herein, shall mean acts of God, strikes, lockouts, or other industrial disturbances, act of public enemies, orders of any kind of government of the United States or the State of Texas or any civil or military authority, insurrections, riots, epidemics, landslides, lightning, earthquake, fires, hurricanes, storms, floods, washouts, droughts, arrests, restraint of government and people, civil disturbances, explosions, breakage or accidents to machinery, pipelines or canals or other causes not reasonably within the control of the party claiming such inability. It is understood and agreed that the settlement of strikes and lockouts shall be entirely within the discretion of the party having the difficulty, and that the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes and lockouts by acceding to the demands of the opposing party or parties when such settlement is unfavorable in the judgment of the party having the difficulty.
30. Assignment Delegation – No right or interest in this contract shall be assigned or delegation of any obligation made by Respondent without the written permission of Kaufman County. Any attempted assignment or delegation shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.
31. Waivers – No claim or right arising out of a breach of this contract can be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration and is in writing signed by the aggrieved party.
32. Modification – Contract can be modified or rescinded only by a written and signed agreement by both of the parties duly authorized agents.

33. Applicable Laws – This agreement shall be governed by the Uniform Commercial Code. Wherever the term “Uniform Commercial Code” is used, it shall be construed as meaning the Uniform Commercial Code as adopted in the State of Texas as effective and in force on the date of this agreement.
34. Advertising – Respondent shall not advertise or publish, without Kaufman County’s prior consent, the fact that Buyer has entered into this contract, except to the extent necessary to comply with proper requests for information from an authorized representative of the federal, state, or local government.
35. Right to Assurance – Whenever one party to this contract in good faith has reason to question the other party’s intent to perform, he may demand that the other party give written assurance of his intent to perform. In the event a demand is made, and no assurance is given within five (5) days, the demanding party may treat this failure as an anticipatory repudiation of the contract.
36. Venue – Both parties agree that venue for any litigation arising from this contract shall be in Kaufman, Kaufman County, Texas.
37. No negotiations, decisions, or actions shall be executed by the Respondent as a result of any discussions with any public service official, employee, and/or consultant. Only those transactions provided in written form may be considered binding.
38. The contents of each response, including specifications shall remain valid for a minimum of sixty (60) calendar days from the Solicitation due date.
39. All documents submitted as part of the Respondent’s offering will be deemed confidential during the evaluation process.
40. Subcontracting – The Respondent must function as the single point of responsibility for the Agency. No response shall be comprised of separate pricing from multiple subcontractors. Work performed for the Contractor by a Subcontractor shall be pursuant to a written contract between the Contractor and Subcontractor. The Contractor shall be fully responsible to the County for all acts and omissions of the Subcontractors just as the Contractor is responsible for the Contractor’s own acts and omissions. Nothing in the Contract shall create for the benefit of any such Subcontractor any contractual relationship between the County and any such Subcontractor, nor shall it create any obligation on the part of the County to pay or to see to the payment of any moneys due any such Subcontractor except as may otherwise be required by law. The Contractor shall pay each Subcontractor its appropriate share of payments made to the Contractor not later than ten (10) calendar days after receipt of payment from the County. The terms of the subcontract may not conflict with the terms of the Contract, and shall contain provisions that:
 - a.) Require that all Deliverables to be provided by the Subcontractor be provided in strict accordance with the provisions, specifications and terms of the Contract;
 - b.) prohibit the Subcontractor from further subcontracting any portion of the Contract without the prior written consent of the County and the Contractor. The County may require, as a condition to such further subcontracting, that the Subcontractor post a payment bond in form, substance and amount acceptable to the County;
 - c.) require Subcontractors to submit all invoices and applications for payments, including any claims for additional payments, damages or otherwise, to the Contractor in sufficient time to enable the Contractor to include same with its invoice or application for payment to the County in accordance with the terms of the Contract;

- d.) require that all Subcontractors obtain and maintain, throughout the term of their contract, insurance in the type and amounts specified for the Contractor, with the County being a named insured as its interest shall appear; and
require that the Subcontractor indemnify and hold the County harmless to the same extent as the Contractor is required to indemnify the County.

- 41. Investigation of Conditions – Before submitting a response, vendors should carefully examine the specifications and fully inform themselves to the conditions of the equipment and limitations.
- 42. Ethics – The Respondent and/or representatives shall not offer nor accept gifts or anything of value, nor enter any business arrangement with any employee, official or agent of Kaufman County.
- 43. Design, Strength, Quality of materials and workmanship must conform to the highest standards of manufacturing and engineering practice.
- 44. All hardware or any other item offered in this bid must be new and unused, unless otherwise specified, in first-class condition and of current manufacture.
- 45. Descriptions – Whenever an article or material is defined or used in the solicitation by describing a proprietary product or by using the name of a manufacturer, model number, or make, the term “or equal” if not inserted, shall be implied. Any reference to specified article or material shall be understood as descriptive, NOT restrictive, and used to indicate type and quality level desired for comparison purposes unless otherwise noted. Responses must be submitted on units of quantity specified, extended, and totaled. In the event of discrepancies in extension, the unit prices shall govern.
- 46. Addendum – Any interpretations, corrections, or changes to this solicitation will be made by addendum, unless otherwise stated. Issuing authority of addendum shall be the Commissioners Court of Kaufman County, Texas. Addendum will be made available online. Respondents shall acknowledge receipt of all addenda and include receipt and response to addenda with submission.
- 47. Patents / Copyrights – The successful Respondent agrees to protect Kaufman County from claims involving infringements of patents and/or copyrights.
- 48. Invoicing / Billing – Invoices will be submitted to the Kaufman County Auditor’s Office. All billings must have appropriate supporting documentation before such billings will be approved. Billing shall cover goods and services not previously invoiced. Vendor shall reimburse Kaufman County for any monies paid to Contractor for goods or services not provided of when goods/services provided do not meet the contract agreement or solicitation requirements. Payments made by the county shall not preclude the right of the County from thereafter disputing any items involved or billed under the contract agreement or solicitation and shall not be construed as acceptance of any part of the goods or services. Contractor understands and agrees that any funds paid under this contract are contingent upon satisfactory delivery of the Services as described in this contract and subject to routine processing. No payment, on any basis, will be made for unsatisfactory work.

Contractor agrees to submit complete, fully documented and accurate itemized statement of invoices with appropriate / applicable attachments and documentation, as required by the County for all goods, services, and work performed following acceptance of goods, services, or work by the County.

At minimum, the original invoices submitted against the solicitation, must reference all the following information:

- a) Contractor / Vendor Name
- b) Contractor / Vendor Address
- c) Contractor / Vendor Contact Information
- d) Contractor / Vendor Telephone Number and Email
- e) Contractor / Vendor Remittance to Address
- f) Invoice Date
- g) Invoice Number (uniquely numbered, no duplicates)
- h) Valid Kaufman County Purchase Order Number must appear on all itemized invoices and packing slips
- i) Solicitation Number
- j) Date of Services or Date of Purchase
- k) Description of Services and Goods
- l) Cost of Services and Goods

Invoices and support documentation are to be sent to:

ORIGINAL INVOICE: Kaufman County Auditor's Office
 Attn: Accounts Payable
 100 N. Washington
 Kaufman, Texas 75142
accountspayable@kaufmancounty.net

COPY OF INVOICE(S) SHALL BE SENT TO: Requesting User Department name and address indicated on the Purchase Order

All invoices must reference a Kaufman County Purchase Order Number

Payment will be made upon receipt and acceptance by the County of completed services, goods and/or products ordered and receipt of a valid invoice, in accordance with the Texas Government Code, Chapter 2251. The County will incur no penalty for late payment if payment is made within thirty (30) or fewer days from the statement if there is an uncontested billing. Any payment not made within thirty (30) days of its due date shall bear interest in accordance with Chapter 2251 of the Texas Government Code. Invoices received without all the required supporting documentation and information will not be processed and will be returned to the Contractor unpaid for correction.

- 49. Packing slips or other suitable shipping documents shall accompany each special-order shipment and shall include:
 - a) Name and address of successful vendor;
 - b) Name and address of receiving department and/or location;
 - c) Kaufman County Purchase Order number; and
 - d) Description of material shipped, including item numbers, quantity, number of containers, and package number, if any.
- 50. Unless otherwise indicated, items will be new, unused, and in first class condition in containers suitable for damage-free shipment and storage.
- 51. Equipment / Good / Services supplied under this contract shall be subject to the County's approval. Item(s) found defective or not meeting specifications shall be picked up and replaced by the successful vendor within one (1) week after notification at no expense to the County. If item(s) is not picked up within one (1) week after notification, the item(s) will become a donation to the County for disposition.

52. Warranty – Respondent shall warrant that all equipment / goods / services shall conform to the proposed specifications and/or all warranties stated in the Uniform Commercial Code and be free from all defects in material, workmanship, and title.
53. Remedies – The Respondent and Kaufman County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.
54. Silence of Specification – The apparent silence of these specifications as to any detail or to the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices may prevail. All interpretations of these specifications shall be made based on this statement.
55. Evaluation Criteria, shall include, but not be limited to the following:
- a) Unit price
 - b) Delivery
 - c) Vendor’s past performance record with Kaufman County
 - d) Evaluation of vendor’s ability to perform
 - e) Kaufman County’s experience with product(s) bid
 - f) Special needs and requirements of Kaufman County
 - g) Results of performance evaluation (if requested or needed)

Kaufman County reserves the right to select evaluation methods deemed most appropriate. Each bid will be evaluated on a case-by-case basis, regarding of any previous evaluation method.

56. Contract Award – Kaufman County reserves the right to reject all responses and to waive any minor informality or irregularity in a vendor’s response if deemed in the best interest of the County. Award of contract (if any) resulting from this solicitation will be made only by written authorization from Kaufman County Commissioners Court, which will be followed by the issuing of a Purchase Order or a letter noting the award. The purchase order or letter of award, together with the signed solicitation documents may be construed as a contractual agreement.
57. **Conflict of Interest Questionnaire (CIQ) Form** – Effective January 1, 2006, Chapter 176 of the Texas Local Government Code requires that any vendor or person considering doing business with a local government entity disclose in the Questionnaire Form (CIQ), the vendor or person’s affiliation or business relationship that might cause a conflict of interest with a local government entity. By law, this questionnaire must be filed with the records administrator of Kaufman County no later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor. By submitting a response to this request, the vendor represents that it is following the requirements of Chapter 176 of the Texas Local Government Code. Original, completed forms should be included, if applicable, in your response.
58. **Certificate of Interested Parties Form 1295** – In 2015, the Texas Legislature adopted House Bill 1295, which added section 2252.908 of the Government Code. The law states that a government entity or state agency may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties form to the governmental entity or state agency at the time the business entity submits the signed contract to the government entity or state agency. The form discloses any interested parties who have a controlling interest (10% or more ownership) in the business entity and those who actively participate in facilitating the contract or negotiate the terms of the contract (broker, intermediary, advisor, and/or attorney), if any. The disclosure requirement applies to a contract entered into on or after January 1, 2016.

The “Certificate of Interested Parties” form must be completed on the Texas Ethics Commission website, printed, signed, and submitted to the County by the authorized agent of the Business Entity with acknowledgment that disclosure is made under oath and under penalty of perjury prior to final contract execution. To obtain additional information on HB 1295, to learn more about Texas Ethics Commission process to create a new account or to complete an electronic version of Form 1295 for submission with a signed contract, please go to the following website: <https://www.ethics.state.tx.us/tec/1295-Info.htm>. Instructional videos for business entities on how to file online can be found at https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm.

The identification number (section 3 of form 1295) is this solicitation number.

59. **Nondiscrimination Authorities** – The Respondent, for itself, its assignees, and successors in interest agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to: Title VI of the Civil Rights Act of 1964 (42 U.S.C. §2000d et seq., 78 stat. 252), and 49 CFR Part 21. The respondent will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements or materials and leases of equipment. The Respondent will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices.
60. **TEXAS PUBLIC INFORMATION ACT** – All responses submitted to Kaufman County become the property of Kaufman County and are subject to the Public Information Act (Texas Government Code Chapter 552). The interested firms/individuals should familiarize themselves with the provisions of the Act. In no event shall Kaufman County, or any of its agents, representatives, consultants, directors, officers, or employees, be liable to a firm/individual for the disclosure of all or any portion of a response submitted pursuant to the solicitation. If a firm/individual has special concerns about information that it desires to make available to Kaufman County, but which it believes constitutes a trade secret, proprietary information, or other information excepted from disclosure, such firm/individual should specifically and conspicuously designate (i.e., mark confidential) each page of that information, which the Respondent believes, should not be disclosed outside Kaufman County. Disclosure of requested information will be subject to the Texas Public Information Act.
61. **Purchasing Agent as Contract Administrator** – The Purchasing Agent will serve as sole liaison between the Kaufman County Commissioners Court, the affected Kaufman County Departments, and the successful vendor. Unless directly outlined in this specification the vendor shall consider only the Purchasing Agent authorized to communicate, by any means, information or suggestions throughout the solicitation process. The Purchasing Agent has been designated the responsibility to ensure compliance with contract requirements, such as but not limited to, acceptance, inspection, and delivery. The County will not pay for work, equipment or supplies, which it deems unsatisfactory. Vendors will be given a reasonable opportunity to correct deficiencies before termination. This, however, shall in no way be construed as negating the basis for termination for non-performance.

RESPONDENT'S ACCEPTANCE – By submitting a response to this solicitation, the respondent certifies that it has fully read and understands the terms, conditions, and statements and has knowledge of the scope and quality of the services to be furnished and intends to adhere to the provisions described herein. Respondent understands and agrees that this solicitation is issued predicated on anticipated requirements for Kaufman County and that Kaufman County has made no representation, written or oral, that any such requirements be furnished under a contract arising from this solicitation. Respondent acknowledges and understand that the Commissioners Court of Kaufman County reserves the right to refuse to award a contract for any or all services covered in this solicitation. Furthermore, Respondent recognizes and understands that any cost borne by the Respondent which arises from Respondent's performance hereunder shall be at the sole risk and responsibility of the Respondent.

Signature

Printed Name

Date

This original, along with original signature MUST be returned with solicitation response

III. GENERAL STATEMENT OF WORK

BACKGROUND – Kaufman County is accepting bids for the construction of two new roadways connecting SH 34 to US 175. This work shall consist of approximately 7,200 square yards of 7” concrete pavement, approximately 6,300 square yards of 9” concrete pavement, approximately 3,400 linear feet of reinforced concrete storm pipe, a 2-3’x2’ reinforced box culvert, and a 5-10’x6’ reinforced box culvert. There are no water utility or sanitary sewer utility improvements included in the project scope.

CONTRACT PERIOD – Work must start within 30 days of award of contract and the total contract period shall be 365 days unless awarded work is completed sooner.

WARRANTY – Upon award and execution of a contract to perform work, Bonds shall be provided by Contractor in accordance with NCTCOG 103.3. Performance Bonds (Item 103.3.1.1) shall be extended to a period of two years. Cost of furnishing bonds shall be considered subsidiary to the price bid for Mobilization.

WORKING HOURS – The Contractor shall perform the work activities during the hours and on the scheduled days as agreed to by the County.

SAFETY & PROTECTION – The Contractor shall be solely and completely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to all employees on the work site and other persons including, but not limited to, the general public who may be affected thereby.

INSURANCE: The successful contractor shall have sufficient liability insurance as indicated in the Insurance Requirements attached. Proof of insurance should be included with the bid. Failure to supply proof of insurance may be cause for rejection of bid.

BONDING – Contractor shall comply with payment and performance bond requirements as specified in this proposal, based on the total amount for each project bid throughout their contract year.

STANDARD SPECIFICATIONS – Unless otherwise noted, NCTCOG Public Works Construction Standards Fifth Edition shall be utilized for all work in these plans and specifications.

Bid Form

SH 34-US 175 Connector Roads

Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BASE BID

Item No.	Est. Quantity	Unit	Description of Item and Unit Bid Price in Words	Unit Price Bid	Amount Bid
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Bid Items

1	1	LS	Mobilization Complete in place for the sum of: _____ dollars and _____ cents per lump sum.	\$	
2	1	LS	Clearing & Grubbing (Inc. Tree Removal) Complete in place for the sum of: _____ dollars and _____ cents per lump sum.	\$	
3	1	LS	Traffic Control Complete in place for the sum of: _____ dollars and _____ cents per lump sum.	\$	
4	1	LS	Pavement Striping and Markings Complete in place for the sum of: _____ dollars and _____ cents per lump sum.	\$	
5	3,200	CY	Unclassified Excavation Complete in place for the sum of: _____ dollars and _____ cents per cubic yard.	\$	
6	26,000	CY	Imported Fill Complete in place for the sum of: _____ dollars and _____ cents per cubic yard.	\$	
7	14,554	SY	8" Lime Subgrade Stabilization Complete in place for the sum of: _____ dollars and _____ cents per square yard.	\$	

8	349	TON	Hydrated Lime (48 lbs/sy) Complete in place for the sum of: _____ dollars and _____ cents per ton.	\$	
9	6,288	SY	9" Concrete Pavement (4000 PSI) Complete in place for the sum of: _____ dollars and _____ cents per square yard.	\$	
10	7,178	SY	7" Concrete Pavement (4000 PSI) Complete in place for the sum of: _____ dollars and _____ cents per square yard.	\$	
11	140	LF	Connect to Existing Pavement Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
12	145	SY	Sawcut & Remove Existing Concrete Pavement Complete in place for the sum of: _____ dollars and _____ cents per square yard.	\$	
13	1,878	LF	Remove & Dispose of Existing Fence Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
14	16	LF	Remove & Dispose of 18" CMP Driveway Culvert Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
15	760	SY	12" Riprap Complete in place for the sum of: _____ dollars and _____ cents per square yard.	\$	

16	565	LF	Furnish & Install 18" Class III Reinforced Concrete Pipe Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
17	26	LF	Furnish & Install 21" Class III Reinforced Concrete Pipe Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
18	35	LF	Furnish & Install 27" Class III Reinforced Concrete Pipe Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
19	482	LF	Furnish & Install 30" Class III Reinforced Concrete Pipe Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
20	275	LF	Furnish & Install 36" Class III Reinforced Concrete Pipe Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
21	86	LF	Furnish & Install 42" Class III Reinforced Concrete Pipe Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
22	79	LF	Furnish & Install 3'x2' Reinforced Box Culvert Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
23	292	LF	Furnish & Install 10'x6' Reinforced Box Culvert Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	

24	2	EA	4'x4' Storm Square Manhole Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
25	1	EA	5'x5' Storm Square Manhole Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
26	5	EA	10' Recessed Curb Inlet Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
27	3	EA	Install 18" Plug Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
28	1	EA	Install 21" Plug Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
29	2	EA	10'x6' TxDOT Type PW1 Headwall Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
30	2	EA	3'x2' TxDOT Type PW1 Headwall Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	

31	3,425	LF	Trench Safety Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
32	4	EA	Relocate Sprinkler Valve Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
33	3	EA	Relocate Sign Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
34	1	EA	Adjust Water Valve to Grade Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
35	1	EA	Adjust Existing Sewer Manhole Rim to Grade Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
36	718	LF	TxDOT Metal Guard Rail Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	
37	4	EA	TxDOT Guard Rail End Treatment Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
38	6	EA	Inlet Protection Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
39	9,742	LF	Silt Fence Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	

40	2	EA	Rock Check Dam Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
41	2	EA	Construction Entrance Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
42	1	EA	SWPPP Complete in place for the sum of: _____ dollars and _____ cents per each.	\$	
43	7,120	SY	Furnish & Install Sod Complete in place for the sum of: _____ dollars and _____ cents per square yard.	\$	
44	70	LF	0.5'-4' Retaining Wall Complete in place for the sum of: _____ dollars and _____ cents per linear foot.	\$	

TOTAL BASE BID (words and figures)

_____ **dollars**

_____ **cents**

TOTAL BASE BID \$ _____

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

Bid # 24-02: Construction of SH 34-US 175 Connector Road Project
References

Please list three (3) references, **other than Kaufman County**, who can verify your performance as a Vendor. Performance includes, but not limited to, sales and/or service, delivery, invoicing, and other items as may be required to Kaufman County to determine Vendor's ability to provide the intended goods or service of the bid. Kaufman County **prefers** references to be from Government customers. References must be able to verify the quality-of-service Vendor's company provides and that the Bidder has completed a project of similar size and scope of work in this response. Inaccurate, obsolete or negative responses from the listed references could result in rejection of your bid.

Failure to supply required references **will** deem the bid as non-responsive and it will not be considered for award.

Bidder involvement with reference checks is not permitted. Only Kaufman County or its designee will conduct reference checks. Any deviation to this will result in rejection of your response.

REFERENCE ONE

Government / Company Name: _____
Address: _____
Contact Person and Title: _____
Telephone Number: _____
Email Address: _____
Scope of Work: _____
Contract Period: _____

REFERENCE TWO

Government / Company Name: _____
Address: _____
Contact Person and Title: _____
Telephone Number: _____
Email Address: _____
Scope of Work: _____
Contract Period: _____

REFERENCE THREE

Government / Company Name: _____
Address: _____
Contact Person and Title: _____
Telephone Number: _____
Email Address: _____
Scope of Work: _____
Contract Period: _____

Bid # 24-02: Construction of SH 34-US 175 Connector Road Project

COMPLIANCE WITH FEDERAL AND STATE LAWS

CERTIFICATION OF ELIGIBILITY: By submitting a response to this solicitation, the Respondent certifies that at the time of submission, they are not on the Federal Government’s list of suspended, ineligible, or debarred entities. In the event of placement on the list between the time of solicitation submission and time of award, the Respondent will notify the Kaufman County Purchasing Agent. Failure to do so may result in terminating the contract for default.

RELATING TO STATE CONTRACTS WITH AND INVESTMENTS IN COMPANIES THAT BOYCOTT ISRAEL AND INVESTMENTS IN COMPANIES THAT DO BUSINESS WITH IRAN, SUDAN, OR ANY KNOWN FOREIGN TERRORIST ORGANIZATION: Effective September 1, 2017, Respondent verifies that they do not boycott Israel and will not boycott Israel during the term of this contract. The term “boycott Israel” is defined by Government Code Section 808.001, effective September 1, 2017. Respondent further verifies that they are not engaged in business with any foreign terrorist organization. The term “foreign terrorist organization” means an organization designed as a foreign terrorist organization by the United State Secretary of State as authorized by 8 U.S.C. Section 1189.

DISCLOSURE OF INTERESTED PARTIES: The law states that a governmental entity may not enter certain contracts with a non-exempt business entity unless the business entity submits a disclosure of interested parties to the government entity. By submitting a response to this solicitation, the Respondent agrees to comply with HB 1295, Government Code 2252.908. Respondent agrees to provide Kaufman County Purchasing Agent, and/or requesting department, the “Certificate of Interested Parties”, Form 1295 as required, within ten (10) business days from notification of pending award, renewal, amended, or extended contract.

Signature

Printed Name

Date

This original, along with original signature MUST be returned with solicitation response

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

Selected vendor will be required to complete 1295 form prior to contract award

Bid # 24-02: Construction of SH 34-US 175 Connector Road Project

RESPONDENT SIGNATURE FORM

The undersigned, on behalf of and as the authorized representative of Respondent, agrees this solicitation becomes the property of Kaufman County after the official opening.

The undersigned affirms the Respondent has familiarized itself with the local conditions under which the work is to be performed; satisfied itself of the conditions of delivery, handling and storage of equipment and all other matters that may be incidental to the work, before submitting a response.

The undersigned agrees, on behalf of Respondent, that if this response is accepted, to furnish all items/ services upon which prices are offered, at the price(s) and upon the terms and conditions contained in the Specifications. The period for acceptance of this response will be ninety (90) calendar days.

The undersigned affirms that they are duly authorized to execute this contract, that this solicitation has not been prepared in collusion with any other Respondent, nor any employee of Kaufman County, and that the contents of this solicitation have not been communicated to any other Respondent or to any employee of Kaufman County prior to the official opening of this solicitation.

Respondent hereby assigns to purchase all claims for overcharges associated with this contract which arise under the antitrust laws of the United States, 15 USCA Section 1 et seq., and which arise under the antitrust laws of the United State, Tex. Bus. & Com. Code, Section 15.01, et seq.

The undersigned affirms that they have read and do understand the specifications and any attachments contained in this SOLICITATION package. ***Failure to sign and return this form will result in the rejection of the entire response.***

Signature: _____

Printed Name:		Title	
Company Name		Address City, State, Zip	
Email		Phone (office)	
Phone (cell)		COMPANY IS: Included in a Corporate Income Tax Return? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Email			Corporation organized and existing under the laws of the State of:
Phone (Office)			Partnership consisting of:
Phone (Cell)			Individual trading as:
			Principal offices are in the City of:

This original, along with original signature MUST be returned with solicitation response

NO-BID RESPONSE

In the event that your organization chooses not to submit a bid / proposal for this solicitation, the Kaufman County Purchasing Department is interested in the reasons why vendors have chosen not to submit bids / proposal in order to better serve the taxpayers of Kaufman County. Please indicate your reason(s) by checking all applicable items below and return this form to the address shown below.

- Could not meet specifications
- Items or materials requested not manufactured by us or not available to our company
- Insurance requirements too restricting
- Bond requirements too restricted
- Scope of services not clearly understood or applicable (too vague, too rigid, etc.)
- Project not suited to our organization
- Quantities too small
- Insufficient time allowed for preparation of bid / proposal
- Other – please specify:

Vendor Name: _____

Contact Person: _____

Telephone: _____

Email: _____

Please send your response to:

**Kaufman County Purchasing Department
100 N. Washington Street | Kaufman, Texas 75142
Email: purchasing@kaufmancounty.net**

EXHIBIT A: Standard Insurance & Bonding Requirements

The Contractor shall procure and maintain at its sole cost and expense for the duration of this Agreement insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, volunteers, employees, or subcontractors. The Contractor's insurance coverage shall be primary insurance with respect to the County, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the County, its officials, employees, or volunteers shall be considered in excess of the Contractor's insurance and shall not contribute to it. Further, the Contractor shall include all subcontractors as additional insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all the requirements herein. **All Certificates of Insurance and endorsements shall be furnished to the County's Purchasing Agent and approved by the County before work commences.**

1. Standard Insurance Policies Required:
 - a) Commercial General Liability Policy
 - b) Automobile Liability Policy
 - c) Worker's Compensation Policy

General Requirements applicable to all policies:

- a) Only insurance carriers licensed and admitted doing business in the State of Texas will be accepted.
- b) Deductibles shall be listed on the Certificate of Insurance and are acceptable only on a per occurrence basis for property damage only.
- c) "Claims Made" policies will not be accepted.
- d) Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided, cancelled, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to Kaufman County.
- e) All insurance policies shall be furnished to Kaufman County upon request.

Commercial General Liability

- a) General Liability insurance shall be written by carrier with an A: VIII or better rating in accordance with the current Best Key Rating guide.
- b) Minimum Combined Single Limit of \$1,000,000 per occurrence for bodily injury and property damage with Kaufman County named as an additional insured.
- c) No coverage shall be deleted from the standard policy without notification of individual exclusions being attached for review and acceptance.

Automobile Liability

- a) General Liability Insurance shall be written by a carrier with an A: VIII or better rating in accordance with the current Best Key Rating Guide.
- b) Minimum Combined Single Limit of \$600,000 per occurrence for bodily injury and property damage.

2. Workers Compensation Insurance – Pursuant to the requirements set forth in Title 28, Section 110.110 of the Texas compensation insurance policy; either directly through their employer's policy (the Contractor's or subcontractor's policy) or through an executed coverage agreement on an approved TWCC form. Accordingly, if a subcontractor does not have his or her own policy and a coverage agreement is used, Contractors and subcontractors must use that portion of the form whereby the hiring contractor agrees to provide coverage to the employees of the subcontractor. The portion of the form that would otherwise allow them not to provide

coverage for the employees of an independent contractor may not be used. The worker's compensation insurance shall include the following terms:

- a) Employer's Liability limits of \$500,000 for each accident is required.
- b) "Texas Waiver of Our Right to Recover from Others Endorsement" shall be included in this policy. (Waiver of Subrogation)

Pursuant to the explicit terms of Title 28, Section 110.1(c) (7) of the Texas Administrative Code, the Proposal / Bid specifications, this agreement, and all subcontracts on this Project must include the following terms and conditions in the following language, without any additional words or changes, except those required to accommodate the specific document in which they are contained or to impose stricter standards of documentation:

Definitions:

Certificate of coverage ("certificate") – a copy of a certificate of insurance, a certificate of authority to self-insure issued by the Texas Worker's Compensation Commission, or a coverage agreement (TWCC-81, TWCC-83, or TWCC-84) showing statutory worker's compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

Duration of the project – includes the time from the beginning of the work on the project until the Contractor's/ person's work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project ("subcontractors" in section 406.096 of the Texas Labor Code) – 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 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 projects. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other services related to a project. "Services" does NOT include activities unrelated to the project, such as food / beverage respondents, office supply deliveries, and delivery of portable toilets.

- The Contractor shall provide coverage, based on the proper reporting of classification codes and payroll amounts and filing of any coverage agreements, that 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.
- The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.
- 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.
- The Contractor shall obtain from each person providing services on a 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 providing services on the project, and certificates of coverage showing coverage for all persons; and
 2. No later than seven (7) calendar 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.
 3. The Contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

The Contractor shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) calendar 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.

The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Worker's 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.

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 agreement, that 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 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) calendar 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; with the certificates of coverage to be provided to the person for whom they are providing services.

By signing a contract with Kaufman County, or providing, or causing to be provided a certificate of coverage, 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.

CERTIFICATES OF INSURANCE shall be prepared and executed by the insurance company or its authorized agent, and shall contain the following provisions and warranties:

- a) The company is licensed and admitted doing business in the State of Texas.
- b) The insurance policies provided by the insurance company are underwritten on forms that have been provided by the Texas State Board of Insurance or ISO.
- c) All endorsements and insurance coverage according to requirements and instructions contained herein.
- d) The form of the notice of cancellation, termination, or change in coverage provisions to Kaufman County.
- e) Original endorsements affecting coverage required by the section shall be furnished with the certificates of insurance.

3. **Bonding Requirements.** If applicable, a Bid Bond shall be required. Pursuant to the provision of Section 262.032(a) of the Texas Local Government Code, if the contract contemplated by this request is a bid for the construction of public works, or will be under a contract exceeding \$100,000, Kaufman County may require the vendor to execute a good and sufficient bid bond in the amount of five percent (5%) of the total contract price. Said bond shall be executed with a surety company authorized to do business in the State of Texas.

If applicable, a Performance Bond shall be required. Pursuant to the provisions of Section 262.032(b) of the Texas Local Government Code, within thirty (30) days of the date of the signing of a contract or issuance of a purchase order following the acceptance of a bid by Kaufman County Commissioners Court and prior to commencement of the actual work, the successful vendor shall furnish a performance bond to Kaufman County for the full amount of the contract if the contract exceeds \$50,000. Said bond shall be for the purpose of insuring the faithful performance of the work in accordance with the plans, specifications, and contract documents associated with the contract.

If applicable, a Payment Bond shall be required. Pursuant to the provisions of Section 2253.021, Texas Local Government Code, if the amount of the contract awarded to the successful vendor exceeds \$25,000 the successful vendor shall execute a payment bond in the amount of the contract. Said bond is solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the prime contractor or a subcontractor to supply public work labor or material. This bond must be issued to the County within ten (10) days of the award of the contract and before vendor begins the work.



ECS Southwest, LLP

Geotechnical Engineering Report

Kaufman Justice Center Roads

1900 US-175
Kaufman, Texas

Draft

ECS Project Number 19:9065

September 20, 2023





September 20, 2023

Ms. Taylor Sutton, P.E.
TNP Engineers
825 Watters Creek Boulevard, Suite M300
Allen, Texas 75013

Reference: Geotechnical Engineering Report
Kaufman Justice Center Roads
1900 US-175
Kaufman, Texas

ECS Project No. 19:9065

Dear Ms. Sutton:

ECS Southwest, LLP (ECS) has completed the subsurface exploration, laboratory testing, and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with our agreed to scope of work. This report presents our understanding of the geotechnical aspects of the project along with the results of the field exploration and laboratory testing conducted, and our preliminary design and construction recommendations.

It has been our pleasure to be of service to you during the design phase of this project. We would appreciate the opportunity to remain involved during the continuation of the design phase, and we would like to provide our services during construction phase operations as well to verify subsurface conditions assumed for this report. Should you have any questions concerning the information contained in this report, or if we can be of further assistance to you, please contact us.

Respectfully submitted,

ECS Southwest, LLP

Draft

Che-Hung (Chris) Tsai, Ph.D., P.E.
Geotechnical Senior Project Manager
ctsai@ecslimited.com

Michael Batuna, P.E.
Principal Engineer
mbatuna@ecslimited.com

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Draft

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Appendix B – Field Operations

- Reference Notes for Boring Logs
- Exploration Procedure
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Appendix C – Laboratory Testing

- Laboratory Testing Summary
- Lime/pH Series Results

Draft

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- Pavement Calculations

Appendix E – Other Information

- General Recommendations for Quality Assurance (QA) Testing
- TxDOT Concrete Pavement Details Contraction Design (CPCD-14)

EXECUTIVE SUMMARY

The following summarizes the main findings of the exploration, particularly those that may have a cost impact on the planned roadway development. Further, our pavement and subgrade improvement recommendations are summarized. Information gleaned from the executive summary should not be utilized in lieu of reading the entire geotechnical report.

- The borings encountered fill, fat clay (CH) and lean clay (CL) to boring termination depths of 5 to 20 feet below the existing grades within the project site. Groundwater seepage was observed at a depth of 2 feet below the existing grade in Boring B-06 during sampling. Groundwater seepage was not observed in the remaining borings during the field exploration work.
- Design values for the proposed pavement, subgrade preparation and stabilization, as well as materials specifications are provided in the report. In addition, a culvert is being considered under the roadway. The recommendations for the culvert foundation and lateral earth pressures are presented in the report.
- It is recommended that ECS conduct final geotechnical investigation for the project, and a geotechnical review of the project plans (prior to issuance for construction) to check to see that ECS' geotechnical recommendations have been properly interpreted and implemented.
- To prevent misinterpretation of ECS recommendations, ECS should be retained to perform quality control testing and documentation during construction of the earthwork and foundations for the project.

1.0 INTRODUCTION

The purpose of this study was to provide geotechnical information for the design and construction of the Kaufman Justice Center Roads in Kaufman, Texas. The recommendations developed for this report are based on project information provided by the client. This report contains the results of our subsurface explorations and geotechnical laboratory testing programs, site characterization, engineering analyses, and recommendations for the design and construction of the planned roadways.

Our services were performed in general accordance with ECS Proposal No. 19:11824-GP, dated January 4, 2022. The project was authorized by the Client on January 17, 2023. The terms of this agreement will be according to the TNP Standard Agreement for Professional Services and General Provisions Between TNP and ECS Southwest LLP (TNP Project No. KFM22494).

This report contains the procedures and results of our subsurface exploration and laboratory testing programs, review of existing site conditions, engineering analyses, and recommendations for the design and construction of the project.

The report includes the following items.

- A brief review and description of our field and laboratory test procedures and the results of testing conducted.
- A review of surface topographical features and site conditions.
- A review of area and site geologic conditions.
- A review of subsurface soil stratigraphy with pertinent available physical properties.
- A final copy of our soil test borings.
- Recommendations for pavement design.
- Recommendations for culvert foundation design.
- Recommendations for site preparation and construction of compacted fills, including an evaluation of on-site soils for use as compacted fills

2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION/CURRENT SITE USE

The project site is located by the Kaufman County Sheriff Office situated at 1900 US-175 in Kaufman, Texas. The proposed roadways will be a connector road between US-175 and TX-34. Currently, most of the site is covered with grass, dense vegetations and trees. Prairie Branch goes through the proposed road section off SH TX-34. The project location is depicted in the attached Site Location Diagram in Appendix A and below.



Site Location Diagram

2.2 PROPOSED CONSTRUCTION

The following information explains our understanding of the planned development of the roadway section.

A Summary of Design Information

SUBJECT	DESIGN INFORMATION / ASSUMPTIONS
Roadway Classification and Improvements	Minor Arterial – 4 lanes Road Section 1 off State Highway TX-34 (2,900 LF).
	Collector – 2 lanes Road Section 2 off US highway US-175 (2,500 LF).
Culvert	Constructed over the Prairie Branch about 1,700 feet from SH TX-34.
Pavement Type	Concrete

Traffic data and pavement design input were not provided by the Client. Per Client’s request, traffic data and design input were assumed by ECS, based on our experiences on the types of roadways. If ECS’ understanding of the project is not correct, please contact ECS so that we may review these changes and revise our recommendations, as appropriate.

3.0 FIELD EXPLORATION AND LABORATORY TSETING

The field exploration was planned with the objective of characterizing the project site in general geotechnical and geological terms and to evaluate subsequent field and laboratory data to assist in the determination of geotechnical recommendations. Borings were located with a handheld GPS unit and their approximate locations are shown on the Boring Location Diagram in Appendix A. The field exploration was planned with the objective of characterizing the project site in general geotechnical and geological terms and to evaluate subsequent field and laboratory data to assist in the determination of geotechnical recommendations.

Our scope of work included drilling a total of 13 soil borings along the proposed roadway alignment and culvert. Eleven borings were drilled to depths of 5 to 20 feet below the existing grades. Two borings were not drilled due inaccessible due to the presence of dense vegetations.

A truck mounted drill rig with continuous flight augers was utilized to drill five borings to depths of 5 to 20 feet below the existing grades. The remaining six borings were sampled to a depth of 5 feet below the existing grades with a hand auger (ASTM D-1452). The approximate as-drilled boring locations are shown on the Boring Location Diagram in Appendix A.

Representative soil samples were obtained by the Shelby tube sampling procedure in accordance with ASTM Specifications D-1587. In the Shelby tube sampling procedure, a thin walled, steel, seamless tube with sharp cutting edges is pushed hydraulically into the soil, and a relatively undisturbed sample is obtained.

Soils encountered in the borings were maintained by the drill crew. After recovery, each geotechnical soil sample was removed from the sampler and visually classified. Representative portions of each soil sample were then wrapped in plastic and transported to our laboratory for further visual examination and laboratory testing. After completion of the drilling operations, the boreholes were backfilled with auger cuttings to the existing ground surface.

3.1 SUBSURFACE CHARACTERIZATION

The subsurface conditions encountered were generally consistent with published geological mapping. The following sections provide generalized characterizations of the soil and rock strata. Please refer to the boring logs in Appendix B. The regional parent geologic mapping indicates that the site is underlain by Kemp Clay and Corsicana Marl undivided (Kkc).

This geological formation consists of mostly relatively compact calcareous clay with thin lamination. It contains some interbeds of fine-grained sandstone near base. The parent rock of this formation is marl (also known as shale). Through chemical and mechanical weathering, the formation forms highly plastic residual clay soils. These clays can exhibit moderate to high shrink/swell with changes in moisture. The thickness of this formation is estimated to be approximately 300 to 400 feet.

Subsurface Stratigraphy

Approximate Depth to Bottom of Strata Below Grade (feet)	Approximate Elevation ⁽¹⁾ (feet)	Stratum	Material Description	Consistency/Condition
2 to 5 ²	395 to 409	I ³	(FILL) LEAN CLAY, brown and orange, with sand and gravel	Very Stiff to Hard
5 ² to 6	394 to 432	II ⁴	(CH) FAT CLAY, brown and dark brown	Very Stiff to Hard
13	387	III ⁵	(CL) LEAN CLAY, brown, moist	Hard
10 ² to 20 ²	380 to 428	IV ⁶	(CH) FAT CLAY, brownish yellow, grayish brown, shaley	Hard

Notes:

- (1) Please note that the ground surface elevations were not surveyed by a licensed surveyor. These elevations are approximate based on dfwmaps.com. Elevations are approximate +/- several feet.
- (2) Boring termination depth.
- (3) Encountered in Borings B-01, B-02, B-04, and B-06
- (4) Encountered in Borings B-01, B-02, B-03, B-04, B-07, B-08 B-09, B-10, B-11, and B-12
- (5) Encountered in Borings B-04.
- (6) Encountered in Borings B-04 and B-12.

Please refer to the attached boring logs and laboratory data summary for a more detailed description of the subsurface conditions encountered as the stratification descriptions above are generalized for presentation purposes. A graphical presentation of the subsurface conditions is shown on the Generalized Subsurface Soil Profile included in Appendix A.

3.2 GROUNDWATER OBSERVATIONS

Groundwater level observations were not made in the borings during or at completion of drilling operations. In auger drilling operations, water is not introduced into the borehole and the groundwater position can often be determined by observing water flowing into and out of the excavation. Furthermore, visual observation of soil samples retrieved can often be used in evaluating the groundwater conditions. Groundwater seepage was observed at a depth of 2 feet in Boring B-06 during sampling with hand auger. Groundwater seepage was not observed in the remaining borings during the field exploration work.

Any water observed in borings within this geologic setting is generally referred to as a partially perched condition. Specifically, rainfall that enters the site, either directly from overland flow or from adjacent properties, begins to percolate through surficial soils and within the sand seams and clay fissures and travels along that interface. This ground water remains trapped, or flow continues downhill with the water table occasionally surfacing to form wet springs and intermittent streams. Only in the low-lying areas and adjacent to existing creeks, shallow groundwater table is present in a continuous condition.

The highest groundwater observations are normally observed in the late winter and early spring. Fluctuation in the location of the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff and other factors not immediately apparent at the time of this exploration. Therefore, the groundwater conditions at this site could be different at the

time of construction. The possibility of groundwater level fluctuation should be considered when developing the design and construction plans for the project.

3.3 LABORATORY TESTING

The laboratory testing consisted of selected tests performed on samples obtained during our field exploration operations. Classification and index property tests were performed on representative soil samples. The soil samples were tested for moisture content, Atterberg limits, soluble sulfate, lime-pH series, swell, unconfined compression, and percent passing No. 200 sieve.

Soil samples were visually classified on the basis of texture and plasticity in accordance with ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedures) and including USCS classification symbols. After classification, the samples were grouped in the major zones noted on the boring logs in Appendix B. The group symbols for each soil type are indicated in parentheses along with the soil descriptions. The stratification lines between strata on the logs are approximate; in situ, the transitions may be gradual.

The soil samples will be retained in our laboratory for a period of 60 days, after which, they will be discarded unless other instructions are received as to their disposition.

4.0 DESIGN RECOMMENDATIONS

The following recommendations have been developed on the basis of the previously described project characteristics and subsurface conditions. If there are any changes to the project characteristics or design information, ECS should be consulted so that the recommendations of this report can be reviewed.

4.1 POTENTIAL VERTICAL MOVEMENT

The clay soils encountered at this site are highly expansive. These clay soils are susceptible to shrink swell tendencies, occurring seasonally, throughout the life of the pavement with the changes in moisture content. Based on test method TEX-124-E in the Texas Department of Transportation (TxDOT) Manual of Testing Procedures and our experience of similar soils, we estimate potential vertical movement (PVM) at the boring locations will be about 4 to 5 inches under a dry soil condition. The actual movements could be greater if poor drainage, ponded water, and/or other unusual sources of moisture are allowed to saturate the soils beneath the structure after construction.

To minimize the impact of moisture changes within the subgrade soils and reduce the potential for movements, the exposed subgrade should be kept moist by adding moisture and covering the subgrade. Moisture can be added daily by sprinkling using a water truck. Additional subgrade improvements may be needed to reduce the movement potential if needed. Positive drainage should be conducted during all phases of construction. There may be existing utilities under the existing pavement that will preclude subgrade treatment of existing soils to reduce the PVM. Regular pavement maintenance should be performed by routinely sealing all cracks and joints in the pavement.

4.2 SOLUBLE SULFATE

Soluble sulfate tests were performed on selected samples to evaluate the potential for sulfate induced heave. The laboratory test results indicated that soluble sulfate concentrations were generally less than 3,000 ppm in the subgrade soils, except for one sample from Boring B-2. We recommend that additional soil soluble sulfate tests be performed to confirm the high sulfate contents during the final geotechnical investigation and/or during construction after final grading.

In general, soil with soluble sulfate concentrations of 3,000 ppm or less, are not considered to require special treatment considerations when lime stabilized in accordance with TxDOT "Guidelines for Modification and Stabilization of Soils and Base for Use in Pavement Structures" (2005). Double lime stabilization should be used on the subgrade with high sulfate contents (3,000 to 8,000 ppm). As an alternative, high sulfate subgrade may be replaced with flexible base material under the pavement.

4.3 PAVEMENT SECTION

We were informed by the client that the proposed roadway off SH TX-34 is classified as a 4-lane Minor Arterial Roadway and the other roadway off US-175 is classified as a 2-lane Collector. Per Client's request, traffic data and design input were assumed by ECS based on our experiences on the types of roadways. The recommended pavement section for the proposed roadways is considered as preliminary design section since the traffic data is not available from the client or

County at the time of our analysis. Design parameters used for pavement design are included in the following table.

Design Parameters for Concrete Pavement

Design Parameters	Design Values	
Street Classification	Minor Arterial	Collector
Total Lanes	4	2
Design (ADT)	30,000	20,000
Percent Trucks	2	1
Growth Factor	0	
Lane Distribution Factor	1	
Total ESALs	3,725,550	1,241,850
Reliability (percentage)	90	85
Design Life (year)	20	
Pavement Type	Rigid	
Subgrade Soil Type	Fill, Fat Clay (CH) and Lean Clay (CL)	
Overall Standard Deviation – Rigid	0.35	
Concrete Modulus of Rupture (psi) -28 Days	620	
Concrete Modulus of Elasticity (psi) -28 days	5,000,000	
Drainage Coefficient	1.0	
Load Transfer Coefficient	2.9	
Initial Pavement Serviceability	4.5	
Terminal Pavement Serviceability	2.3	
Modulus of Subgrade Reaction (psi/in) – k (PCC Pavement)	240 (Flexible Base with Geogrid) 200 (Lime Stabilized Subgrade)	

Pavement sections provided in this report were designed in general accordance with the AASHTO Guide for Design of Pavement Structures (1993). Based on our analysis and the calculations with the design parameters, the pavement reconstruction may be designed as Portland cement concrete (PCC) pavement section supported on either flexible base with geogrid (Tensor BX1100 or similar) or lime stabilized subgrade. The PCC pavement sections are summarized in the following table.

Portland Cement Concrete (PCC) Pavement Section

Street Classification	Concrete Pavement Thickness (inches)	Flexible Base with Geogrid (inches)	Lime Stabilized Subgrade (inches)
Minor Arterial	9	8	N/A
Minor Arterial	9	N/A	8
Collectors	7	N/A	8
Collectors	7	8	N/A

For the design and construction of pavement, the subgrade should be prepared in accordance with the recommendations in the “Earthwork Operations” section of this report. An important consideration with the design and construction of pavements is surface and subsurface drainage. Where standing water develops, either on the pavement surface or within the base course layer, softening of the subgrade and other problems related to the deterioration of the pavement can be expected. Furthermore, good drainage should reduce the possibility of the subgrade materials becoming saturated during the normal service period of the pavement.

Please note, the recommended pavement sections provided above are considered the minimum necessary to provide satisfactory performance based on the provided traffic loading. In some cases, jurisdictional minimum standards for pavement section construction may exceed those provided above.

Soluble sulfate contents should be confirmed by additional laboratory tests during the construction phase after final grading. A soluble sulfate level of less than 3,000 ppm indicates a negligible to small potential for heaving. Soluble sulfate levels between 3,000 and 8,000 ppm indicate a moderate to high potential for heaving. Double lime stabilization should be used on the subgrade with high sulfate contents (3,000 to 8,000 ppm). A soluble sulfate level of 8,000 ppm and higher has high risk of sulfate induced heave resulting in pavement distress. As an alternative, flexible base with Geogrid shall be used instead of lime stabilized or cement treated subgrade in high soluble sulfate areas.

4.3.1 Pavement Material

Pavement materials should be in strict accordance with the requirement by the City of Kaufman as well as the latest edition of North Central Texas Council of Governments (NCTCOG) Standard Specifications for Public Works Construction (4th Edition). Pavement should be specified, constructed, and tested to meet the following requirements:

1. Portland Cement Concrete: A minimum compressive strength of 4,000 psi at 28 days.
2. Reinforcing Steel: #4 bars at 18” centers both ways.
3. Concrete Pavement Joints:
 - a. Transverse Joints shall be sawed on 15’ centers. Use 18” #8 or #10 dowels (smooth bars) at 12” spacing per TxDOT concrete Pavement Details Contraction Design (CPCD-14)
 - b. Longitudinal Joints shall be sawed based on the following:

- 25' Width Saw Joint 3" from the center; 27' & 31' Width Saw Joint along the center
- c. Expansion Joints to be constructed a maximum distance of 200 feet apart.
- 4. Flexible Base Subgrade (TxDOT Item 247).
- 5. Lime Stabilized Subgrade: 8% Lime by dry weight of soil (about 48 lbs/sy for 8 inches).

4.4 CULVERT FOUNDATION

We understand that a culvert will be constructed over the Prairie Branch along the proposed roadway section. The culvert crossing is located near boring B-04. Based on the subsurface conditions encountered in Boring B-04, fill underlain by fat clay and lean clay was generally encountered to a depth of 2 feet below the existing grade. We recommend that the proposed culvert be placed on at least 2-foot layer of compacted flexible base material over geogrid (Tensar BX1100 or similar). A geotextile filter fabric should be placed between the geogrid and aggregate over the native subgrade. The following table summarizes the design parameters recommended for the design of the bridge culvert foundation.

Design Parameters for Culvert

Parameter	Recommendations
Bearing stratum	2-foot flexible base over native subgrade
Minimum embedment	1 foot into subgrade
Maximum net allowable bearing pressure ¹	1,800 psf
Coefficient of sliding ²	0.5
Modulus of Subgrade Reaction	100 pci
Settlement	1 inch
Notes: 1. <i>The recommended maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the base elevation.</i> 2. <i>A minimum safety factor of 1.5 is recommended for sliding.</i>	

4.4.1 Foundation Construction Consideration

Foundation excavations should be protected from standing water or desiccation. The base of all foundation excavations should be free of water and loose soil and rock prior to placing concrete or culvert. Excavation, placement of steel and concrete, and backfilling should be completed in a reasonably continuous manner. It is recommended that complete installation of the foundation be accomplished within 48 hours of excavation to prevent drying of the foundation soils.

Backfilling adjacent to foundations should proceed as soon as practical to reduce disturbance. Backfilling should be accomplished using soils similar to those excavated. All backfill should be on-site soil placed and compacted to at least 95% of the Maximum Dry Density at/above optimum moisture content as obtained using the Standard Proctor Method (ASTM D-698). All foundation installations should be inspected by qualified geotechnical personnel.

4.4.2 Lateral Earth Pressure

The magnitude of lateral earth pressure against the culvert or wall is dependent on the type of backfill. Recommended design active lateral earth pressures, expressed as equivalent fluid densities, are presented in the following tables.

Lateral Earth Pressure For Level Backfill

Backfill Type	Estimated Total Unit Weight (pcf)	Active Condition	
		Earth Pressure Coefficient, k_a	Equivalent Fluid Density (psf/ft.)
Free Draining Granular Material	130	0.29	38 ¹
On-site Clay Soil	125	0.44	90 ²
Notes: 1. Drained condition was assumed for free-draining granular fill. 2. Undrained condition was summed for on-site soils			

Surcharge loads such as building, vehicular and pavement load should be added to the above equivalent fluid pressure to obtain the total lateral earth pressure for design purposes. If the surcharge loading is located a distance away from the back of the wall greater than the wall height, the lateral pressure to the wall from the source will be minimal.

5.0 SITE CONSTRUCTION RECOMMENDATIONS

5.1 SUBGRADE PREPARATION

In a dry and undisturbed state, the upper 1-foot of the majority of the soil at the site should provide good subgrade support for fill placement and construction operations. However, when wet, this soil will degrade quickly with disturbance from contractor operations. Therefore, good site drainage should be maintained during earthwork operations, which should help maintain the integrity of the soil.

The surface of the site should be kept properly graded in order to enhance drainage of the surface water away from the proposed structures during the construction phase. We recommend that an attempt be made to enhance the natural drainage without interrupting its pattern, where possible. The soils at the site are moisture and disturbance sensitive and contain fines which are considered moderately erodible.

Therefore, the contractor should carefully plan his operation to limit exposure of the subgrade to weather and construction equipment traffic and provide and maintain good site drainage during earthwork operations. All erosion and sedimentation shall be controlled in accordance with sound engineering practice and current jurisdictional requirements.

5.1.2 Proofrolling

Prior to fill placement or other construction on subgrades, the subgrades should be evaluated by an ECS field technician. The exposed subgrade should be thoroughly proofrolled with construction equipment having a minimum axle load of 10 tons [e.g. fully loaded tandem-axle dump truck]. Proofrolling should be traversed in two perpendicular directions with overlapping passes of the vehicle under the observation of an ECS technician. This procedure is intended to assist in identifying any localized yielding materials.

Where proofrolling identifies areas that are yielding or “pumping” subgrade those areas should be repaired prior to the placement of any subsequent Structural Fill or other construction materials. Methods of stabilization include undercutting, moisture conditioning, or chemical stabilization. The situation should be discussed with ECS to determine the appropriate procedure. Test pits may be excavated to explore the shallow subsurface materials to help in determining the cause of the observed yielding materials, and to assist in the evaluation of appropriate remedial actions to stabilize the subgrade.

5.2 EARTHWORK OPERATIONS

Before placement of any new fill, all subgrades should be scarified to a minimum depth of 6 inches, moisture conditioned, and compacted to at least 95% of Maximum Dry Density as obtained by the Standard Proctor Method (ASTM D698) moisture conditioned at least +3 percentage points above the optimum moisture content value. All fills should be benched into the existing soils. Imported soil used for general fill should not have a Plasticity Index (PI) of greater than the material encountered onsite.

Soil moisture levels should be preserved (by various methods that can include covering with plastic, watering, etc.) until new fill, or pavements are placed. All fill soils should be placed in 8 inches loose lifts for mass grading operations and 4 inches for trench type excavations where walk-behind or “jumping jack” compaction equipment is used.

The frequency of compaction testing shall not exceed 1 test per 300 linear feet. Upon completion of the filling operations, care should be taken to maintain the soil moisture content above its optimum moisture content before the construction of pavements. If the soil becomes desiccated, the affected material should be removed and replaced, or these materials should be scarified, moisture conditioned, and recompacted.

Utility cuts should be properly backfilled. Backfilling should be accomplished with properly compacted on-site soils, rather than granular materials.

5.3 MATERIAL SPECIFICATIONS

This section is intended to outline the material requirements of those recommendations.

5.3.1 Flexible Base

Flexible base should meet the requirements of TxDOT Item 247, Type D, Grade 1-2, or NCTCOG Item 301.5. Recycled concrete meeting the gradation requirements of flexible base is also acceptable for use. The flexible base and recycled concrete should be compacted to at least 95% of maximum dry density at or above the optimum moisture content as obtained using the Standard Proctor Method (ASTM D-698).

Please refer to the “General Recommendations for Quality Assurance (QA) Testing” table provided in the Appendix E of this report for specific requirements.

5.3.2 Lime Stabilized On-site Clay

Lime stabilized on site clay should be used below the pavement. Lime application rate of 8% hydrated lime (about 48 lbs/sy for 8 inches) by dry weight of clay (TxDOT Item 260) can be used for budgeting purposes. The actual amount of lime required should be confirmed by additional laboratory tests (lime series) during the construction phase.

The lime stabilized clay should be thoroughly mixed and appropriately mellowed for at least 48 hours (TxDOT Item 260) and tested for gradation and lime solubility (pH) prior to final placement and compaction. Once appropriately mixed and mellowed, this material may then be placed and compacted at workable moisture contents within of at least +3 percent of optimum moisture content and compacted to at least 95% of the Maximum Dry Density as obtain using the Standard Proctor Method (ASTM D-698).

Please refer to the “General Recommendations for Quality Assurance (QA) Testing” table provided in the Appendix E of this report for specific requirements.

5.3.3 Free Draining Granular Fill

Free draining granular materials may include sand, crushed stone, and gravel. The material should have less than 5 percent passing the No. 200 sieve, and less than 40 percent passing the No. 40 sieve. The material passing No. 40 sieve should be non-plastic. ASTM C33 No. 57 or 67, Coarse Aggregate, will meet these requirements. The granular material may be compacted at or above optimum moisture content and compacted to at least 95% of the Maximum Dry Density as obtain using the Standard Proctor Method (ASTM D-698).

6.0 CLOSING

ECS has prepared this report to guide the geotechnical-related design and construction aspects of the project. We performed these services in accordance with the standard of care expected of professionals in the industry performing similar services on projects of like size and complexity at this time in the region. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this report.

The description of the proposed project is based on information provided to ECS by Client. If any of this information is inaccurate or changes, either because of our interpretation of the documents provided or site or design changes that may occur later, ECS should be contacted so we can review our recommendations and provide additional or alternate recommendations that reflect the proposed construction.

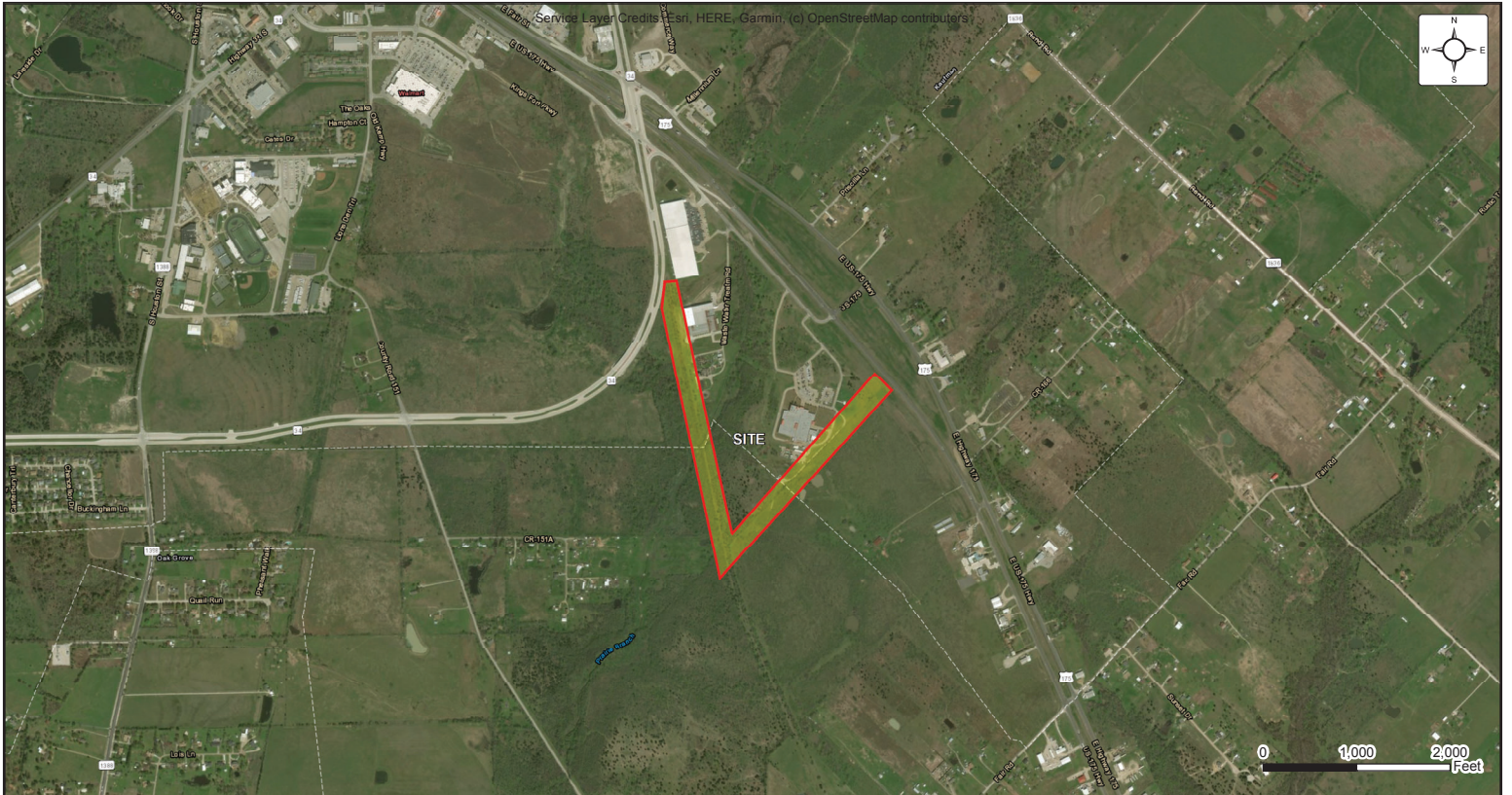
We recommend that ECS review the project plans and specifications so we can confirm that those plans/specifications are in accordance with the recommendations of this geotechnical report.

Field observations, and quality assurance testing during earthwork and foundation installation are an extension of, and integral to, the geotechnical design. We recommend that ECS be retained to apply our expertise throughout the geotechnical phases of construction, and to provide consultation and recommendation should issues arise.

ECS is not responsible for the conclusions, opinions, or recommendations of others based on the data in this report.

APPENDIX A – Drawings and Reports

Site Location Diagram
Boring Location Diagram
Subsurface Cross-Sections
Geologic Survey Map



**SITE LOCATION DIAGRAM
KAUFMAN JUSTICE CENTER ROADS**

**1900 US-175, KAUFMAN, TEXAS
TNP ENGINEERS**



ENGINEER	MPB1
SCALE	AS NOTED
PROJECT NO.	19-9065
FIGURE	1 OF 1
DATE	9/12/2023

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors



Legend

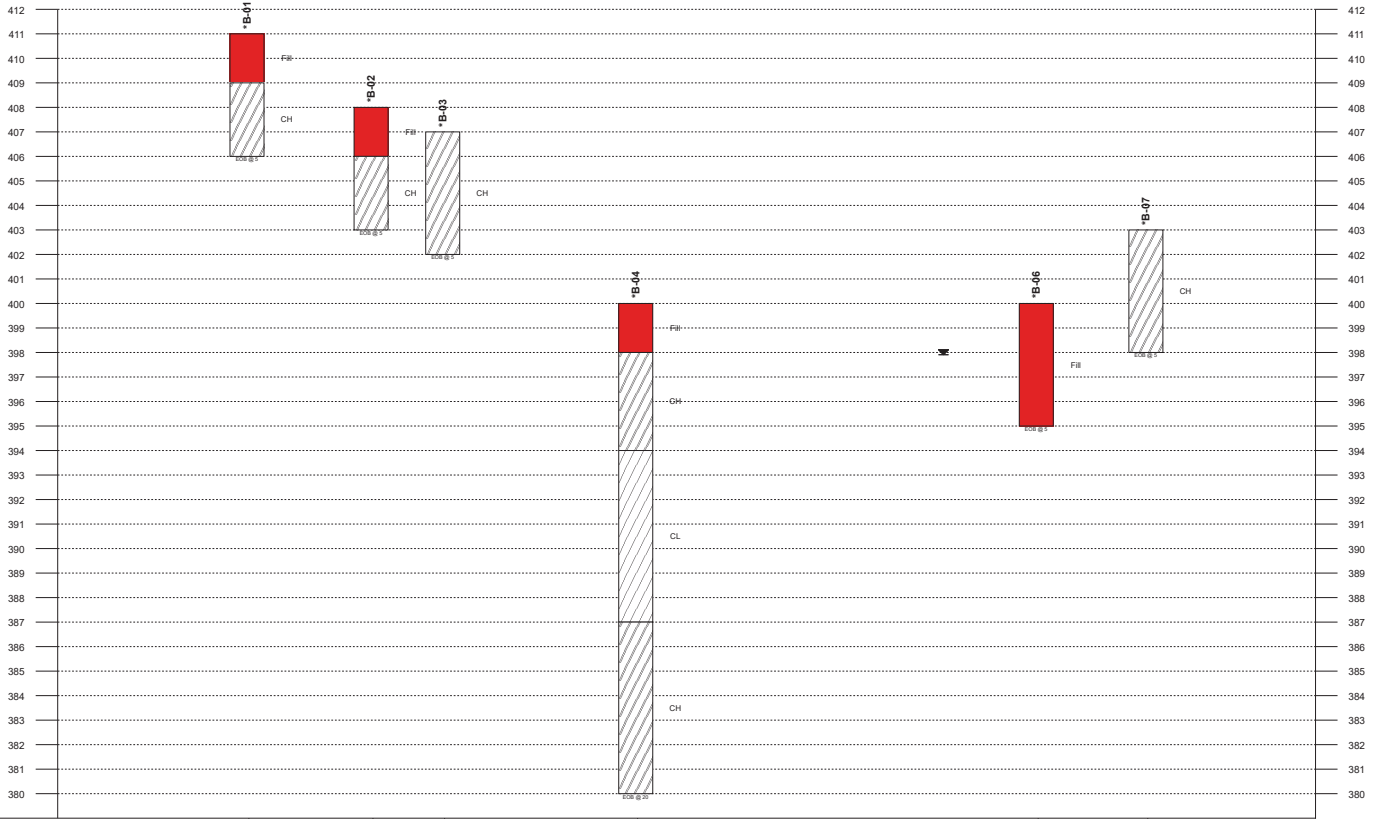
- Approximate Boring locations
- Not Drilled due to dense vegetation



BORING LOCATION DIAGRAM KAUFMAN JUSTICE CENTER ROADS

1900 US-175, KAUFMAN, TEXAS
TNP ENGINEERS

ENGINEER MPB1
SCALE AS NOTED
PROJECT NO. 19:9065
FIGURE 1 OF 1
DATE 9/11/2023



Legend Key

- Fill
- Fat CLAY
- Lean CLAY

Notes:
 1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
 2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
 3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
 4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D 1586).

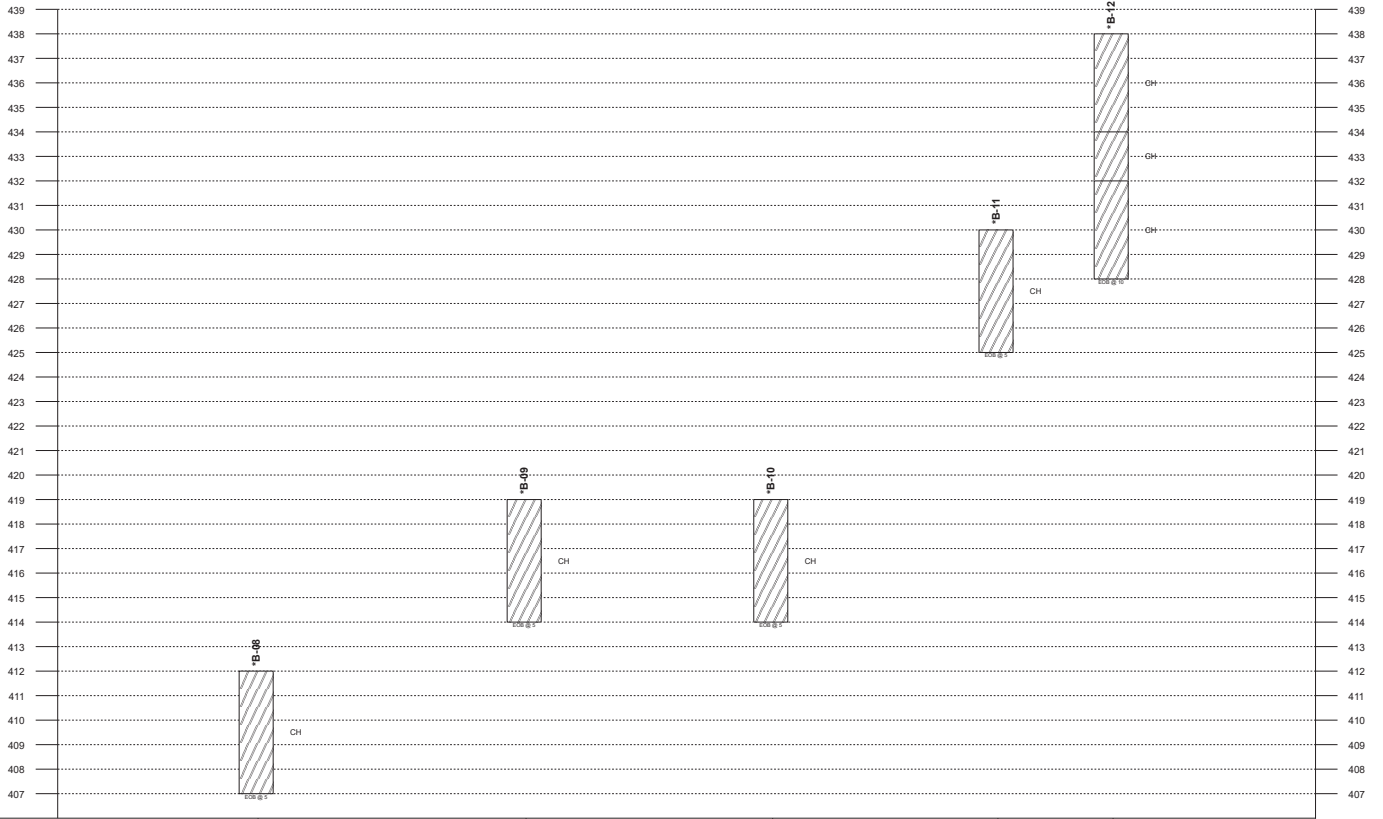
37.01	141.9	202.4	365.6	704.2	796.8
X	●	△	▽	▽	▽
[FINES CONTENT %]					
—					
⊘					
○					

WL (First Encountered)	Fill
WL (Completion)	Possible Fill
WL (Estimated Seasonal High Water)	Probable Fill
WL (Stabilized)	Rock



GENERALIZED SUBSURFACE SOIL PROFILE
 Section line A-A'
 Kaufman Justice Center Roads
 TNP Engineers
 1900 US-175, Kaufman, Texas, 75142

Project No: 19-0005 Date: 09/12/2023



Legend Key
 Fat CLAY

Notes:
 1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
 2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
 3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
 4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D 1586).

Plastic Limit	Water Content	Liquid Limit	WL (First Encountered)
X	●	△	▽
[FINES CONTENT %]			▼
BOTTOM OF CASING			▽
LOSS OF CIRCULATION			▽
○ CALIBRATED PENETROMETER			▽
			▽

Fill
Possible Fill
Probable Fill
Rock



GENERALIZED SUBSURFACE SOIL PROFILE	
Section line B-B'	
Kaufman Justice Center Roads	
TNP Engineers	
1900 US-175, Kaufman, Texas, 75142	
Project No. 19-0005	Date: 09/12/2023



Legend
 Kkc: Kemp Clay and Corsicana Marl undivided



**REGIONAL GEOLOGIC MAP
 KAUFMAN JUSTICE CENTER ROADS**

**1900 US-175, KAUFMAN, TEXAS
 TNP ENGINEERS**

ENGINEER	MPB1
SCALE	AS NOTED
PROJECT NO.	19-9065
FIGURE	1 OF 1
DATE	9/12/2023

APPENDIX B – Field Operations

Reference Notes for Boring Logs
Exploration Procedure
Boring Logs



REFERENCE NOTES FOR BORING LOGS

MATERIAL ^{1,2}	
	ASPHALT
	CONCRETE
	GRAVEL
	TOPSOIL
	VOID
	BRICK
	AGGREGATE BASE COURSE
	GW WELL-GRADED GRAVEL gravel-sand mixtures, little or no fines
	GP POORLY-GRADED GRAVEL gravel-sand mixtures, little or no fines
	GM SILTY GRAVEL gravel-sand-silt mixtures
	GC CLAYEY GRAVEL gravel-sand-clay mixtures
	SW WELL-GRADED SAND gravelly sand, little or no fines
	SP POORLY-GRADED SAND gravelly sand, little or no fines
	SM SILTY SAND sand-silt mixtures
	SC CLAYEY SAND sand-clay mixtures
	ML SILT non-plastic to medium plasticity
	MH ELASTIC SILT high plasticity
	CL LEAN CLAY low to medium plasticity
	CH FAT CLAY high plasticity
	OL ORGANIC SILT or CLAY non-plastic to low plasticity
	OH ORGANIC SILT or CLAY high plasticity
	PT PEAT highly organic soils

DRILLING SAMPLING SYMBOLS & ABBREVIATIONS			
SS	Split Spoon Sampler	PM	Pressuremeter Test
ST	Shelby Tube Sampler	RD	Rock Bit Drilling
WS	Wash Sample	RC	Rock Core, NX, BX, AX
BS	Bulk Sample of Cuttings	REC	Rock Sample Recovery %
PA	Power Auger (no sample)	RQD	Rock Quality Designation %
HSA	Hollow Stem Auger		

PARTICLE SIZE IDENTIFICATION	
DESIGNATION	PARTICLE SIZES
Boulders	12 inches (300 mm) or larger
Cobbles	3 inches to 12 inches (75 mm to 300 mm)
Gravel: Coarse	¾ inch to 3 inches (19 mm to 75 mm)
Gravel: Fine	4.75 mm to 19 mm (No. 4 sieve to ¾ inch)
Sand: Coarse	2.00 mm to 4.75 mm (No. 10 to No. 4 sieve)
Sand: Medium	0.425 mm to 2.00 mm (No. 40 to No. 10 sieve)
Sand: Fine	0.074 mm to 0.425 mm (No. 200 to No. 40 sieve)
Silt & Clay ("Fines")	<0.074 mm (smaller than a No. 200 sieve)

COHESIVE SILTS & CLAYS		
UNCONFINED COMPRESSIVE STRENGTH, QP ⁴	SPT ⁵ (BPF)	CONSISTENCY ⁷ (COHESIVE)
<0.25	<2	Very Soft
0.25 - <0.50	2 - 4	Soft
0.50 - <1.00	5 - 8	Firm
1.00 - <2.00	9 - 15	Stiff
2.00 - <4.00	16 - 30	Very Stiff
4.00 - 8.00	31 - 50	Hard
>8.00	>50	Very Hard

RELATIVE AMOUNT ⁷	COARSE GRAINED (%) ⁸	FINE GRAINED (%) ⁸
Trace	≤5	≤5
With	10 - 20	10 - 25
Adjective (ex: "Silty")	25 - 45	30 - 45

GRAVELS, SANDS & NON-COHESIVE SILTS	
SPT ⁵	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

WATER LEVELS ⁶	
	WL (First Encountered)
	WL (Completion)
	WL (Seasonal High Water)
	WL (Stabilized)

FILL AND ROCK			
FILL	POSSIBLE FILL	PROBABLE FILL	ROCK

¹Classifications and symbols per ASTM D 2488-17 (Visual-Manual Procedure) unless noted otherwise.

²To be consistent with general practice, "POORLY GRADED" has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.

³Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].

⁴Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

⁵Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). "N-value" is another term for "blow count" and is expressed in blows per foot (bpf). SPT correlations per 7.4.2 Method B and need to be corrected if using an auto hammer.

⁶The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.

⁷Minor deviation from ASTM D 2488-17 Note 14.

⁸Percentages are estimated to the nearest 5% per ASTM D 2488-17.



SUBSURFACE EXPLORATION PROCEDURE: Hand Auger Borings ASTM D1452

In this procedure, a shallow depth boring is made by manually rotating and advancing an auger to the desired depths while periodically removing the auger from the hole to clear and examine the auger cuttings. The auger cuttings are visually classified in the field in accordance with ASTM D2488. Disturbed samples are collected in each soil stratum and sealed in an airtight container and labeled appropriately.

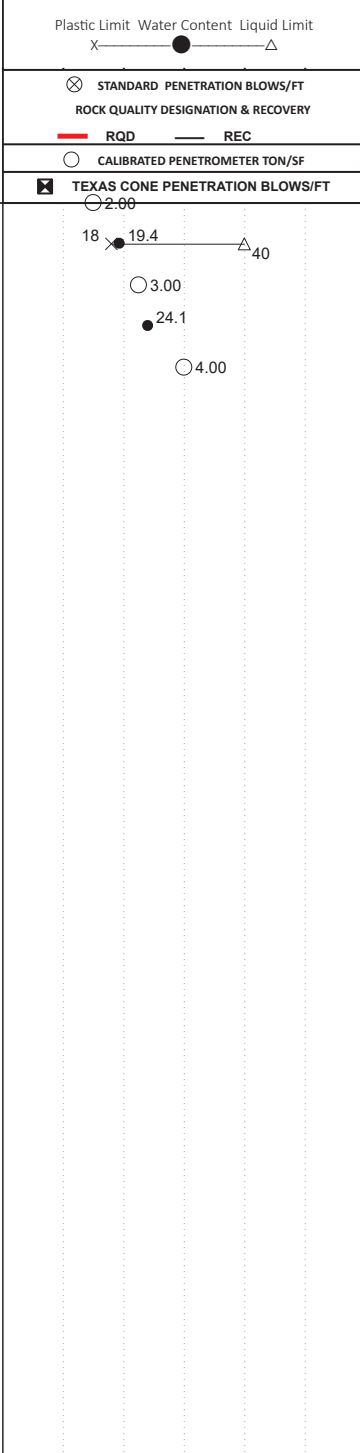
Hand Auger Procedure:

- Involves manually rotating a tube or barrel type auger to the desired sample depth
- Recording the depth of changes in strata
- Describing soil in each major stratum in accordance with ASTM D2488
- Recording groundwater depth and location of seepage zones, when/if found
- Describing condition of augered hole (i.e. whether the hole remains open or the sides cave)

CLIENT: TNP Engineers	PROJECT NO.: 19:9065	BORING NO.: B-01	SHEET: 1 of 1	
PROJECT NAME: Kaufman Justice Center Roads (Kaufman, TX)	DRILLER/CONTRACTOR: Total Depth			

SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142			LOSS OF CIRCULATION
LATITUDE: 32.563161	LONGITUDE: -96.298989	STATION:	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE D/ST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)
	S-1	ST	24	24	(FILL) LEAN CLAY, brown and orange, moist, very stiff			
	S-2	ST	24	24	(CH) FAT CLAY, brown and dark brown, moist, very stiff to hard			
5	S-3	ST	12	12			406	
					END OF BORING AT 5 FT			
10							401	
15							396	
20							391	
25							386	
30							381	



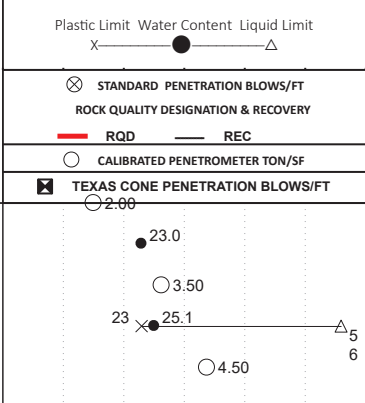
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

<input checked="" type="checkbox"/> WL (First Encountered) Dry	BORING STARTED: Apr 14 2023	CAVE IN DEPTH:
<input checked="" type="checkbox"/> WL (Completion) Dry	BORING COMPLETED: Apr 14 2023	HAMMER TYPE: Auto
<input checked="" type="checkbox"/> WL (Seasonal High Water) N/A	EQUIPMENT: Truck	DRILLING METHOD: CFA
<input checked="" type="checkbox"/> WL (Stabilized) N/A	LOGGED BY: CT2	

GEOTECHNICAL BOREHOLE LOG

SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142	LOSS OF CIRCULATION 
LATITUDE: 32.562329	LONGITUDE: -96.298453
STATION:	SURFACE ELEVATION: 408.0
BOTTOM OF CASING 	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)
	S-1	ST	24	24	(FILL) LEAN CLAY, brown and orange, moist, very stiff			
	S-2	ST	24	24	(CH) FAT CLAY, brown and dark brown, moist, very stiff to hard			
5	S-3	ST	12	12			403	
					END OF BORING AT 5 FT			
10							398	
15							393	
20							388	
25							383	
30							378	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

<input checked="" type="checkbox"/> WL (First Encountered) Dry	BORING STARTED: Apr 14 2023	CAVE IN DEPTH:
<input checked="" type="checkbox"/> WL (Completion) Dry	BORING COMPLETED: Apr 14 2023	HAMMER TYPE: Auto
<input checked="" type="checkbox"/> WL (Seasonal High Water) N/A	EQUIPMENT: Truck	DRILLING METHOD: CFA
<input checked="" type="checkbox"/> WL (Stabilized) N/A	LOGGED BY: CT2	

GEOTECHNICAL BOREHOLE LOG

CLIENT: TNP Engineers	PROJECT NO.: 19:9065	BORING NO.: B-03	SHEET: 1 of 1	
PROJECT NAME: Kaufman Justice Center Roads (Kaufman, TX)	DRILLER/CONTRACTOR: Total Depth			

SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142	LOSS OF CIRCULATION	
---	---------------------	--

LATITUDE: 32.561787	LONGITUDE: -96.298378	STATION:	SURFACE ELEVATION: 407.0	BOTTOM OF CASING	
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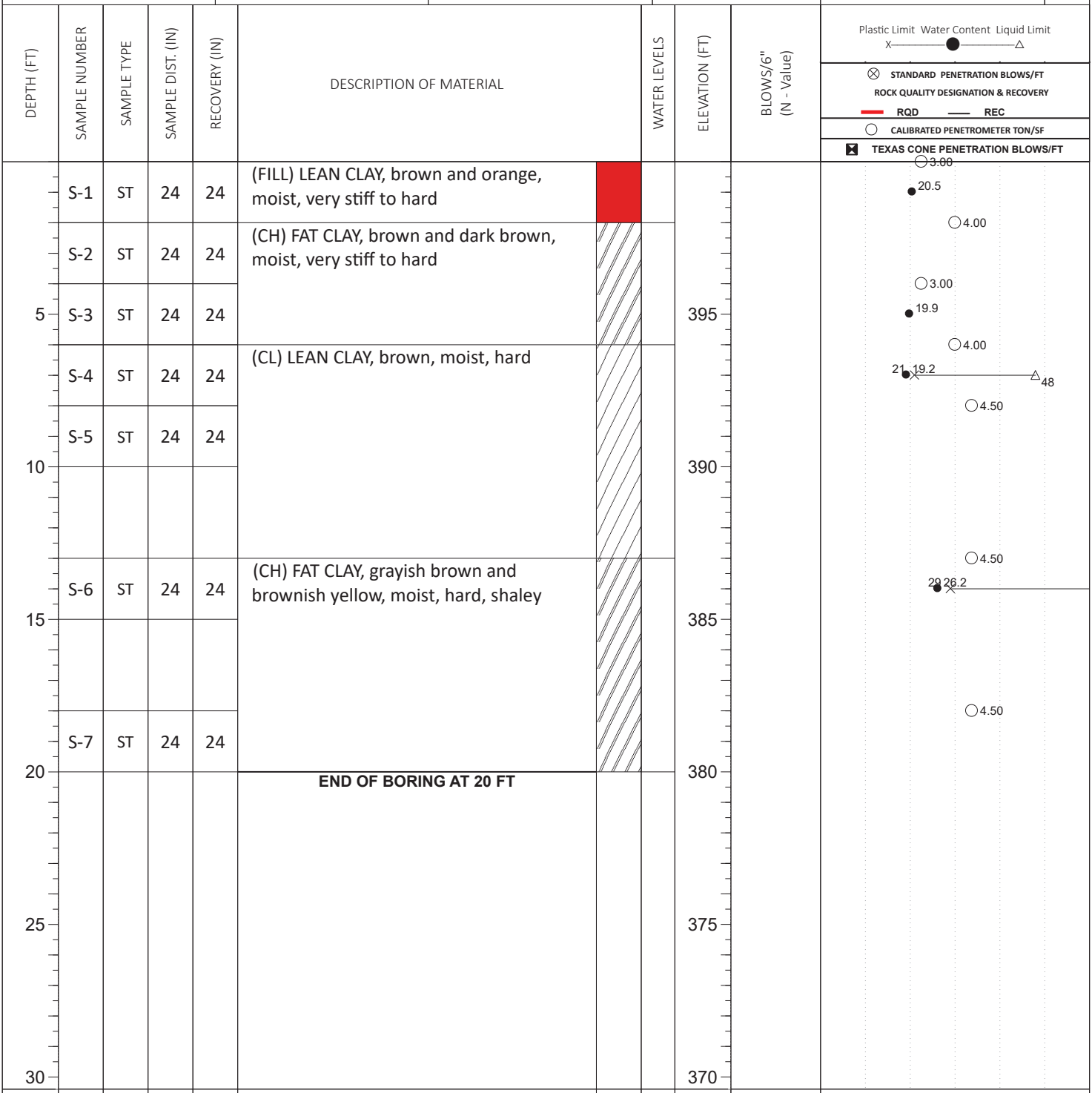
DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)	Plastic Limit Water Content Liquid Limit X ————— ● ————— Δ <input checked="" type="checkbox"/> STANDARD PENETRATION BLOWS/FT ROCK QUALITY DESIGNATION & RECOVERY <input type="checkbox"/> RQD <input type="checkbox"/> REC <input type="checkbox"/> CALIBRATED PENETROMETER TON/SF <input checked="" type="checkbox"/> TEXAS CONE PENETRATION BLOWS/FT
5	S-1	ST	24	24	(CH) FAT CLAY, brown and dark brown, moist, very stiff to hard				
	S-2	ST	24	24					
	S-3	ST	12	12					
	END OF BORING AT 5 FT						402		
10							397		
15							392		
20							387		
25							382		
30							377		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

<input checked="" type="checkbox"/> WL (First Encountered)	Dry	BORING STARTED: Apr 14 2023	CAVE IN DEPTH:
<input checked="" type="checkbox"/> WL (Completion)	Dry	BORING COMPLETED: Apr 14 2023	HAMMER TYPE: Auto
<input checked="" type="checkbox"/> WL (Seasonal High Water)	N/A	EQUIPMENT: Truck	LOGGED BY: CT2
<input checked="" type="checkbox"/> WL (Stabilized)	N/A		DRILLING METHOD: CFA

GEOTECHNICAL BOREHOLE LOG

SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142			LOSS OF CIRCULATION 
LATITUDE: 32.560369	LONGITUDE: -96.297935	STATION:	SURFACE ELEVATION: 400.0
			BOTTOM OF CASING 



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered) Dry	BORING STARTED: Apr 14 2023	CAVE IN DEPTH:
▼ WL (Completion) Dry	BORING COMPLETED: Apr 14 2023	HAMMER TYPE: Auto
▽ WL (Seasonal High Water) N/A	EQUIPMENT: Truck	LOGGED BY: CT2
▾ WL (Stabilized) N/A		DRILLING METHOD: CFA

GEOTECHNICAL BOREHOLE LOG

CLIENT: TNP Engineers	PROJECT NO.: 19:9065	BORING NO.: B-06	SHEET: 1 of 1	
PROJECT NAME: Kaufman Justice Center Roads		DRILLER/CONTRACTOR:		

SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142			LOSS OF CIRCULATION		
LATITUDE: 32.557356	LONGITUDE: -96.297359	STATION:	SURFACE ELEVATION: 400.0	BOTTOM OF CASING	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)	STANDARD PENETRATION BLOWS/FT		ROCK QUALITY DESIGNATION & RECOVERY		WATER CONTENT % [FINES CONTENT] %		
									20	40	60	80	100	—	—
5	S-1	BG1	12	12	(FILL) LEAN CLAY, brown, with sand and gravel	▼									
	S-2	BG1	12	12											
	S-3	BG1	12	12											
	S-4	BG1	12	12											
	S-5	BG1	12	12											
	END OF BORING AT 5 FT						395								
10							390								
15							385								
20							380								
25							375								
30							370								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered) 2.00 ▼ WL (Completion) 2.00 ▽ WL (Seasonal High Water) N/A ▽ WL (Stabilized) N/A	BORING STARTED: Apr 27 2023 BORING COMPLETED: Apr 27 2023 EQUIPMENT: Hand Auger	LOGGED BY: SD6	CAVE IN DEPTH: HAMMER TYPE: Manual DRILLING METHOD: Push
--	--	-----------------------	--

GEOTECHNICAL BOREHOLE LOG

CLIENT: TNP Engineers	PROJECT NO.: 19:9065	BORING NO.: B-07	SHEET: 1 of 1	
PROJECT NAME: Kaufman Justice Center Roads	DRILLER/CONTRACTOR: Total Depth			

SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142			LOSS OF CIRCULATION	
LATITUDE: 32.556533	LONGITUDE: -96.297241	STATION:	SURFACE ELEVATION: 403.0	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)	STANDARD PENETRATION BLOWS/FT		ROCK QUALITY DESIGNATION & RECOVERY		WATER CONTENT % [FINES CONTENT] %	
									20	40	60	80	100	—
5	S-1	BG1	12	12	(CH) FAT CLAY, dark brown, brown									
	S-2	BG1	12	12										
	S-3	BG1	12	12										
	S-4	BG1	12	12										
	S-5	BG1	12	12										
	END OF BORING AT 5 FT													
10							398							
15							393							
20							388							
25							383							
30							378							
							373							

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

<input checked="" type="checkbox"/> WL (First Encountered)	Dry	BORING STARTED: Apr 27 2023	CAVE IN DEPTH:
<input checked="" type="checkbox"/> WL (Completion)	Dry	BORING COMPLETED: Apr 27 2023	HAMMER TYPE: Manual
<input checked="" type="checkbox"/> WL (Seasonal High Water)	N/A	EQUIPMENT: Hand Auger	DRILLING METHOD: Push
<input checked="" type="checkbox"/> WL (Stabilized)	N/A	LOGGED BY: SD6	

GEOTECHNICAL BOREHOLE LOG

CLIENT: TNP Engineers	PROJECT NO.: 19:9065	BORING NO.: B-08	SHEET: 1 of 1	
PROJECT NAME: Kaufman Justice Center Roads	DRILLER/CONTRACTOR: Total Depth			

SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142			LOSS OF CIRCULATION	
LATITUDE: 32.556940	LONGITUDE: -96.295878	STATION:	SURFACE ELEVATION: 412.0	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)	STANDARD PENETRATION BLOWS/FT		ROCK QUALITY DESIGNATION & RECOVERY		WATER CONTENT % [FINES CONTENT] %	
									20	40	60	80	100	—
5	S-1	BG1	12	12	(CH) FAT CLAY, dark brown, brown		407	24					24.6	
	S-2	BG1	12	12										
	S-3	BG1	12	12										
	S-4	BG1	12	12										
	S-5	BG1	12	12										
					END OF BORING AT 5 FT		407							
10							402							
15							397							
20							392							
25							387							
30							382							

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

<input checked="" type="checkbox"/> WL (First Encountered)	Dry	BORING STARTED: Apr 27 2023	CAVE IN DEPTH:
<input checked="" type="checkbox"/> WL (Completion)	Dry	BORING COMPLETED: Apr 27 2023	HAMMER TYPE: Manual
<input checked="" type="checkbox"/> WL (Seasonal High Water)	N/A	EQUIPMENT: Hand Auger	LOGGED BY: SD6
<input checked="" type="checkbox"/> WL (Stabilized)	N/A		DRILLING METHOD: Push

GEOTECHNICAL BOREHOLE LOG

CLIENT: TNP Engineers	PROJECT NO.: 19:9065	BORING NO.: B-09	SHEET: 1 of 1	
PROJECT NAME: Kaufman Justice Center Roads	DRILLER/CONTRACTOR: Total Depth			

SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142			LOSS OF CIRCULATION	
LATITUDE: 32.557908	LONGITUDE: -96.294580	STATION:	SURFACE ELEVATION: 419.0	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)	STANDARD PENETRATION BLOWS/FT		ROCK QUALITY DESIGNATION & RECOVERY		WATER CONTENT % [FINES CONTENT] %			
									20	40	60	80	100	—	—	1
5	S-1	BG1	12	12	(CH) FAT CLAY, dark brown, brown		414	25	27.4		66		25		66	
	S-2	BG1	12	12												
	S-3	BG1	12	12												
	S-4	BG1	12	12												
	S-5	BG1	12	12												
	END OF BORING AT 5 FT															

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

<input checked="" type="checkbox"/> WL (First Encountered)	Dry	BORING STARTED: Apr 27 2023	CAVE IN DEPTH:
<input checked="" type="checkbox"/> WL (Completion)	Dry	BORING COMPLETED: Apr 27 2023	HAMMER TYPE: Manual
<input checked="" type="checkbox"/> WL (Seasonal High Water)	N/A	EQUIPMENT: Hand Auger	DRILLING METHOD: Push
<input checked="" type="checkbox"/> WL (Stabilized)	N/A	LOGGED BY: SD6	

GEOTECHNICAL BOREHOLE LOG

CLIENT: TNP Engineers	PROJECT NO.: 19:9065	BORING NO.: B-10	SHEET: 1 of 1	
PROJECT NAME: Kaufman Justice Center Roads	DRILLER/CONTRACTOR: Total Depth			


SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142			LOSS OF CIRCULATION	
LATITUDE: 32.558893	LONGITUDE: -96.293496	STATION:	SURFACE ELEVATION: 419.0	BOTTOM OF CASING


DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)	STANDARD PENETRATION BLOWS/FT		ROCK QUALITY DESIGNATION & RECOVERY		WATER CONTENT % [FINES CONTENT] %	
									20	40	60	80	100	—
5	S-1	BG1	12	12	(CH) FAT CLAY, dark brown and brown									
	S-2	BG1	12	12										
	S-3	BG1	12	12										
	S-4	BG1	12	12										
	S-5	BG1	12	12										
	END OF BORING AT 5 FT						414						23 31.1 58	
10							409							
15							404							
20							399							
25							394							
30							389							


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

<input checked="" type="checkbox"/> WL (First Encountered) Dry	BORING STARTED: Apr 27 2023	CAVE IN DEPTH:
<input checked="" type="checkbox"/> WL (Completion) Dry	BORING COMPLETED: Apr 27 2023	HAMMER TYPE: Manual
<input checked="" type="checkbox"/> WL (Seasonal High Water) N/A	EQUIPMENT: Hand Auger	LOGGED BY: SD6
<input checked="" type="checkbox"/> WL (Stabilized) N/A		DRILLING METHOD: Push

GEOTECHNICAL BOREHOLE LOG

CLIENT: TNP Engineers	PROJECT NO.: 19:9065	BORING NO.: B-11	SHEET: 1 of 1	
PROJECT NAME: Kaufman Justice Center Roads		DRILLER/CONTRACTOR: Total Depth		

SITE LOCATION: 1900 US-175, Kaufman, Texas, 75142			LOSS OF CIRCULATION	
LATITUDE: 32.559798	LONGITUDE: -96.292509	STATION:	SURFACE ELEVATION: 430.0	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)	ROCK QUALITY DESIGNATION & RECOVERY		WATER CONTENT % [FINES CONTENT] %			
									STANDARD PENETRATION BLOWS/FT	RECOVERY	1	2	3	4
5	S-1	BG1	12	12	(CH) FAT CLAY, dark brown and brown		425				25	68		
	S-2	BG1	12	12										
	S-3	BG1	12	12										
	S-4	BG1	12	12										
	S-5	BG1	12	12										
	END OF BORING AT 5 FT						425				21.6	[98.9%]		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

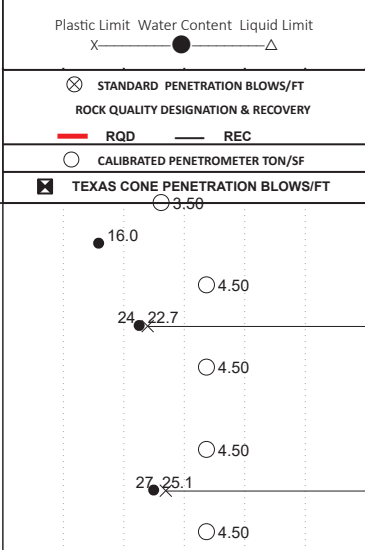
<input checked="" type="checkbox"/> WL (First Encountered)	Dry	BORING STARTED:	Apr 27 2023	CAVE IN DEPTH:	
<input checked="" type="checkbox"/> WL (Completion)	Dry	BORING COMPLETED:	Apr 27 2023	HAMMER TYPE:	Manual
<input checked="" type="checkbox"/> WL (Seasonal High Water)	N/A	EQUIPMENT:	Hand Auger	LOGGED BY:	SD6
<input checked="" type="checkbox"/> WL (Stabilized)	N/A			DRILLING METHOD:	Push

GEOTECHNICAL BOREHOLE LOG

SITE LOCATION:
1900 US-175, Kaufman, Texas, 75142

LATITUDE: 32.560241	LONGITUDE: -96.291983	STATION:	SURFACE ELEVATION: 438.0	LOSS OF CIRCULATION
				BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE D/ST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)
	S-1	ST	24	24	(CH) FAT CLAY, dark brown, moist, very stiff to hard			
	S-2	ST	24	24				
5	S-3	ST	24	24	(CH) FAT CLAY, brown and dark brown, moist, hard		433	
	S-4	ST	24	24	(CH) FAT CLAY, brownish yellow and grayish brown, moist, hard, shaley			
10	S-5	ST	24	24			428	
END OF BORING AT 10 FT								
15							423	
20							418	
25							413	
30							408	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

<input checked="" type="checkbox"/> WL (First Encountered) Dry	BORING STARTED: Apr 14 2023	CAVE IN DEPTH:
<input checked="" type="checkbox"/> WL (Completion) Dry	BORING COMPLETED: Apr 14 2023	HAMMER TYPE: Auto
<input checked="" type="checkbox"/> WL (Seasonal High Water) N/A	EQUIPMENT: Truck	DRILLING METHOD: CFA
<input checked="" type="checkbox"/> WL (Stabilized) N/A	LOGGED BY: CT2	

GEOTECHNICAL BOREHOLE LOG

APPENDIX C – Laboratory Testing

Laboratory Testing Summary
Lime-pH Series Results



ECS Southwest, LLP
Carrollton, Texas
Laboratory Testing Summary

Date: 09/11/2023

Project Number: 19:9065

Project Name: Kaufman Justice Center Roads (Kaufman, TX)

Project Engineer: CT

Principal Engineer: MB

Summary By: MP

Boring Number	Sample Number	Depth (feet)	MC ¹ (%)	Soil Type ²	Atterberg Limits ³			Percent Passing No. 200 Sieve ⁴	Dry Unit Weight ⁵ (pcf)	One-Dimensional Swell ⁶			Unconfined Compressive Strength (tsf)	Sulfate ⁷ (ppm)
					LL	PL	PI			Final Moisture (%)	Surcharge (psf)	Swell (%)		
B-01	S-1	0-2	19.4	FILL	40	18	22						< 3,000	
B-01	S-2	2-4	24.1										< 3,000	
B-02	S-1	0-2	23.0										< 3,000	
B-02	S-2	2-4	25.1	CH	56	23	33						39,691	
B-03	S-1	0-2	18.2										< 3,000	
B-03	S-2	2-4	31.7	CH	74	26	48							
B-04	S-1	0-2	20.5										< 3,000	
B-04	S-3	4-6	19.9					108.2				2.1		
B-04	S-4	6-8	19.2	CL	48	21	27	84.6	110.2	20.0	860	0.0		
B-04	S-6	13-15	26.2	CH	84	29	55		97.7			2.7		
B-06	S-3	2-3	18.8	FILL	26	13	13							
B-07	S-2	1-2	31.3	CH	63	23	40							
B-08	S-3	2-3	24.6	CH	65	24	41						< 3,000	
B-09	S-2	1-2	27.4	CH	66	25	41							
B-10	S-2	1-2	31.1	CH	58	23	35							
B-11	S-5	4-5	21.6	CH	68	25	43	98.9						
B-12	S-1	0-2	16.0										< 3,000	
B-12	S-2	2-4	22.7	CH	65	24	41	92.2						
B-12	S-4	6-8	25.1	CH	78	27	51	99.6						

Notes: 1. ASTM D 2216, 2. ASTM D 2487, 3. ASTM D 4318, 4. ASTM D 422, 5. ASTM D 2937, 6. ASTM D4546, 7. TEX 145E, 8. ASTM D 2166

Definitions: MC: Moisture Content, Soil Type: USCS (Unified Soil Classification System), LL: Liquid Limit, PL: Plastic Limit, PI: Plasticity Index, NP: Non Plastic



ECS Southwest, LLP
Dallas, TX

Project No: 19:9065

Date : 04/21/2023

Project : Kaufman Justice Center Roads (Kaufman, Texas)

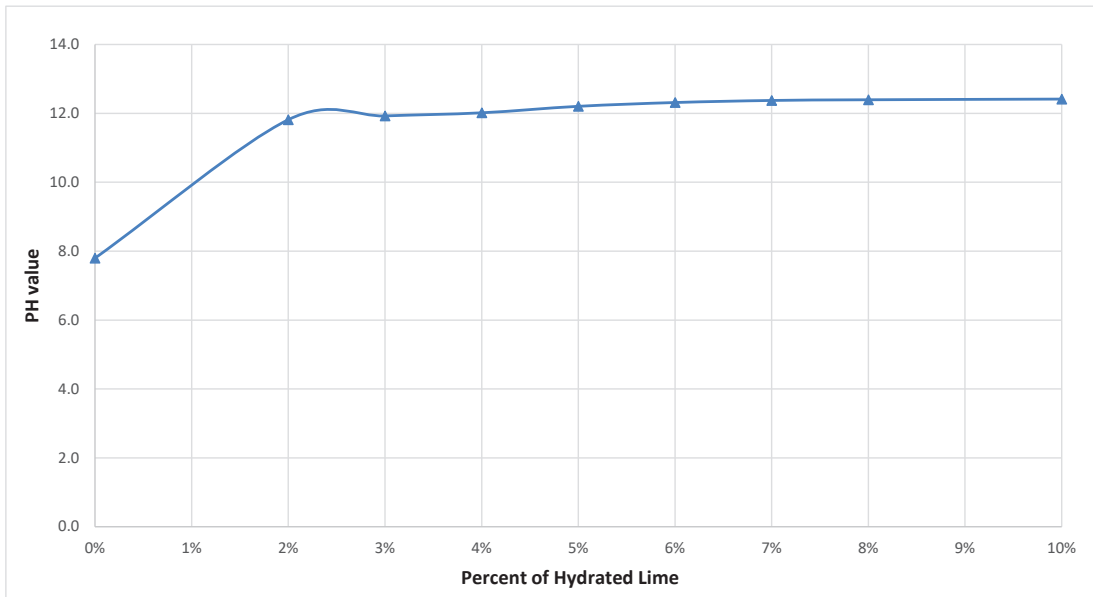
Tested By :KM

Source : B-3, 2-4

Sample Information: Fat Clay, brown, dark brown

Lime pH Series Test

% of Hydrated Lime	Corrected pH	Remarks
0%	7.8	
2%	11.8	
3%	11.9	
4%	12.0	
5%	12.2	
6%	12.3	
7%	12.4	
8%	12.4	
10%	12.4	



APPENDIX D – Supplemental Documents

Pavement Calculations

WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
American Concrete Pavement Association

ESAL Determination by Traffic Factor

Agency: Kaufman, Texas
Company: ECS
Contractor:
Project Description: Kaufman Justice Center Roads
Location: 1900 US-175

Traffic Factor

Estimated Rigid Thickness	8.00 inches
Estimated Structural Number	0.0
Terminal Serviceability	2.3
Design Life	20 years
Annual Growth Rate	0.00 percent
Traffic Input by	Day

Traffic Input by

Total Traffic	2-way
Design Lane Distribution	100 percent
Directional Distribution	50 percent

ESAL Determination by Traffic Input

Traffic Input As

Average Daily Traffic (ADTT)	0.00
> Average Daily Traffic (ADT)	20,000.00
% of Heavy trucks	1.00

ESAL Traffic Factors

Rigid ESAL/Truck	1.70
Flexible ESAL/Truck	0.00

Total Rigid ESAL	1,241,850
Total Flexible ESAL	0

WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
American Concrete Pavement Association

ESAL Determination by Traffic Factor

Agency: Kaufman, Texas
Company: ECS
Contractor:
Project Description: Kaufman Justice Center Roads
Location: 1900 US-175

Traffic Factor

Estimated Rigid Thickness	8.00 inches
Estimated Structural Number	0.0
Terminal Serviceability	2.3
Design Life	20 years
Annual Growth Rate	0.00 percent
Traffic Input by	Day

Traffic Input by

Total Traffic 2-way	
Design Lane Distribution	100 percent
Directional Distribution	50 percent

ESAL Determination by Traffic Input

Traffic Input As

Average Daily Traffic (ADTT)	0.00
> Average Daily Traffic (ADT)	30,000.00
% of Heavy trucks	2.00

ESAL Traffic Factors

Rigid ESAL/Truck	1.70
Flexible ESAL/Truck	0.00

Total Rigid ESAL	3,725,550
Total Flexible ESAL	0

WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
American Concrete Pavement Association

Rigid Design Inputs

Agency: Kaufman, Texas
Company: ECS
Contractor:
Project Description: Kaufman Justice Center Roads
Location: 1900 US-175

Rigid Pavement Design/Evaluation

PCC Thickness	6.38 inches	Load Transfer, J	2.90
Design ESALs	1,241,850	Mod. Subgrade Reaction, k	240 psi/in
Reliability	85.00 percent	Drainage Coefficient, Cd	1.00
Overall Deviation	0.35	Initial Serviceability	4.50
Modulus of Rupture	620 psi	Terminal Serviceability	2.30
Modulus of Elasticity	5,000,000 psi		

Modulus of Subgrade Reaction (k-value) Determination

Resilient Modulus of the Subgrade	0.0 psi
Resilient Modulus of the Subbase	0.0 psi
Subbase Thickness	0.00 inches
Depth to Rigid Foundation	0.00 feet
Loss of Support Value (0,1,2,3)	0.0

Modulus of Subgrade Reaction	240.00 psi/in
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WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
American Concrete Pavement Association

Rigid Design Inputs

Agency: Kaufman, Texas
Company: ECS
Contractor:
Project Description: Kaufman Justice Center Roads
Location: 1900 US-175

Rigid Pavement Design/Evaluation

PCC Thickness	6.49 inches	Load Transfer, J	2.90
Design ESALs	1,241,850	Mod. Subgrade Reaction, k	200 psi/in
Reliability	85.00 percent	Drainage Coefficient, Cd	1.00
Overall Deviation	0.35	Initial Serviceability	4.50
Modulus of Rupture	620 psi	Terminal Serviceability	2.30
Modulus of Elasticity	5,000,000 psi		

Modulus of Subgrade Reaction (k-value) Determination

Resilient Modulus of the Subgrade	0.0 psi
Resilient Modulus of the Subbase	0.0 psi
Subbase Thickness	0.00 inches
Depth to Rigid Foundation	0.00 feet
Loss of Support Value (0,1,2,3)	0.0

Modulus of Subgrade Reaction	200.00 psi/in
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WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
American Concrete Pavement Association

Rigid Design Inputs

Agency: Kaufman, Texas
Company: ECS
Contractor:
Project Description: Kaufman Justice Center Roads
Location: 1900 US-175

Rigid Pavement Design/Evaluation

PCC Thickness	8.06 inches	Load Transfer, J	2.90
Design ESALs	3,725,550	Mod. Subgrade Reaction, k	240 psi/in
Reliability	90.00 percent	Drainage Coefficient, Cd	1.00
Overall Deviation	0.35	Initial Serviceability	4.50
Modulus of Rupture	620 psi	Terminal Serviceability	2.30
Modulus of Elasticity	5,000,000 psi		

Modulus of Subgrade Reaction (k-value) Determination

Resilient Modulus of the Subgrade	0.0 psi
Resilient Modulus of the Subbase	0.0 psi
Subbase Thickness	0.00 inches
Depth to Rigid Foundation	0.00 feet
Loss of Support Value (0,1,2,3)	0.0

Modulus of Subgrade Reaction	240.00 psi/in
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WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
American Concrete Pavement Association

Rigid Design Inputs

Agency: Kaufman, Texas
Company: ECS
Contractor:
Project Description: Kaufman Justice Center Roads
Location: 1900 US-175

Rigid Pavement Design/Evaluation

PCC Thickness	8.16 inches	Load Transfer, J	2.90
Design ESALs	3,725,550	Mod. Subgrade Reaction, k	200 psi/in
Reliability	90.00 percent	Drainage Coefficient, Cd	1.00
Overall Deviation	0.35	Initial Serviceability	4.50
Modulus of Rupture	620 psi	Terminal Serviceability	2.30
Modulus of Elasticity	5,000,000 psi		

Modulus of Subgrade Reaction (k-value) Determination

Resilient Modulus of the Subgrade	0.0 psi
Resilient Modulus of the Subbase	0.0 psi
Subbase Thickness	0.00 inches
Depth to Rigid Foundation	0.00 feet
Loss of Support Value (0,1,2,3)	0.0

Modulus of Subgrade Reaction	200.00 psi/in
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APPENDIX E – Other Information

General Recommendations for Quality Assurance (QA) Testing
TxDOT Concrete Pavement Details Contraction Design (CPCD-14)

General Recommendations for Quality Assurance (QA) Testing*

Item	Parameter	Test Method ASTM unless noted otherwise	Test Frequency or Observations	Requirements
General Earth Fill Below Paving & Structures	Standard Proctor Curve	D698	1 per soil type	--
	Atterberg Limits	D4318	1 per soil type	--
	-200 Mesh Sieve	D1140	1 per soil type	--
	In Situ Density/Moisture Nuclear Gauge	D2922 D3017	1 per each 200 ft. of lane direction per 6 inch lift (2 tests minimum per lift per section)	Density \geq 95% Moisture: PI < 20 (-2 to +5) PI > 20 (0 to +5)
Select Fill	Standard Proctor Curve	D698	1 per soil type	Lean Sandy Clay (CL) or Clayey Sand (SC)
	Atterberg Limits	D4318	1 per soil type	LL \leq 35 6 \leq PI \leq 15
	-200 Mesh Sieve (P 200)	D1140	1 per soil type	P200 \leq 50
	In Situ Density/Moisture Nuclear Gauge	D2922 D3017	1 per each 200 ft. of lane direction per 6 inch lift (2 tests minimum per lift per section)	Density \geq 95% Moisture: (-2 to +5)
Stabilized Subgrade	Standard Proctor Curve	D698	1 per soil type	--
	Atterberg Limits	D4318	1 per soil type	PI \leq 15
	In Situ Density/Moisture Nuclear Gauge	D2922 D3017	1 per each 200 ft. of lane direction (2 tests minimum)	Density \geq 95% Moisture: +3%
	Gradation	D422	1 per 2 Density/Moisture tests	100% Passing 1-3/4" Sieve 60 % passing #4 Sieve
	Depth Check	Survey, drive probe or hand auger	1 per 2 Density/Moisture tests	Min. Specified

*Performed by the Construction Materials Engineering and Testing Company hired by owner.

Item	Parameter	Test Method ASTM unless noted otherwise	Test Frequency or Observations	Requirements
Trench Backfill Below Streets & Structures	Standard Proctor Curve	D698	1 per soil type	--
	Atterberg Limits	D4318	1 per soil type	--
	-200 Mesh Sieve	D1140	1 per soil type	--
	In Situ Density/Moisture Nuclear Gauge	D2922 D3017	1 per each 250 ft. of lane direction per 12 inch lift (2 tests minimum per lift per section)	Density \geq 95% Moisture: -1 to +4
Wall Backfill	Standard Proctor Curve	D698	1 per soil type	--
	Atterberg Limits	D4318	1 per soil type	LL \leq 35 6 \leq PI \leq 15
	-200 Mesh Sieve (P 200)	D1140	1 per soil type	P200 \leq 50
	In Situ Density/Moisture Nuclear Gauge	D2922 D3017	1 per each 200 ft. of lane direction per 8 inch lift 6 inch lifts if hand-operated tampers are used (2 tests minimum per lift per section)	Density \geq 95% Moisture: (-1 to +4)
Crushed Limestone Flexible Base (TxDOT Item 247)	Modified Proctor Curve	D1557	1 per material type	Type A, Grade 1 or better
	Atterberg Limits	D4318	1 per material type	LL \leq 40 PI \leq 12
	Sieve Analysis	D422	1 per material type	0-10 % Passing 1-3/4 inch 45-75 % Passing No. 4 60-85 % Passing No. 40
	Wet Ball Mill	TxDOT	1 per material type	Max. 45
	In Situ Density/Moisture Nuclear Gauge	D2922 D3017	1 per each 200 ft. of lane direction (Streets/Roads)	Density \geq 95% (Modified) Moisture: -2 to +4%

Notes: 1. Table 1 is a guide for sampling and testing. Each of these items may not apply to the specified project.

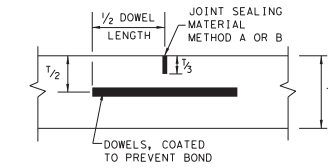
2. Material changes, suspect areas, or other field conditions may require the engineer to increase testing and sampling frequencies.

3. Minimum of two tests per lift.

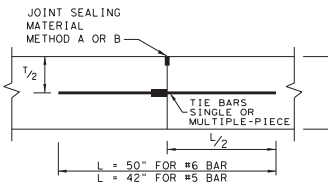
4. The moisture content ranges specified are to be considered as maximum allowable ranges. The contractor may have to maintain a more narrow range (within the maximum allowable) in order to consistently achieve the specified density for some soils or under some conditions.

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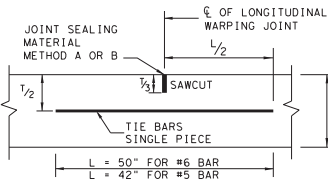
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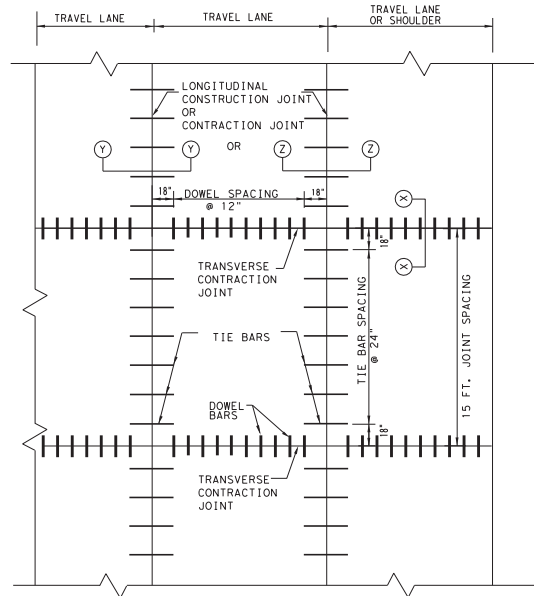
TRANSVERSE CONTRACTION JOINT
SECTION X-X



LONGITUDINAL CONSTRUCTION JOINT
SECTION Y-Y



LONGITUDINAL CONTRACTION JOINT
SECTION Z-Z



TYPICAL PAVEMENT LAYOUT
PLAN VIEW (NOT TO SCALE)

SLAB THICKNESS (IN.)	BAR DIA. AND LENGTH	AVERAGE SPACING (IN.)
6 to 7.5	1" X 18"	12
8 to 10	1 1/4" X 18"	12
>= 10.5	1 1/2" X 18"	12

SLAB THICKNESS T (IN.)	BAR SIZE	AVERAGE SPACING (IN.)
6 to 7.5	#5	24
>= 8	#6	24

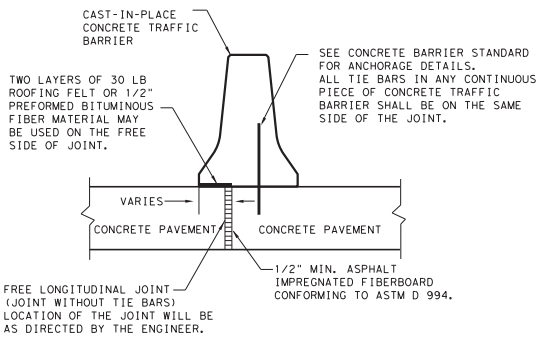
GENERAL NOTES

1. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS. PAVEMENTS WIDER THAN 100 FT. WITHOUT A FREE LONGITUDINAL JOINT ARE NOT COVERED BY THIS STANDARD.
2. FOR FURTHER INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND LOAD TRANSFER DEVICES REFER TO THE GOVERNING SPECIFICATION FOR "CONCRETE PAVEMENT".
3. THE SPACING BETWEEN TRANSVERSE CONTRACTION JOINTS SHALL BE 15 FT. UNLESS OTHERWISE SHOWN IN THE PLANS.
4. TRANSVERSE CONSTRUCTION JOINTS MAY BE FORMED BY USE OF METAL OR WOOD FORMS EQUAL IN DEPTH TO THE DEPTH OF PAVEMENT, OR BY METHODS APPROVED BY THE ENGINEER.
5. USE HAND-OPERATED IMMERSION VIBRATORS TO CONSOLIDATE THE CONCRETE ADJACENT TO ALL THE FORMED JOINTS.
6. PAVEMENT WIDTHS OF MORE THAN 15 FT. SHALL HAVE A LONGITUDINAL JOINT (SECTION Z-Z OR SECTION Y-Y). THESE JOINTS SHALL BE LOCATED WITHIN 6 IN. OF THE LANE LINE UNLESS THE JOINT LOCATION IS SHOWN ELSEWHERE ON THE PLANS.
7. THE JOINT BETWEEN OUTSIDE LANE AND SHOULDER SHALL BE A LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z) UNLESS OTHERWISE SHOWN IN THE PLANS. THE SAW CUT DEPTH FOR THE LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z) SHALL BE ONE THIRD OF THE SLAB THICKNESS (T/3).
8. WHEN TYING CONCRETE GUTTER AT A LONGITUDINAL JOINT, THE TIE BAR LENGTH OR POSITION MAY BE ADJUSTED, PROVIDE 3 IN. OF CONCRETE COVER FROM THE BACK OF GUTTER TO THE END OF TIE BAR.
9. REPLACE MISSING OR DAMAGED TIE BARS WITHOUT ADDITIONAL COMPENSATION BY DRILLING MIN. 10 IN. DEEP AND GROUTING TIE BARS WITH TYPE III, CLASS C EPOXY. MEET THE PULL-OUT TEST REQUIREMENTS IN ITEM 361.
10. WHEN A MONOLITHIC CURB IS SPECIFIED, THE JOINT IN THE CURB SHALL COINCIDE WITH PAVEMENT JOINTS AND MAY BE FORMED BY ANY MEANS APPROVED BY THE ENGINEER.
11. DOWEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1/4 IN. HORIZONTALLY AND VERTICALLY UNLESS OTHERWISE SPECIFIED. WHERE DOWEL BAR BASKETS ARE USED, REMOVE THE SHIPPING WIRES.
12. THE DETAIL FOR JOINT SEALANT AND RESERVOIR IS SHOWN ON STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."

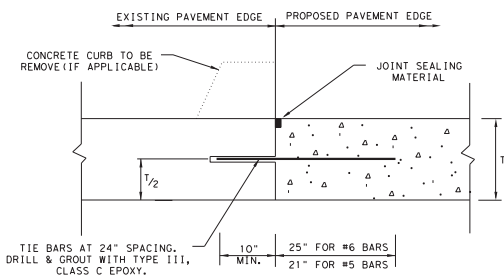
SHEET 1 OF 2

		Design Division Standard	
CONCRETE PAVEMENT DETAILS CONTRACTION DESIGN T-6 to 12 INCHES CPCD-14			
Title: 030514.dwg © TxDOT DECEMBER 2014	DWG: TDDJ CONV: SECT	DWG: HC JOB:	DWG: JN WSDMG:
REVISIONS	DIST:	COUNTY:	SHEET NO.:

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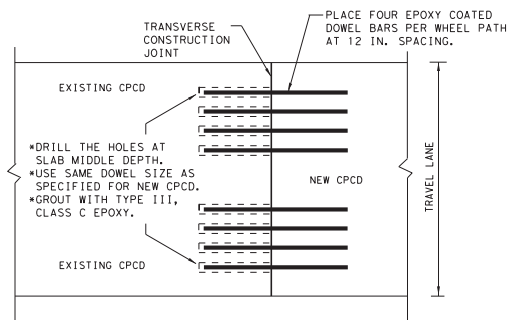


FREE LONGITUDINAL JOINT DETAIL

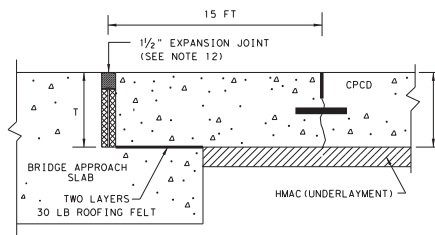


1. BEFORE WIDENING WORK, DEMONSTRATE THAT THE BOND STRENGTH OF THE EPOXY-GROUTED TIE BARS MEETS THE REQUIREMENTS OF PULL-OUT TEST SPECIFIED IN ITEM 361.
2. SPACE TIE BARS AT 24" SPACING. USE #6 BARS FOR 8" AND THICKER SLABS, USE #5 BARS FOR LESS THAN 8" THICK SLABS.
3. THE TRANSVERSE JOINTS OF PROPOSED PAVEMENT SHALL COINCIDE WITH EXISTING PAVEMENT JOINTS UNLESS OTHERWISE SHOWN ON THE PLANS.

LONGITUDINAL WIDENING JOINT DETAIL



TRANSVERSE JOINT DETAIL
EXISTING CPCD TO NEW CPCD
PLAN VIEW (NOT TO SCALE)



TRANSVERSE EXPANSION JOINT DETAIL
AT BRIDGE APPROACH

SHEET 2 OF 2

		Design Division Standard	
CONCRETE PAVEMENT DETAILS CONTRACTION DESIGN T-6 to 12 INCHES CPCD-14			
Title: 030014.dwg © TxDOT: DECEMBER 2014	DW: TDDJ CONV: SECT	DW: HC JOB:	DW: JN HSDMW:
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DIST:	COUNTY:	SHEET NO.:	

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