

MINUTES OF BOARD OF DIRECTORS MEETING
APRIL 28, 2020

THE STATE OF TEXAS
COUNTY OF HARRIS
HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 109

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The Board of Directors (the “Board”) of Harris County Municipal Utility District No. 109 (the “District”) convened in special session on Tuesday, April 28, 2020 at 2:15 p.m. via teleconference pursuant to Section 551.125, Texas Gov’t Code as modified by the temporary suspension of certain provisions thereof pursuant to guidelines issued by the Texas Attorney General and approved by the Governor for use during the COVID-19 statewide disaster. A roll call was taken of the persons present:

Owen H. Parker, President
Chris Green, Vice President
Cheryl Moore, Secretary
Robin Sulpizio, Assistant Secretary
Nancy Frank, Assistant Secretary

All members of the Board were present, thus constituting a quorum. Also attending all or parts of the meeting were Mr. Cory Burton of Municipal Accounts & Consulting, LP, bookkeeper for the District; Mr. Bill Kotlan of BGE, Inc. (“BGE”), engineer for the District; and Mr. Dimitri Millas and Ms. Jane Maher of Norton Rose Fulbright US LLP (“NRF”), attorneys for the District.

Pursuant to Section 551.054, Texas Gov’t Code, as modified by the temporary suspension of certain provisions thereof, notice of the meeting was posted on the District’s website within the time limits prescribed by law. The agenda packet was posted on the website as items became available. Certificates of such posting are attached hereto as *Exhibit A*.

Call to Order. The President called the meeting to order. He noted that the meeting was being held by teleconference in accordance with federal, state and county directives to slow the spread of COVID-19 by avoiding meetings that bring people together. He said the notice of the meeting included a toll-free dial-in number for members of the public to call so they can hear the meeting and address the Board. He noted that the meeting was being recorded and a recording would be available upon public request. The President then set out guidelines for the conduct of the meeting. He asked each speaker to identify themselves before speaking. He then proceeded with the meeting business:

1. **Consider and discuss Standard Utility Agreement and Advance Funding Agreement with Texas Department of Transportation for FM 1960 Widening, and such other matters as may properly come before it.** President Parker recognized Mr. Millas, who presented to and reviewed with the Board the draft Advanced Funding Agreement (“AFA”), a copy of which is attached hereto as *Exhibit B*. He stated that the AFA has not been finalized but that the Texas Department of Transportation (“TxDOT”) does not foresee any changes to the AFA. He stated that the District’s portion of the cost is \$1,273,282.00 and that the District has to pay 45 days prior to the construction bid, which would be sometime in May. Mr. Kotlan noted that under the AFA, the District would provide for the engineering, design, operating and easement services, while TxDOT would handle the relocation of the utilities. He noted that the District’s cost for construction, easements and engineering would be \$1,267,471.00. President Parker requested that the approval of the check be included on the next agenda.

Mr. Kotlan reviewed the Standard Utility Agreement (“SUA”), a copy of which is attached hereto as *Exhibit C*. He noted that the SUA is a standard agreement that TxDOT uses for utilities that need to be relocated.

Upon motion by Director Green, seconded by Director Sulpizio, after full discussion and the question being put to the Board, the Board voted unanimously to approve and authorize the execution of the SUA and AFA subject to the final review from TxDOT and NRF.

THERE BEING NO FURTHER BUSINESS TO COME BEFORE THE BOARD, the meeting was adjourned.

* * *

The above and foregoing minutes were passed and approved by the Board of Directors on May 19, 2020.

/s/ Owen Parker
President, Board of Directors

ATTEST:

/s/ Cheryl Moore
Secretary, Board of Directors



HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 109

NOTICE

In light of the Office of the Governor's statewide disaster declaration related to the spread of the COVID-19 virus, and the temporary suspension by the Texas Attorney General of certain provisions of the Texas Open Meetings Act to allow telephonic or videoconference meetings without requiring a physical meeting location open to the public, take notice that the Board of Directors of Harris County Municipal Utility District No. 109 will meet in special session, via teleconference at 2:15 p.m. on Tuesday, April 28, 2020. Directors, consultants, and the general public may participate in the meeting by dialing the following telephone number toll free: **1-866-203-7023**; **and using conference code 713-651-5259**. Meeting documents will be made available at <https://www.waterdistrict109.com/meetings/index.html> prior to the meeting. At such meeting, the Board will consider and act on the following matters:

1. Consider and discuss Standard Utility Agreement and Advance Funding Agreement with Texas Department of Transportation for FM 1960 widening, and such other matters as may properly come before it.

(SEAL)



Norton Rose Fulbright US LLP
Attorneys for District

Maher, Jane

From: The Texas Network <support@texasnetwork.com>
Sent: Friday, April 24, 2020 12:03 PM
To: Maher, Jane
Subject: RE: HCMUD No. 109 Special Agenda Posting

posted

Thank You!

The Texas Network LLC – Creative Content, Design, and Marketing
Keep us in mind for any of your design, web, video, or brand development needs.
www.texasnetwork.com

From: Maher, Jane <jane.maher@nortonrosefulbright.com>
Sent: Thursday, April 23, 2020 3:27 PM
To: The Texas Network <support@texasnetwork.com>
Subject: HCMUD No. 109 Special Agenda Posting

Hi Russ,

Please post the attached agenda to 109's website and return the COP to me at your earliest convenience.

Thanks,

Jane Maher | Paralegal
Norton Rose Fulbright US LLP
1301 McKinney, Suite 5100, Houston, Texas 77010-3095, United States
Tel +1 713 651 5589 | Fax +1 713 651 5246
jane.maher@nortonrosefulbright.com

NORTON ROSE FULBRIGHT

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STATE OF TEXAS §

COUNTY OF TRAVIS §

**ADVANCE FUNDING AGREEMENT FOR VOLUNTARY UTILITY RELOCATION
CONTRIBUTIONS ON STATE HIGHWAY IMPROVEMENT PROJECTS**

THIS AGREEMENT is made by and between the State of Texas, acting through the Texas Department of Transportation (“State”) and **Harris County MUD 109** (“Utility”),

WITNESSETH

WHEREAS, Transportation Code, Chapters 201, 221, and 361, authorize the State to lay out, construct, maintain, and operate a system of streets, roads and highways that comprise the State Highway System; and,

WHEREAS, Transportation Code, Chapter 203, Subchapter E, Transportation Code §203.092 authorizes the State to regulate the placement of public utility facilities along a state highway; and,

WHEREAS, Texas Transportation Commission Minute Order Number **115550** authorizes the State to undertake and complete a highway improvement generally described as: **widening of FM 1960, from BF 1960A to East of Twigsworth Lane** (“Project”); and,

WHEREAS, Utility possesses facilities that are affected by the above mentioned highway improvement and Utility, and the State agrees that it is more economical or efficient for such relocation to be effected by including said contract in the State’s highway construction contract;

NOW THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties hereto, to be by them kept and performed as hereafter set forth, the State and Utility do agree as follows:

AGREEMENT

1. Time Period Covered

This agreement becomes effective when signed by the last party whose signing makes the agreement fully executed, and the State and Utility will consider it to be in full force and effect until the Project described in this agreement has been completed and accepted by all parties or unless terminated, as provided.

2. Project Funding and Work Responsibilities

A. The State will authorize the performance of only those Project items of work which are eligible for relocation reimbursements or for which Utility has requested and has agreed to pay for as described in Attachment A - Payment Provision and Work Responsibilities, which is attached to and made a part of this contract. In addition to identifying those

items of work to be paid for by payments to the State, Attachment A - Payment Provision and Work Responsibilities, also specifies those Project items of work that are the responsibility of Utility and will be carried out and completed by Utility, at no cost to the State. The Utility shall be responsible for costs that are shown on Attachment B, Estimated Utility Costs, which is attached to and made a part of this agreement.

- B.** If the Utility will perform any work under this contract for which reimbursement will be provided by or through the State, the Utility must complete training before a letter of authority is issued. Training is complete when at least one individual who is working actively and directly on the Project successfully completes and receives a certificate for the course entitled *Local Government Project Procedures and Qualification for the Texas Department of Transportation*. The Utility shall provide the certificate of qualification to the State. The individual who receives the training certificate may be an employee of the Utility or an employee of a firm that has been contracted by the Utility to perform oversight of the Project. The State in its discretion may deny reimbursement if the Utility has not designated a qualified individual to oversee the Project.
- C.** Payment under this contract beyond the end of the current fiscal biennium is subject to availability of appropriated funds. If funds are not appropriated, this contract shall be terminated immediately with no liability to either party.

3. Termination

- A.** This agreement may be terminated in the following manner:
 - 1. By mutual written agreement and consent of both parties;
 - 2. By either party upon the failure of the other party to fulfill the obligations set forth in this agreement; or
 - 3. By the State if it determines that the performance of the Project or utility work is not in the best interest of the State.
- B.** If the agreement is terminated in accordance with the above provisions, Utility will be responsible for the payment of Project costs incurred by the State on behalf of Utility up to the time of termination.

4. Right of Access

If Utility is the owner of any part of the Project site, Utility shall permit the State or its authorized representative access to the site to perform any activities required to execute the work.

5. Adjustments Outside the Project Site

Utility will provide for all necessary right of way and utility adjustments needed for performance of the work on sites not owned or to be acquired by the State.

6. Responsibilities of the Parties and Indemnity

Utility acknowledges that it is not an agent, servant, employee of the State, nor is it engaged in a joint enterprise, and it is responsible for its own acts and deeds and for those of its agents or employees during the performance of the work on the Project. To the extent

permitted by law, Utility agrees to indemnify and hold harmless the State, its agents and employees, from all suits, actions, or claims and from all liability and damages for any and all injuries or damages sustained by any person or property in consequence with the performance of design, construction, maintenance, or operation of the Utility facility. Such indemnity includes but is not limited to any claims or amounts arising or recovered under the "Worker's Compensation Law", the Texas Tort Claims Act, Chapter 101, Texas Civil Practice and Remedies Code; or any other applicable laws or regulations, all as time to time may be amended.

7. Sole Agreement

In the event the terms of the agreement are in conflict with the provisions of any other existing agreements between Utility and the State, the latest agreement shall take precedence over the other agreements in matters related to the Project.

8. Successors and Assigns

The State and Utility each binds itself, its successors, executors, assigns, and administrators to the other party to this agreement and to the successors, executors, assigns, and administrators of such other party in respect to all covenants of this agreement.

9. Amendments

By mutual written consent of the parties, the scope of work and payment provisions of this agreement may be amended prior to its expiration.

10. Inspection and Conduct of Work

Unless otherwise specifically stated in Attachment A - Payment Provision and Work Responsibilities, to this contract, the State will supervise and inspect all work performed hereunder and provide such engineering inspection and testing services as may be required to ensure that the Project is accomplished in accordance with the approved plans and specifications. All correspondence and instructions to the contractor performing the work will be the sole responsibility of the State. Unless otherwise specifically stated in Attachment A to this contract, all work will be performed in accordance with the Utility Accommodation Rules as set forth in 43 Texas Administrative Code §21.31 et. seq. adopted by the State and incorporated in this agreement by reference, or special specifications approved by the State.

11. Maintenance

Upon completion of the Project, Utility will assume responsibility for the maintenance of the completed Utility facility unless otherwise specified in Attachment A to this agreement.

CSJ # 1685-03-058
RCSJ # 1685-03-097
U # U15952
District # 12 - Houston
Code Chart 64 #61233
Project: FM 1960 from BF 1960A to
East of Twigsworth Lane

12. Notices

All notices to either party by the other required under this agreement shall be delivered personally or sent by certified or U.S. mail, postage prepaid, addressed to such party at the following addresses:

Utility:	State:
Harris County MUD 109 c/o Norton Rose Fulbright Attn: Dimitri Millas, Attorney 1301 McKinney Street, Suite 5100 Houston TX 77010-3095	Director of Contract Services Texas Department of Transportation 125 E. 11 th Street Austin, Texas 78701

All notices shall be deemed given on the date so delivered or so deposited in the mail, unless otherwise provided in this agreement. Either party may change the above address by sending written notice of the change to the other party. Either party may request in writing that such notices shall be delivered personally or by certified U.S. mail and such request shall be honored and carried out by the other party.

13. State Auditor

The state auditor may conduct an audit or investigation of any entity receiving funds from the State directly under this contract or indirectly through a subcontract under this contract. Acceptance of funds directly under this contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

14. Signatory Warranty

Each signatory warrants that the signatory has necessary authority to execute this agreement on behalf of the entity represented.

15. Access to Information

The Utility is required to make any information created or exchanged with the state pursuant to this contract, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public at no additional charge to the state.

CSJ # 1685-03-058
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Each party is signing this agreement on the date stated under that party's signature.

THE UTILITY

Owen Parker
President

Date

THE STATE OF TEXAS

Eliza C. Paul, P.E.
Houston District Engineer

Date

DRAFT

ATTACHMENT A

PAYMENT PROVISION AND WORK RESPONSIBILITIES

1. Description of the Work Items

The parties agree that the existing waterline and sanitary sewer line shall be relocated and adjustments shall be made along **FM 1960, from BF 1960A to East of Twigsworth Lane**. The waterline facilities shall be owned, operated, and maintained by Utility from and after completion and final acceptance by the State and Utility. The estimated total construction cost for the relocated and adjusted facilities is \$1,605,843.25. The parties agree that it is their intent to complete the relocation improvements within this estimate of cost.

2. Actual Cost Agreement

Utility will be responsible for paying all costs associated with the planning, specification, and estimate (PS&E) development, and construction of the proposed utility work to the extent such is not reimbursed pursuant to state law. All the costs associated with construction of the waterline and sanitary sewer line items for the Project shall be provided as defined under the Standard Utility Agreement, Utility Joint Use Agreement, and/or the Agreement to Contribute Funds executed between the State and Utility.

3. Schedule of Payments

- A.** At least forty-five (45) days prior to the date set for receipt of the construction bids, the Utility shall remit its remaining financial share for the State's estimated construction oversight and construction costs. Utility must advance to the State one hundred percent (100%) of its share of the estimated Project utility construction costs. The amount to be advanced for the utility improvements is estimated to be \$1,273,282.00. (See Attachment B – Estimated Utility Costs)
- B.** In the event the State determines that additional funding is required by the Utility at any time during the Project, the State will notify the Utility in writing. The Utility is responsible for one hundred percent (100%) of the authorized project cost and any overruns. The Utility will make payment to the State within thirty (30) days from receipt of the State's written notification.
- C.** Whenever funds are paid by the Utility to the State under this agreement, the Utility will remit a warrant made payable to the "Texas Department of Transportation." The warrant will be deposited by the State and managed by the State. Until the final Project accounting, funds may only be applied by the State to the Project.
- D.** Upon completion of the Project, the State will perform an audit of the Project costs. Any funds due by the Utility, the State, or the Federal Government will be promptly paid by the owing party.

4. Work Responsibilities

- A.** The **Utility** shall provide the following services under this contract:
 - i.** Responsible for engaging the services of a Texas Registered Professional Engineer to prepare drawings and technical specifications for waterline and sanitary sewer relocations and adjustments along **FM 1960, from BF 1960A to East of Twigsworth Lane**.

- ii. Provide the plans and specifications to the State to include in the current planning specifications and estimate package being prepared by representatives of the Texas Department of Transportation's Houston District Office.
- iii. Secure all necessary permitting as may be required for the installation of the waterline and sanitary sewer line.
- iv. Arrange and coordinate with the contractor, through the State, materials and equipment testing, rejection of all work not conforming to minimum requirements of the construction contract documents, maintenance of the proposed waterline and sanitary sewer line during construction, and the relocation of waterline and sanitary sewer line and connection of services to customers.
- v. Advise the State of work that Utility determines should be corrected or rejected.
- vi. Arrange, observe, and inspect all acceptance testing and notify the State of the results of these activities.
- vii. Provide inspection services for the construction, notify the State of defects and deficiencies in the work, and observe actions of the contractor to correct such defects and deficiencies.
- viii. Assume all responsibility for the maintenance of the existing waterline and sanitary sewer line during and upon completion of the construction contract.
- ix. Ensure all Texas Commission on Environmental Quality and all other regulatory rules, regulations and laws are strictly adhered to.
- x. Prepare and submit both a certificate of substantial completion and a list of observed items requiring completion or correction for the relocations and adjustments to the Project Engineer for concurrence.
- xi. Coordinate all construction activities performed by Utility's staff for the relocations and adjustments through the Project Engineer.

B. The State shall provide the following services under this contract:

- i. Combine the waterline and sanitary sewer line relocation and adjustment plans with the plans being prepared for the Project.
- ii. Review and approve the final construction plans prior to any construction-related activities. In order to ensure federal and/or state funding eligibility, projects must be authorized by the State prior to advertising for construction.
- iii. Advertise for construction bids, issue bid proposals, receive and tabulate the bids, and award and administer the contract for construction of the Project.
- iv. Negotiate and administer all field changes and change orders required for the Project. All change orders increasing construction costs for Utility's Project shall be submitted to Utility for review and approval together with an evaluation. Utility agrees to review and either approve or disapprove all change orders within five (5) business days after receipt of such order unless Utility Board's approval is necessary in which case Utility shall bring the item to Utility Board as soon as reasonably possible.
- v. Provide overall project management to supervise the day-to-day activities of the construction and monitor the activities of the contractor to promote the timely and efficient completion of the Project in accordance with the approved Plans and Specifications and construction schedule.

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Project: FM 1960 from BF 1960A to
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- vi. Conduct field observations and coordinate with Utility's inspectors and the contractor to cure defects and deficiencies in the construction prior to final acceptance.
- vii. Make timely payment to the contractor for work performed in connection with the Project.
- viii. Ensure access and permit Utility's inspectors and other authorized representatives to inspect the waterline construction at all times.
- ix. Conduct and coordinate final inspection of the Project in the presence of Utility's Engineer and Inspector, transmit final list of items to be completed or repaired and observe contractor correction of same.
- x. Maintain job file.

DRAFT

ATTACHMENT B ESTIMATED UTILITY COSTS

Based on various calculations, following are those amounts due and payable for Utility's costs associated with this project.

Total Estimated Costs
\$1,605,843.25

Less Betterment Amount Due from Utility
\$0

Amount of total utility relocation Costs
\$1,605,843.25

Estimated Amount Eligible for Reimbursement
(Calculated eligibility Ratio – 20.71%)
\$332,562.40

Amount of Utility Adjustment Due from Utility
\$1,273,282.00

Estimated amount to be included in Construction Agreement

A. Betterment	\$0
B. Utility Adjustment	<u>\$1,605,843.25</u>

GRAND TOTAL **\$1,605,843.25**

Betterment Ratio Calculation

Estimated Betterment Costs

1. \$0
2. \$0

Betterment Calculation:

Total Costs of Betterment (Estimated)	-	<u>\$0</u>
Total Costs of Project (Estimated)	-	\$1,605,843.25

***Betterment Percentage for final cost determination: .0% of final cost of relocation
Determination of Betterment – Comparison of estimated cost to replace “as is”
versus estimated costs associated with the betterment.***

Item A: N/A

Item B: N/A

STANDARD UTILITY AGREEMENT

U-Number: **U15952**

District: Houston
Federal Project No.: N/A
ROW CSJ: 1685-03-058
Highway Project Letting Date: July 2020

County: Harris
Highway: FM 1960
From: BF 1960A
To: East of Twigsworth Ln

This Agreement by and between the State of Texas, acting by and through the Texas Transportation Commission, ("**State**"), and HCMUD 109, ("**Utility**"), acting by and through its duly authorized representative, shall be effective on the date of approval and execution by and on behalf of the **State**.

WHEREAS, the **State** has deemed it necessary to make certain highway improvements as designated by the **State** and approved by the Federal Highway Administration within the limits of the highway as indicated above;

WHEREAS, the proposed highway improvements will necessitate the adjustment, removal, and/or relocation of certain facilities of the **Utility** as indicated in the following statement of work: MUD 109 water and wastewater pipeline relocations on FM 1960 W that conflict with the roadway expansion from BF 1960A to east of Twigsworth Lane (STA 2585+05 to STA 2795+00). The pipe diameters of the proposed PVC MUD 109 water line range from 6"-12" and span a length of 3,236 feet. The pipe diameter of the proposed ductile iron MUD 109 wastewater line is 8" and spans a length of 3,351 feet. The easement acquisition is targeted to be completed in November 2020 with construction work starting in December 2020 and ending 8-12 months thereafter.; and more specifically as shown in the **Utility's** plans, specifications and estimated costs, which are attached hereto as Attachment "A".

WHEREAS, the **State** will participate in the costs of the adjustment, removal, and relocation of certain facilities to the extent as may be eligible for State and/or Federal participation.

WHEREAS, the **State**, upon receipt of evidence it deems sufficient, acknowledges the **Utility's** interest in certain lands and facilities that entitle it to reimbursement for the adjustment, removal, and relocation of certain of its facilities located upon the lands as indicated in the statement of work above.

NOW, THEREFORE, BE IT AGREED:

The **State** will pay to the **Utility** the costs incurred in adjustment, removal, and relocation of the **Utility's** facilities up to the amount said costs may be eligible for **State** participation.

All conduct under this agreement, including but not limited to the adjustment, removal, and relocation of the facility, the development and reimbursement of costs, any environmental requirements, and retention of records will be in accordance with all applicable federal and state laws, rules and regulations, including, without limitation, the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act, 42 U.S.C. §§ 4601, et seq., the National Environmental Policy Act, 42 U.S.C. §§ 4231, et seq., the Buy America provisions of 23 U.S.C. § 313 and 23 CFR 635.410, as amended, Texas Transportation Code § 223.045, the Utility Relocations, Adjustments, and Reimbursements provisions of 23 CFR 645, Subpart A, and the Utility Accommodation provisions of 23 CFR 645, Subpart B.

The **Utility** shall supply, upon request by the **State**, proof of compliance with the aforementioned laws, rules, regulations, and guidelines prior to the commencement of the adjustment, removal, and relocation of the facility.

The **Utility** shall comply with the Buy America provisions of 23 U.S.C. § 313, 23 CFR 635.410, as amended, and the Steel and Iron Preference provisions of Texas Transportation Code § 223.045 and, when products that are composed predominately of steel and/or iron are incorporated into the permanent installation of the utility facility,

Initial Date
TxDOT

Initial Date
Utility

use domestically manufactured products. TxDOT Form 1818 (Material Statement), along with all required attachments, must be submitted, prior to the commencement of the adjustment, removal, and relocation of the facility, as evidence of compliance with the aforementioned provisions. Failure to submit the required documentation or to comply with the Buy America, and Steel and Iron Preference requirements shall result in: (1) the **Utility** becoming ineligible to receive any contract or subcontract made with funds authorized under the Intermodal Surface Transportation Efficiency Act of 1991; (2) the **State** withholding reimbursement for the costs incurred by the **Utility** in the adjustment, removal, and relocation of the **Utility's** facilities; and (3) removal and replacement of the non-compliant products.

The **Utility** agrees to develop relocation or adjustment costs by accumulating actual direct and related indirect costs in accordance with a work order accounting procedure prescribed by the **State**, or may, with the **State's** approval, accumulate actual direct and related indirect costs in accordance with an established accounting procedure developed by the **Utility**. Bills for work hereunder are to be submitted to the **State** not later than one (1) year after completion of the work. Failure to submit the request for final payment, in addition to all supporting documentation, within one (1) year after completion of the work may result in forfeiture of payment for said work.

When requested, the **State** will make intermediate payments at not less than monthly intervals to the **Utility** when properly billed. Such payments will not exceed 90 percent (90%) of the eligible cost as shown in each such billing. Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

The **State** will, upon satisfactory completion of the adjustment, removal, and/or relocation and upon receipt of final billing prepared in an approved form and manner and accounting for any intermediate payments, make payment in the amount of 90 percent (90%) of the eligible costs as shown in the final billing prior to audit and after such audit shall make an additional final payment totaling the reimbursement amount found eligible for **State** reimbursement.

Alternatively, the **State** agrees to pay the **Utility** an agreed lump sum of \$331,045 as supported by the attached estimated costs. The **State** will, upon satisfactory completion of the adjustments, removals, and relocations and upon receipt of a final billing, make payment to the **Utility** in the agreed amount.

Upon execution of this agreement by both parties hereto, the **State** will, by written notice, authorize the **Utility** to perform such work diligently and to conclude said adjustment, removal, and relocation by the stated completion date which is attached hereto in Attachment "C". The completion date shall be extended for delays caused by events outside the **Utility's** control, including an event of Force Majeure, which shall include a strike, war or act of war (whether an actual declaration of war is made or not), insurrection, riot, act of public enemy, accident, fire, flood or other act of God, sabotage, or other events, interference by the **State** or any other party with the **Utility's** ability to proceed with the work, or any other event in which the **Utility** has exercised all due care in the prevention thereof so that the causes of other events are beyond the control and without the fault or negligence of the **Utility**.

This agreement in its entirety consists of the following elements:

1. Standard Utility Agreement – ROW-U-35;
2. Plans, Specifications, and Estimated Costs (Attachment "A");
3. Accounting Method (Attachment "B");
4. Schedule of Work (Attachment "C");
5. Statement Covering Contract Work – ROW-U-48 (Attachment "D");
6. Utility Joint Use Acknowledgment – ROW-U-JUAA and/or Utility Installation Request – Form 1082 (Attachment "E");
7. Eligibility Ratio (Attachment "F");
8. Betterment Calculation and Estimate (Attachment "G"); and
9. Proof of Property Interest – ROW-U-1A, ROW-U-1B, or ROW-U-1C (Attachment "H").

All attachments are included herein as if fully set forth. In the event it is determined that a substantial change from the statement of work contained in this agreement is required, reimbursement therefore shall be limited to

_____ Initial	_____ Date	_____ Initial	_____ Date
TxDOT		Utility	

costs covered by a modification or amendment of this agreement or a written change or extra work order approved by the **State** and the **Utility**.

This agreement is subject to cancellation by the **State** at any time up to the date that work under this agreement has been authorized, and such cancellation will not create any liability on the part of the **State**. However, the **State** will review and reimburse the **Utility** for eligible costs incurred by the **Utility** in preparation of this Agreement.

The State Auditor may conduct an audit or investigation of any entity receiving funds from the **State** directly under this contract or indirectly through a subcontract under this contract. Acceptance of funds directly under this contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the State Auditor, under the direction of the Legislative Audit Committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

The **Utility** by execution of this agreement does not waive any of the rights that the **Utility** may have within the limits of the law.

It is expressly understood that the **Utility** conducts the adjustment, removal, and relocation at its own risk, and that the **State** makes no warranties or representations regarding the existence or location of utilities currently within its right of way.

The signatories to this agreement warrant that each has the authority to enter into this agreement on behalf of the party represented.

UTILITY

EXECUTION RECOMMENDED:

Utility: Harris County MUD No. 109
Name of Utility

Director of TP&D (or designee), Houston District

By: _____
Authorized Signature

Owen Parker
Print or Type Name

Title: Board President

Date: _____

<p>THE STATE OF TEXAS</p> <p>Executed and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies or work programs heretofore approved and authorized by the Texas Transportation Commission.</p> <p>By: _____ <i>District Engineer (or designee)</i></p> <p>Date: _____</p>
--

Initial Date
TxDOT

Initial Date
Utility

Attachment "A"

Plans, Specifications, and Estimated Costs

All material items that must meet Buy America or Steel and Iron Preference Provision requirements must be indicated with an asterisk (*).

Initial Date
TxDOT

Initial Date
Utility



**ENGINEER'S OPINION OF TXDOT REIMBURSEMENT
FM 1960, CSJ 1685-03-058
MUD 109 - Option B, Summary**

ELIGIBILITY RATIO

20.71%

DATE:

4/17/2020

	Cost	HCMUD 109 Portion	TxDOT Portion
Construction	\$1,377,135	\$1,091,938	\$285,198
Easements	\$11,155	\$8,845	\$2,310
Engineering	\$210,225	\$166,688	\$43,537
TOTAL	\$1,598,515	\$1,267,471	\$331,045



ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
 FM 1960, CSJ 1685-03-098
 MUD 109, Option B - Conflict 1

DATE: 4/17/2020

ITEM NUMBER	BUY AMERICA	ITEM	CODE	DESCRIPTION	UNIT	UNIT COST	TOTAL QTY	COST
01		162	6002	BLOCK SODDING	SY	\$6.00	270	\$1,620.00
02		166	6001	FERTILIZER	AC	\$700.00	0	\$70.00
03		168	6001	VEGETATIVE WATERING	MG	\$16.00	12	\$192.00
04		402	6001	TRENCH EXCAVATION PROTECTION	LF	\$2.40	3360	\$8,064.00
05		7017	6088	AIR RELEASE VALVE (2 IN)	EA	\$12,000.00	3	\$36,000.00
06		7017	6110	POST CONSTRUCTION TELEVISION INSPECTION	LF	\$2.40	3360	\$8,064.00
07		7017	6129	REMOVE EXIST SAN SWR PIPE (8IN)	LF	\$30.00	3351	\$100,530.00
08		7017	6140	PRE-CONSTRUCTION TELEVISION INSPECTION	LF	\$3.60	3360	\$12,096.00
09	*	7017	6141	SAN SEWER (8IN) (DI) (RESTRAINED JT)	LF	\$190.00	3360	\$638,400.00
10		7017		BYPASS SYSTEM	LS		1	\$0.00
11		7017		DUCTILE IRON FITTINGS	TON		1	\$0.00
12		7049	6017	WATER MAIN PIPE (PVC)(12IN)(DR18)(C900)	LF	\$84.00	922	\$77,448.00
13		7049	6068	JCK TUN BOR OR AUG CSG (STL) (16IN)	LF	\$500.00	135	\$67,500.00
14		7049	6076	SERVICE LINE (SHORT SIDE) (1-1/2" TO 2")	EA	\$2,400.00	4	\$9,600.00
15		7049	6077	SERVICE LINE (LONG SIDE) (1-1/2" TO 2")	EA	\$2,800.00	3	\$8,400.00
16	*	7049	6104	FIRE HYDRANT ASSEMBLY	EA	\$4,800.00	10	\$48,000.00
17		7049	6115	REMOVING WATER VALVE AND BOX	EA	\$400.00	12	\$4,800.00
18		7049	6116	REMOVING AND RELOCATING METER AND BOX	EA	\$350.00	1	\$350.00
19		7049	6119	REMOVING AND SALVAGING FIRE HYDRANT	EA	\$450.00	10	\$4,500.00
20		7049	6127	CUT AND PLUG WATER MAIN (8IN)	EA	\$1,500.00	2	\$3,000.00
21		7049	6129	CUT AND PLUG WATER MAIN (12IN)	EA	\$1,800.00	2	\$3,600.00
22		7049	6140	WET CONNECTION (8IN)	EA	\$1,800.00	2	\$3,600.00
23		7049	6142	WET CONNECTION (12IN)	EA	\$4,800.00	3	\$14,400.00
24		7049	6176	TRENCH EXCAVATION PROTECTION	LF	\$2.40	3348	\$8,035.20
25	*	7049	6185	CASING STEEL (16 IN)	LF	\$330.00	135	\$44,550.00
26		7049	6200	WTR MAIN PIPE(PVC)(6 IN)(DR 18) (C900)	LF	\$54.00	130	\$7,020.00
27		7049	6201	WTR MAIN PIPE(PVC)(8 IN)(DR 18) (C900)	LF	\$98.00	2452	\$240,296.00
28		7049	6213	2" BLOW-OFF VALVE	EA	\$6,000.00	2	\$12,000.00
29		7049	XXXX	1" AIR RELEASE VALVE	EA	\$5,000.00	3	\$15,000.00
30		7049		GROUT ABANDONED LINES	CY		82	\$0.00
31		7049		12" GATE VALVE AND BOX	EA		2	\$0.00
32		7049		8" GATE VALVE AND BOX	EA		7	\$0.00
33		7049		DUCTILE IRON FITTINGS	TON		3	\$0.00
							Total	\$1,377,135



ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FM 1960, CSJ 1685-03-098
MUD 109, Option B - Summary

DATE: 4/17/2020

Conflict #	Total Cost	Eligibility Ratio	HCMUD 109 Portion	TxDOT Portion
1	\$457,160	58.71%	\$188,761	\$268,399
2	\$116,821	14.38%	\$100,022	\$16,799
3	\$803,154	0.00%	\$803,154	\$0
TOTAL	\$1,377,135	20.71%	\$1,091,938	\$285,198



ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
FM 1960, CSJ 1685-03-098
MUD 109, Option B - Conflict 1

DATE: 4/17/2020

ITEM NUMBER	BUY AMERICA	ITEM	CODE	DESCRIPTION	UNIT	UNIT COST	TOTAL QTY	COST
01		162	6002	BLOCK SODDING	SY	\$6.00	270	\$1,620.00
02		166	6001	FERTILIZER	AC	\$700.00	0.10	\$70.00
03		168	6001	VEGETATIVE WATERING	MG	\$16.00	12.00	\$192.00
04		402	6001	TRENCH EXCAVATION PROTECTION	LF	\$2.40	0	\$0.00
05		7017	6088	AIR RELEASE VALVE (2 IN)	EA	\$12,000.00	0	\$0.00
06		7017	6110	POST CONSTRUCTION TELEVISION INSPECTION	LF	\$2.40	0	\$0.00
07		7017	6129	REMOVE EXIST SAN SWR PIPE (8IN)	LF	\$30.00	0	\$0.00
08		7017	6140	PRE-CONSTRUCTION TELEVISION INSPECTION	LF	\$3.60	0	\$0.00
09	*	7017	6141	SAN SEWER (8IN) (DI) (RESTRAINED JT)	LF	\$190.00	0	\$0.00
10		7017		BYPASS SYSTEM	LS		0	\$0.00
11		7017		DUCTILE IRON FITTINGS	TON		0.0	\$0.00
12		7049	6017	WATER MAIN PIPE (PVC)(12IN)(DR18)(C900)	LF	\$84.00	867	\$72,828.00
13		7049	6068	JCK TUN BOR OR AUG CSG (STL) (16IN)	LF	\$500.00	40	\$20,000.00
14		7049	6076	SERVICE LINE (SHORT SIDE) (1-1/2" TO 2")	EA	\$2,400.00	4	\$9,600.00
15		7049	6077	SERVICE LINE (LONG SIDE) (1-1/2" TO 2")	EA	\$2,800.00	3	\$8,400.00
16	*	7049	6104	FIRE HYDRANT ASSEMBLY	EA	\$4,800.00	9	\$43,200.00
17		7049	6115	REMOVING WATER VALVE AND BOX	EA	\$400.00	12	\$4,800.00
18		7049	6116	REMOVING AND RELOCATING METER AND BOX	EA	\$350.00	1	\$350.00
19		7049	6119	REMOVING AND SALVAGING FIRE HYDRANT	EA	\$450.00	9	\$4,050.00
20		7049	6127	CUT AND PLUG WATER MAIN (8IN)	EA	\$1,500.00	1	\$1,500.00
21		7049	6129	CUT AND PLUG WATER MAIN (12IN)	EA	\$1,800.00	1	\$1,800.00
22		7049	6140	WET CONNECTION (8IN)	EA	\$1,800.00	1	\$1,800.00
23		7049	6142	WET CONNECTION (12IN)	EA	\$4,800.00	1	\$4,800.00
24		7049	6176	TRENCH EXCAVATION PROTECTION	LF	\$2.40	3175	\$7,620.00
25	*	7049	6185	CASING STEEL (16 IN)	LF	\$330.00	40	\$13,200.00
26		7049	6200	WTR MAIN PIPE(PVC)(6 IN)(DR 18) (C900)	LF	\$54.00	120	\$6,480.00
27		7049	6201	WTR MAIN PIPE(PVC)(8 IN)(DR 18) (C900)	LF	\$98.00	2325	\$227,850.00
28		7049	6213	2" BLOW-OFF VALVE	EA	\$6,000.00	2	\$12,000.00
29		7049	XXXX	1" AIR RELEASE VALVE	EA	\$5,000.00	3	\$15,000.00
30		7049		GROUT ABANDONED LINES	CY		64	\$0.00
31		7049		12" GATE VALVE AND BOX	EA		1	\$0.00
32		7049		8" GATE VALVE AND BOX	EA		7	\$0.00
33		7049		DUCTILE IRON FITTINGS	TON		2.0	\$0.00
							Total	\$457,160
							Eligibility Ratio	58.71%
							Anticipated MUD Portion	\$188,761
							Anticipated TxDOT Portion	\$268,399



ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
 FM 1960, CSJ 1685-03-098
 MUD 109, Option B - Conflict 2

DATE: 4/17/2020

ITEM NUMBER	BUY AMERICA	ITEM	CODE	DESCRIPTION	UNIT	UNIT COST	TOTAL QTY	COST
01		162	6002	BLOCK SODDING	SY	\$6.00	0	\$0.00
02		166	6001	FERTILIZER	AC	\$700.00	0.00	\$0.00
03		168	6001	VEGETATIVE WATERING	MG	\$16.00	0.00	\$0.00
04		402	6001	TRENCH EXCAVATION PROTECTION	LF		0	\$0.00
05		7017	6088	AIR RELEASE VALVE (2 IN)	EA	\$12,000.00	0	\$0.00
06		7017	6110	POST CONSTRUCTION TELEVISION INSPECTION	LF	\$2.40	0	\$0.00
07		7017	6129	REMOVE EXIST SAN SWR PIPE (8IN)	LF	\$30.00	0	\$0.00
08		7017	6140	PRE-CONSTRUCTION TELEVISION INSPECTION	LF	\$3.60	0	\$0.00
09	*	7017	6141	SAN SEWER (8IN) (DI) (RESTRAINED JT)	LF	\$190.00	0	\$0.00
10		7017		BYPASS SYSTEM	LS	\$12,000.00	0	\$0.00
11		7017		DUCTILE IRON FITTINGS	TON		0	\$0.00
12		7049	6017	WATER MAIN PIPE (PVC)(12IN)(DR18)(C900)	LF	\$84.00	55	\$4,620.00
13		7049	6068	JCK TUN BOR OR AUG CSG (STL) (16IN)	LF	\$500.00	95	\$47,500.00
14		7049	6076	SERVICE LINE (SHORT SIDE) (1-1/2" TO 2")	EA	\$2,400.00	0	\$0.00
15		7049	6077	SERVICE LINE (LONG SIDE) (1-1/2" TO 2")	EA	\$2,800.00	0	\$0.00
16	*	7049	6104	FIRE HYDRANT ASSEMBLY	EA	\$4,800.00	1	\$4,800.00
17		7049	6115	REMOVING WATER VALVE AND BOX	EA	\$480.00	0	\$0.00
18		7049	6116	REMOVING AND RELOCATING METER AND BOX	EA	\$155.00	0	\$0.00
19		7049	6119	REMOVING AND SALVAGING FIRE HYDRANT	EA	\$450.00	1	\$450.00
20		7049	6127	CUT AND PLUG WATER MAIN (8IN)	EA	\$1,500.00	1	\$1,500.00
21		7049	6129	CUT AND PLUG WATER MAIN (12IN)	EA	\$1,800.00	1	\$1,800.00
22		7049	6140	WET CONNECTION (8IN)	EA	\$1,800.00	1	\$1,800.00
23		7049	6142	WET CONNECTION (12IN)	EA	\$4,800.00	2	\$9,600.00
24		7049	6176	TRENCH EXCAVATION PROTECTION	LF	\$2.40	173	\$415.20
25	*	7049	6185	CASING STEEL (16 IN)	LF	\$330.00	95	\$31,350.00
26		7049	6200	WTR MAIN PIPE(PVC)(6 IN)(DR 18) (C900)	LF	\$54.00	10	\$540.00
27		7049	6201	WTR MAIN PIPE(PVC)(8 IN)(DR 18) (C900)	LF	\$98.00	127	\$12,446.00
28		7049	6213	2" BLOW-OFF VALVE	EA	\$6,000.00	0	\$0.00
29		7049	XXXX	1" AIR RELEASE VALVE	EA	\$5,000.00	0	\$0.00
30		7049		GROUT ABANDONED LINES	CY		18	\$0.00
31		7049		12" GATE VALVE AND BOX	EA		1	\$0.00
32		7049		8" GATE VALVE AND BOX	EA		0	\$0.00
33		7049		DUCTILE IRON FITTINGS	TON		1.0	\$0.00

Total	\$116,821
Eligibility Ratio	14.38%
Anticipated MUD Portion	\$100,022
Anticipated TxDOT Portion	\$16,799



ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
 FM 1960, CSJ 1685-03-098
 MUD 109, Option B - Conflict 3

DATE: 4/17/2020

ITEM NUMBER	BUY AMERICA	ITEM	CODE	DESCRIPTION	UNIT	UNIT COST	TOTAL QTY	COST
01		162	6002	BLOCK SODDING	SY	\$6.00	0	\$0.00
02		166	6001	FERTILIZER	AC	\$700.00	0.00	\$0.00
03		168	6001	VEGETATIVE WATERING	MG	\$16.00	0.00	\$0.00
04		402	6001	TRENCH EXCAVATION PROTECTION	LF	\$2.40	3360	\$8,064.00
05		7017	6088	AIR RELEASE VALVE (2 IN)	EA	\$12,000.00	3	\$36,000.00
06		7017	6110	POST CONSTRUCTION TELEVISION INSPECTION	LF	\$2.40	3360	\$8,064.00
07		7017	6129	REMOVE EXIST SAN SWR PIPE (8IN)	LF	\$30.00	3351	\$100,530.00
08		7017	6140	PRE-CONSTRUCTION TELEVISION INSPECTION	LF	\$3.60	3360	\$12,096.00
09	*	7017	6141	SAN SEWER (8IN) (DI) (RESTRAINED JT)	LF	\$190.00	3360	\$638,400.00
10		7017		BYPASS SYSTEM	LS		1	\$0.00
11		7017		DUCTILE IRON FITTINGS	TON		1	\$0.00
12		7049	6017	WATER MAIN PIPE (PVC)(12IN)(DR18)(C900)	LF	\$84.00	0	\$0.00
13		7049	6068	JCK TUN BOR OR AUG CSG (STL) (16IN)	LF	\$500.00	0	\$0.00
14		7049	6076	SERVICE LINE (SHORT SIDE) (1-1/2" TO 2")	EA	\$2,400.00	0	\$0.00
15		7049	6077	SERVICE LINE (LONG SIDE) (1-1/2" TO 2")	EA	\$2,800.00	0	\$0.00
16	*	7049	6104	FIRE HYDRANT ASSEMBLY	EA	\$4,800.00	0	\$0.00
17		7049	6115	REMOVING WATER VALVE AND BOX	EA	\$480.00	0	\$0.00
18		7049	6116	REMOVING AND RELOCATING METER AND BOX	EA	\$155.00	0	\$0.00
19		7049	6119	REMOVING AND SALVAGING FIRE HYDRANT	EA	\$450.00	0	\$0.00
20		7049	6127	CUT AND PLUG WATER MAIN (8IN)	EA	\$1,500.00	0	\$0.00
21		7049	6129	CUT AND PLUG WATER MAIN (12IN)	EA	\$1,800.00	0	\$0.00
22		7049	6140	WET CONNECTION (8IN)	EA	\$1,800.00	0	\$0.00
23		7049	6142	WET CONNECTION (12IN)	EA	\$4,800.00	0	\$0.00
24		7049	6176	TRENCH EXCAVATION PROTECTION	LF	\$2.40	0	\$0.00
25	*	7049	6185	CASING STEEL (16 IN)	LF	\$330.00	0	\$0.00
26		7049	6200	WTR MAIN PIPE(PVC)(6 IN)(DR 18) (C900)	LF	\$54.00	0	\$0.00
27		7049	6201	WTR MAIN PIPE(PVC)(8 IN)(DR 18) (C900)	LF	\$98.00	0	\$0.00
28		7049	6213	2" BLOW-OFF VALVE	EA	\$6,000.00	0	\$0.00
29		7049	XXXX	1" AIR RELEASE VALVE	EA	\$5,000.00	0	\$0.00
30		7049		GROUT ABANDONED LINES	CY		0	\$0.00
31		7049		12" GATE VALVE AND BOX	EA		0	\$0.00
32		7049		8" GATE VALVE AND BOX	EA		0	\$0.00
33		7049		DUCTILE IRON FITTINGS	TON		0	\$0.00

Total	\$803,154
Eligibility Ratio	0.00%
Anticipated MUD Portion	\$803,154
Anticipated TxDOT Portion	\$0

MUD 109 Relocation - Easement Costs

<u>Tract</u>	<u>PIDN</u>	<u>Legal Description</u>	<u>Owner/Address/Primary Contact/Phone #</u>	<u>Type (W/S)</u>	<u>Linear Feet</u>	<u>Sq. Ft.</u>	<u>FOL Offer \$</u>	<u>Comments</u>
TX-HA-109-001	1020630000008	RES A BLK 1 BELLEAU WOOD EAST	WU & CHEN INVESTMENT LLC 10411 CHAMOMILE GREEN CT HOUSTON TX 77070-5586 Cong Ian Chen Shrina 832-270-7786	W	<u>145.00</u>	<u>2900</u>	\$3185	11-1-19: Vesting complete. Waiting on approved IOL letter, offer amount and easement. Investigating parcels for possible access. 12-3-19: Sent IOL packet. 12-6-19: Agent contacted Mr. Chen. Will have his representative get in touch with us next week to discuss. 12-12-19: Spoke to Ms. Wu. She and her husband will talk about the easement and price and get back to us next week. 1-8-20: CLOSED
TX-HA-109-002	1153460000001	RES A ATASCOCITA WEST SEC 3	81 SANTA CLARA LLC PO BOX 579 DANA POINT CA 92629-0579 Melvin J. Hoeffliger 949-643-0210 Tenant: Starbucks Magnolia lopez 832-317-0705	W	<u>112.00</u>	<u>2240</u>	\$2225	11-1-19: Vesting complete. Waiting on approved IOL letter, offer amount and easement. Investigating parcels for possible access 12-3-19: Sent IOL packet. 12-7-19: Called Mr. Hoeffliger, left message. 12-9-19: Spoke to Mr. Hoeffliger. Will call us next week, he was out of the country. 12-11-19: Mr. Hoeffliger informed us he'll sign the easement and mail it back to us this week. 12-19-20: Called Mr. Hoeffliger, he's been ill but will get easement back to us after the 1st. 1-13-20: CLOSED.
TX-HA-109-003	1084970000036	RES E1 BLK 10 OAKS OF ATASCOCITA SEC 1	GUARDIAN CLEANER LLC 5407 FM 1960 RD E HUMBLE TX 77346-2626 Kim Tran 832-816-5277 Henry Nguyen 832-656-0000	W	<u>80.20</u>		\$5,745	11-1-19: Vesting complete. Waiting on approved IOL letter, offer amount and easement. Investigating parcels for possible access. 12-3-19: Sent IOL packet. 12-6-19: Met with Ms. Tran. Discussed possible impact to property. Will discuss with her husband. Set up a meeting on 12-12-19. 12-12-19: Met with Ms. Tran. Concerned about having to close her dry cleaning business during construction if she has no water. I told her we'd get with the engineers to discuss. Meeting her next Friday. 12-20-19: Met with Ms. Tran. Her husband is out of town and can't meet until January. 1-7-20: Called Ms. Tran, she'll see when husband can meet. Told her we can meet anytime. 1-16-20: Called, left message. 1-24-20: Requested property be staked. 2-10-20: Property will be staked Tuesday. 2-11-20: Property was staked. Agent met with Ms. Tran. Mr. Nguyen is sick but will try to meet to sign the end of this week. 2-17-20: Talked to Mr. Nguyen. Set up meeting for Thursday, 2/20. 2-20-20: CLOSED
					<u>337.20</u>	<u>6744</u>	<u>\$11,155</u>	

HCMUD 109
0.0102 OF ONE ACRE
PROPOSED 10' WIDE WATERLINE EASEMENT

NOVEMBER 19, 2019
JOB NO. 6554-01

DESCRIPTION OF A 0.0102 ACRE TRACT OF LAND SITUATED
IN THE WILLIAM VICKINS SURVEY, ABSTRACT NO. 822
HARRIS COUNTY, TEXAS

BEING a 0.0102 acre (445 square foot) tract of land situated in the Thomas W. Marshall Survey, Abstract No. 540 of Harris County, Texas and being a portion of a called 0.5175 acre tract of land as described in an instrument to 81 Santa Clara, LLC recorded under Harris County Clerk's File Number (H.C.C.F. No.) 20150423891, and being out of Unrestricted Reserve "A" of ATASCOCITA WEST SECTION THREE, a subdivision per plat recorded under Volume 311, Page 8 of the Harris County Map Records (H.C.M.R.), said 0.0102 acre tract of land described by metes and bounds as follows, with all bearings based on the Texas Coordinate System of 1983 (NAD83), South Central Zone 4204 and referenced to a called 0.6887 acre tract as cited herein and as shown on a survey plat of even date prepared by the undersigned in conjunction with this metes and bounds description:

COMMENCING at the common Northeast corner of said 0.5175 acre tract and said Unrestricted Reserve "A", same being the most Easterly Southeast corner of Restricted Reserve "B" of ATASCOCITA WEST SECTION FOUR, a subdivision per plat recorded under Volume 320, Page 118 of the H.C.M.R., lying on the West right-of-way line of Timber Forest Drive (100 feet wide) as shown on OAKS OF ATASCOCITA SECTION ONE, a subdivision per plat recorded under Volume 223, Page 107 of the H.C.M.R. from which an aluminum monument stamped "GULF OIL CORP" bears S 04°20' W, 0.92 feet;

THENCE, S 04°42'00" E, along and with the common East line of said Unrestricted Reserve "A" and said 0.5175 acre tract, same being the West right-of-way line of said Timber Forest Drive, a distance of 100.90 feet to the **POINT OF BEGINNING** and the Northeast corner of the herein described tract;

THENCE, S 04°42'00" E, continuing along and with the common East line of said Unrestricted Reserve "A" and said 0.5175 acre tract, same being the West right-of-way line of said timber Forest Drive, a distance of 8.49 feet to an aluminum TXDOT monument found for the most Easterly Southeast corner of the herein described tract and the Northeast corner of a cutback line at the West right-of-way line of said Timber Forest Drive and the North right-of-way line of F.M. 1960 (width varies) recorded under Volume 1017, Page 506 of the Harris County Deed Records and H.C.C.F. No. RP-2019-314279;

THENCE, S 42°19'01" W, along and with said cutback line, a distance of 36.60 feet to an aluminum TXDOT monument found for the most Southerly Southeast corner of the herein described tract and the Southwest corner of said cutback line;

THENCE, S 89°25'34" W, along and with the North right-of-way line of said F.M. 1960, a distance of 13.65 feet to the Southwest corner of the herein described tract;

THENCE, N 42°19'01" E, over and across said Unrestricted Reserve "A" and said 0.5175 acre tract, a distance of 48.01 feet to the Northwest corner of the herein described tract;

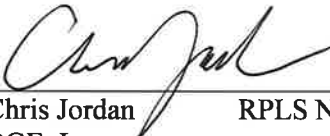
HCMUD 109
0.0102 OF ONE ACRE
PROPOSED 10' WIDE WATERLINE EASEMENT

NOVEMBER 19, 2019
JOB NO. 6554-01

THENCE, N 88°13'52" E, continuing over and across said Unrestricted Reserve "A" and said 0.5175 acre tract, a distance of 5.28 feet to the **POINT OF BEGINNING** and containing 0.0102 of one acre (445 square feet) of land.

The above description is not to be used for fee conveyance.




Chris Jordan RPLS No. 6750
BGE, Inc.
10777 Westheimer Road, Suite 400
Houston, Texas 77042
Telephone: (281) 558-8700
TBPLS Licensed Surveying Firm No. 10106500

ATASCOCITA WEST SECTION FOUR

CALLED 0.5175 ACRES
81 SANTA CLARA, LLC

ATASCOCITA WEST SECTION THREE

RESTRICTED RESERVE "B"

0.0102 ACRES
445 SQ. FT.
10' WIDE W.L.E.

UNRESTRICTED RESERVE "A"

P.O.C.

P.O.B.

TIMBER FOREST DRIVE
(100 FEET WIDE)

OAKS OF ATASCOCITA SECTION ONE

UNRESTRICTED RESERVE "E"

CURRENT R.O.W.

F.M. 1960
(WIDTH VARIES)



LINE TABLE		
NUMBER	BEARING	DISTANCE
L1	S 04°42'00" E	100.90'
L2	S 04°42'00" E	8.49'
L3	S 42°19'01" W	36.60'
L4	S 89°25'34" W	13.65'
L5	N 42°19'01" E	48.01'
L6	N 88°13'52" E	5.28'

NOTE: THIS EXHIBIT IS FOR GRAPHICAL PURPOSES ONLY IN RELATION TO THE PROPOSED EASEMENT(S) SHOWN HEREON AND IS NOT A BOUNDARY SURVEY NOR SHALL IT BE CONSTRUED IN ANY WAY AS A BOUNDARY SURVEY.

LEGEND

P.O.B. POINT OF BEGINNING
R.O.W. RIGHT-OF-WAY
SQ. FT. SQUARE FEET
W.L.E. WATER LINE EASEMENT

BGE, Inc.
10777 Westheimer, Suite 400, Houston, TX 77042
Tel: 281-558-8700 • www.bgeinc.com
TBPLS Licensed Surveying Firm No. 10106500

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EXHIBIT OF A
0.0102 ACRE W.L.E.
SITUATED IN THE
WILLIAM VICKINS SURVEY
ABSTRACT NO. 822
HARRIS COUNTY, TEXAS

Scale: 1"=50'	Job No.: 6554-01	Date: 11/2019	Drawing: 1 OF 1
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HCMUD 109
0.0146 OF ONE ACRE
PROPOSED 5' WIDE WATERLINE EASEMENT

NOVEMBER 19, 2019
JOB NO. 6554-01

DESCRIPTION OF A 0.0146 ACRE TRACT OF LAND SITUATED
IN THE THOMAS W. MARSHALL SURVEY, ABSTRACT NO. 540
HARRIS COUNTY, TEXAS

BEING a 0.0146 acre (637 square foot) tract of land situated in the Thomas W. Marshall Survey, Abstract No. 540 of Harris County, Texas and being a portion of a called 0.6969 acre tract of land as described in an instrument to Wu & Chen Investment LLC recorded under Harris County Clerk's File Number (H.C.C.F. No.) RP-2017-338251, and being out of Unrestricted Reserve "A" of BELLEAU WOOD EAST, a subdivision per plat recorded under Volume 158, Page 131 of the Harris County Map Records, said 0.0146 acre tract of land described by metes and bounds as follows, with all bearings based on the Texas Coordinate System of 1983 (NAD83), South Central Zone 4204 and referenced to monuments found along the North right-of-way line of F.M. 1960 as cited herein and as shown on a survey plat of even date prepared by the undersigned in conjunction with this metes and bounds description:

BEGINNING at a scribed "X" in concrete found for the most Easterly Southeast corner of the herein described tract and the Northeast corner of a called 0.1424 acre tract of land described in an instrument to the State of Texas recorded under H.C.C.F. No. RP-2019-223805, same being the intersection of the North right-of-way line of F.M. 1960 (width varies) recorded under Volume 1014, Page 65 of the Deed Records of Hariss County Texas and H.C.C.F. No. RP-2019-223805 and the West right-of-way line of Artesian Way (80 feet wide) as shown on said BELLEAU WOOD EAST;

THENCE, along and with the North right-of-way line of said F.M. 1960, the following courses and distances:

S 52°28'17" W, a distance of 5.46 feet to a scribed "X" in concrete found for an angle point;

N 88°55'31" W, a distance of 15.22 feet to scribed "X" in concrete found for the beginning of a tangent curve to the left;

In a Westerly direction, along said curve to the left, an arc distance of 109.15 feet, having a radius of 11,525.00 feet, a central angle of 00°32'33" and a chord which bears N 89°11'48" W, a distance of 109.15 feet to the Southwest corner of the herein described tract, lying on the common West line of said 0.6969 acre tract and said Unrestricted Reserve "A", same being the East line of a called 40.77 acre tract of land described in an instrument to Chevron U.S.A., Inc. recorded under H.C.C.F. No. D504809;

THENCE, N 02°03'54" W, along and with the East line of said 40.77 acre tract, same being the common West line of said 0.6969 acre tract and said Unrestricted Reserve "A", a distance of 5.01 feet to the Northwest corner of the herein described tract, same being the beginning of a non-tangent curve to the right from which its center bears S 00°31'52" W, 11,530.00 feet;

THENCE, In an Easterly direction, along said curve to the right and over and across said 0.6969 acre tract and said Unrestricted Reserve "A", an arc distance of 109.42 feet, having a radius of 11,530.00 feet, a central angle of 00°32'38" and a chord which bears S 89°11'50" E, a distance of 109.42 feet to a point for tangency;

HCMUD 109
0.0146 OF ONE ACRE
PROPOSED 5' WIDE WATERLINE EASEMENT

NOVEMBER 19, 2019
JOB NO. 6554-01

THENCE, S 88°55'31" E, a distance of 19.75 feet to the Northeast corner of the herein described tract, lying on the West right-of-way line of said Artesian Way, same being the common East line of said 0.6969 acre tract and said Unrestricted Reserve "A", same further being the beginning of a non-tangent curve to the left from which its center bears S 79°21'47" E, 336.00 feet;

THENCE, In a Southerly direction, along said curve to the left, an arc distance of 1.61 feet, having a radius of 336.00 feet, a central angle of 00°16'30" and a chord which bears S 10°29'58" W, a distance of 1.61 feet to the **POINT OF BEGINNING** and containing 0.0146 of one acre (637 square feet) of land.

The above description is not to be used for fee conveyance.

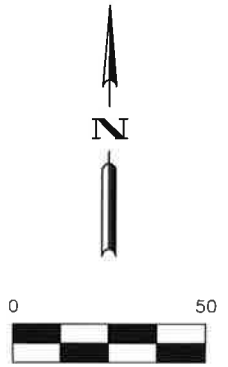
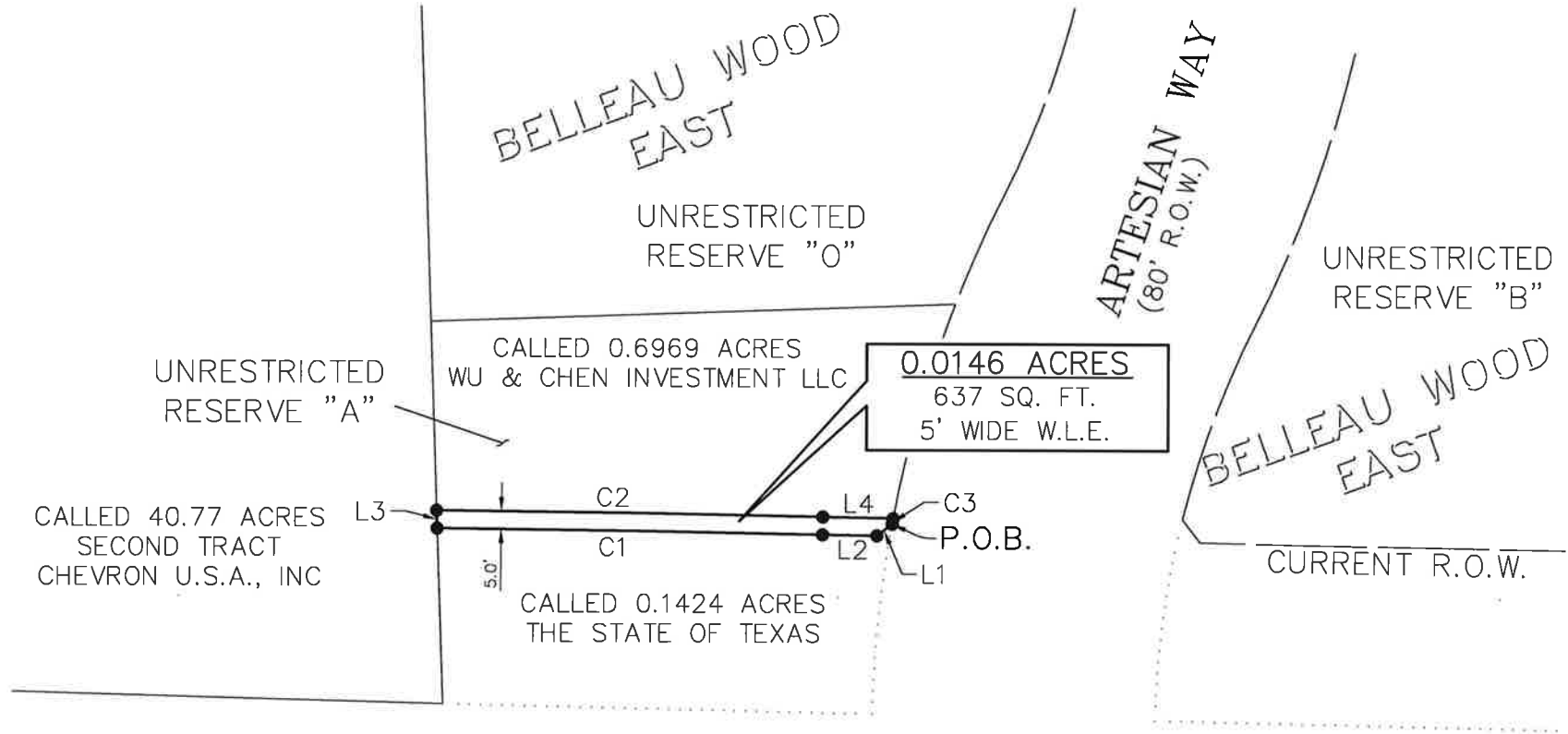


Chris Jordan RPLS No. 6750
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TBPLS Licensed Surveying Firm No. 10106500

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LINE TABLE		
NUMBER	BEARING	DISTANCE
L1	S 52°28'17" W	5.46'
L2	N 88°55'31" W	15.22'
L3	N 02°03'54" W	5.01'
L4	S 88°55'31" E	19.75'

CURVE TABLE					
NUMBER	ARC LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD DISTANCE
C1	109.15'	11,525.00'	0°32'33"	N 89°11'48" W	109.15'
C2	109.42'	11,530.00'	0°32'38"	S 89°11'50" E	109.42'
C3	1.61'	336.00'	0°16'30"	S 10°29'58" W	1.61'




LEGEND

- P.O.B. POINT OF BEGINNING
- R.O.W. RIGHT-OF-WAY
- SQ. FT. SQUARE FEET
- W.L.E. WATER LINE EASEMENT

F.M. 1960
(WIDTH VARIES)

NOTE: THIS EXHIBIT IS FOR GRAPHICAL PURPOSES ONLY IN RELATION TO THE PROPOSED EASEMENT(S) SHOWN HEREON AND IS NOT A BOUNDARY SURVEY NOR SHALL IT BE CONSTRUED IN ANY WAY AS A BOUNDARY SURVEY.

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EXHIBIT OF A 0.0146 ACRE W.L.E. SITUATED IN THE THOMAS W. MARSHALL SURVEY ABSTRACT NO. 540 HARRIS COUNTY, TEXAS			
Scale: 1"=50'	Job No.: 6554-01	Date: 11/2019	Drawing: 1 OF 1

HCMUD 109
0.0088 OF ONE ACRE
PROPOSED 10' WIDE WATERLINE EASEMENT

NOVEMBER 19, 2019
JOB NO. 6554-01

DESCRIPTION OF A 0.0088 ACRE TRACT OF LAND SITUATED
IN THE WILLIAM VICKINS SURVEY, ABSTRACT NO. 822
HARRIS COUNTY, TEXAS

BEING a 0.0088 acre (383 square foot) tract of land situated in the Thomas W. Marshall Survey, Abstract No. 540 of Harris County, Texas and being a portion of a called 0.6887 acre tract of land as described in an instrument to Guardian Cleaner, L.C.C. recorded under Harris County Clerk's File Number (H.C.C.F. No.) 20080411652, and being out of Unrestricted Reserve "E" of OAKS OF ATASCOCITA SECTION ONE, a subdivision per plat recorded under Volume 223, Page 107 of the Harris County Map Records, said 0.0088 acre tract of land described by metes and bounds as follows, with all bearings based on the Texas Coordinate System of 1983 (NAD83), South Central Zone 4204 and referenced to a called 0.6887 acre tract as cited herein and as shown on a survey plat of even date prepared by the undersigned in conjunction with this metes and bounds description:

COMMENCING at the Northwest corner of said 0.6887 acre tract, same being the most Westerly Southwest corner of a called 2.306 acre tract of land described in an instrument to Rice Tree, Inc. recorded under H.C.C.F. No. 20070202448, lying on the East right-of-way line of Timber forest Drive (80 feet wide) as shown on said OAKS OF ATASCOCITA SECTION ONE from which a found 1/2-inch iron rod bears S 19°15' W, 0.48 feet;

THENCE, S 04°44'01" E, along and with the common West line of said Unrestricted Reserve "E" and said 0.6887 acre tract, same being the East right-of-way line of said Timber Forest Drive to the **POINT OF BEGINNING** and the Northwest corner of the herein described tract;

THENCE, N 88°13'52" E, over and across said Unrestricted Reserve "E" and said 0.6887 acre tract, a distance of 5.93 feet to the Northeast corner of the herein described tract;

THENCE, S 47°52'36" E, continuing over and across said Unrestricted Reserve "E" and said 0.6887 acre tract, a distance of 42.21 feet to the most Southeast corner of the herein described tract, lying on the North right-of-way line of F.M. 1960 (width varies) recorded under Volume 1017, Page 506 of the Harris County Deed Records and H.C.C.F. No. RP-2019-138616;

THENCE, S 89°22'52" W, along and with the North right-of-way line of said F.M. 1960, a distance of 14.73 feet to an aluminum TXDOT monument found for the most Southerly Southwest corner of the herein described tract, same being the Southeast corner of a cutback line at the North right-of-way line of said F.M. 1960 and the East right-of-way line of said Timber Forest Drive;

THENCE, N 47°52'36" W, along and with said cutback line, a distance of 29.38 feet to the most Westerly Southwest corner of the herein described tract and the Northwest corner of said cutback line;


HCMUD 109
0.0088 OF ONE ACRE
PROPOSED 10' WIDE WATERLINE EASEMENT

NOVEMBER 19, 2019
JOB NO. 6554-01

THENCE, N 04°44'01" W, along and with the common West line of said Unrestricted Reserve "E" and said 0.6887 acre tract, same being the East right-of-way line of said Timber forest Drive, a distance of 8.61 feet to the **POINT OF BEGINNING** and containing 0.0088 of one acre (383 square feet) of land.

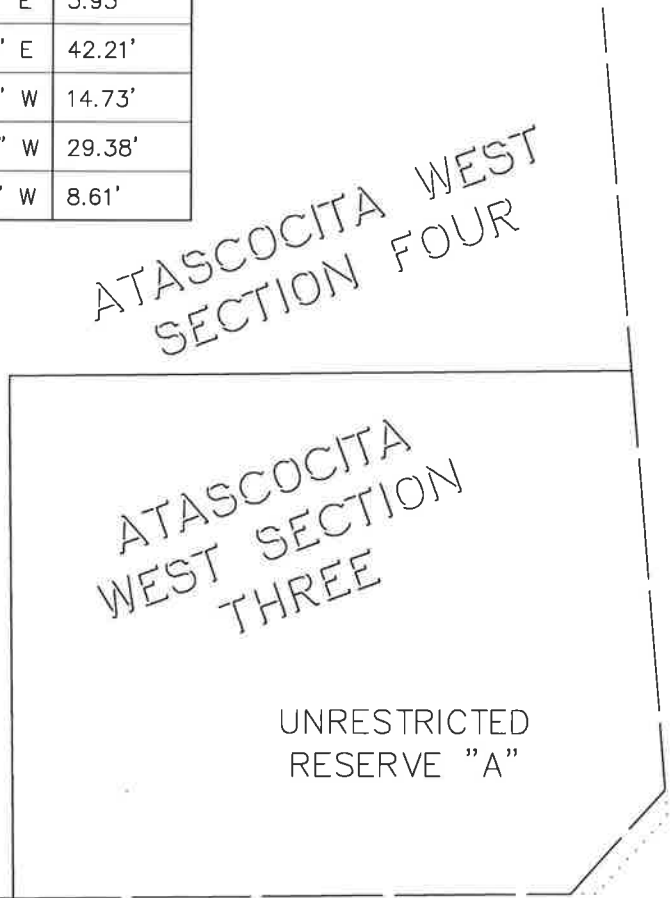
The above description is not to be used for fee conveyance.



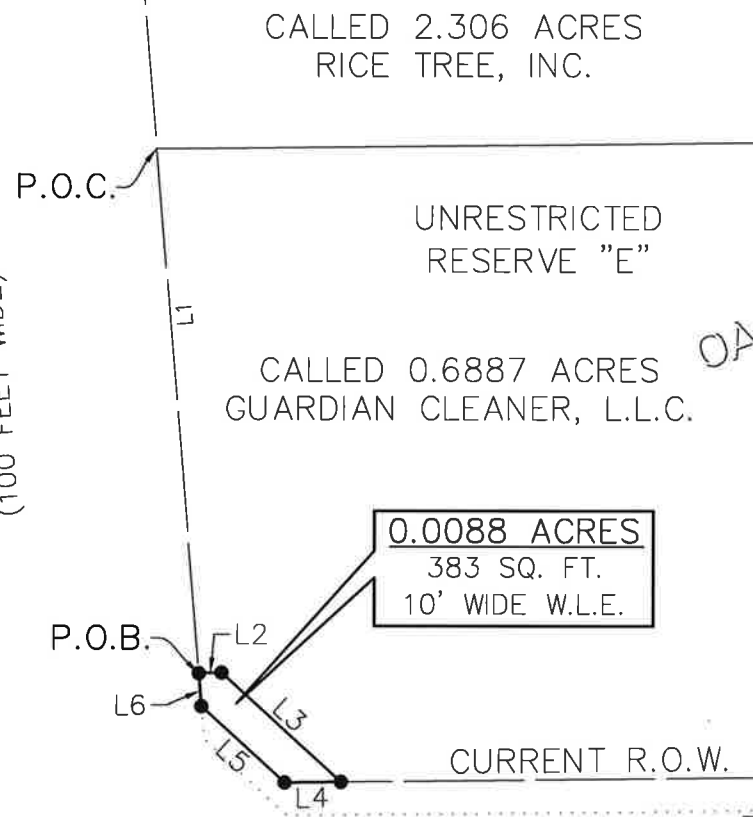

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G:\TXH\Projects\Districts\HCMUD109\6554-01_FM1960_Utility_Relocation_AS\06_Survey\04_Finals\0_008BEX1.dwg, 11/19/2019 2:38 PM, cjordan

LINE TABLE		
NUMBER	BEARING	DISTANCE
L1	S 04°44'01" E	136.79'
L2	N 88°13'52" E	5.93'
L3	S 47°52'36" E	42.21'
L4	S 89°22'52" W	14.73'
L5	N 47°52'36" W	29.38'
L6	N 04°44'01" W	8.61'



TIMBER FOREST DRIVE
(100 FEET WIDE)

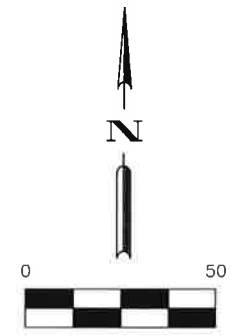


CALLED 2.306 ACRES
RICE TREE, INC.

UNRESTRICTED
RESERVE "E"

CALLED 0.6887 ACRES
GUARDIAN CLEANER, L.L.C.

OAKS OF ATASCOCITA
SECTION ONE



F.M. 1960
(WIDTH VARIES)

NOTE: THIS EXHIBIT IS FOR GRAPHICAL PURPOSES ONLY IN RELATION TO THE PROPOSED EASEMENT(S) SHOWN HEREON AND IS NOT A BOUNDARY SURVEY NOR SHALL IT BE CONSTRUED IN ANY WAY AS A BOUNDARY SURVEY.

LEGEND

- P.O.B. POINT OF BEGINNING
- P.O.C. POINT OF COMMENCING
- R.O.W. RIGHT-OF-WAY
- SQ. FT. SQUARE FEET
- W.L.E. WATER LINE EASEMENT

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EXHIBIT OF A
 0.0088 ACRE W.L.E.
 SITUATED IN THE
 WILLIAM VICKINS SURVEY
 ABSTRACT NO. 822
 HARRIS COUNTY, TEXAS

Scale: 1"=50'	Job No.: 6554-01	Date: 11/2019	Drawing: 1 OF 1
------------------	---------------------	------------------	--------------------

Title	Design	Project Management	Easement Acquisition	Construction Coordination	Total Hours	Rate	Total
Senior Project Manager	40	20	20	30	110	\$ 220.00	\$ 24,200.00
Project Manager	125	50	30	50	255	\$ 180.00	\$ 45,900.00
Engineer	200	50	30	50	330	\$ 120.00	\$ 39,600.00
CAD Technician	350	10	10	10	380	\$ 90.00	\$ 34,200.00
RPLS	0	0	15	0	15	\$ 155.00	\$ 2,325.00
Survey Technician	0	0	30	0	30	\$ 120.00	\$ 3,600.00
Survey Crew	0	0	15	0	15	\$ 160.00	\$ 2,400.00
Easement Acquisition Consultant	0	0	100	0	100	\$ 180.00	\$ 18,000.00
Attorney	0	10	20	10	40	\$ 400.00	\$ 16,000.00
MUD Operator	0	0	0	200	200	\$ 120.00	\$ 24,000.00

Total \$ 210,225.00

LOCATION	# 162 6002	# 166 6001	# 168 6001	7049 6017	7049 6068	7049 6076	7049 6077	7049 6104	7049 6115	7049 6116	7049 6119	7049 6127	7049 6129	7049 6140	7049 6142	7049 6176	7049 6185	7049 6200
	BLOCK SODDING	FERTILIZER	VEGETATIVE WATERING	WATER MAIN PIPE (PVC) (12IN) (C900)	JCK TUN BOR OR AUG CSG (STL) (16IN)	SERVICE LINE (SHORT SIDE) (1-1/2" TO 2")	SERVICE LINE (LONG SIDE) (1-1/2" TO 2")	FIRE HYDRANT ASSEMBLY	REMOVING WATER VALVE AND BOX	REMOVING AND RELOCATING METER AND BOX	REMOVING AND SALVAGING FIRE HYDRANT	CUT AND PLUG WATER MAIN (8IN)	CUT AND PLUG WATER MAIN (12IN)	WET CONNECTION (8IN)	WET CONNECTION (12IN)	TRENCH EXCAVATION PROTECTION	CASING STEEL (16 IN)	WTR MAIN PIPE (PVC) (6 IN) (DR 18) (C900)
	SY	AC	MG	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF
CSJ 1685-03-058																		
A	270	0.1	12	867	40	4	3	9	12	1	9	1	1	1	1	3175	40	120
B	0	0	0	55	95	0	0	1	0	0	1	1	1	1	2	173	95	10
PROJECT TOTALS	270	0.1	12	922	135	4	3	10	12	1	10	2	2	2	3	3348	135	130

LOCATION	7049 6201	7049 6213	7049 XXXX	* 7049	* 7049	* 7049	* 7049
	WTR MAIN PIPE (PVC) (8 IN) (DR 18) (C900)	2" BLOW-OFF VALVE	1" AIR RELEASE VALVE	GROUT ABANDONED LINES	12" GATE VALVE AND BOX	8" GATE VALVE AND BOX	DUCTILE IRON FITTINGS
	LF	EA	EA	CY	EA	EA	TON
CSJ 1685-03-058							
A	2325	2	3	64	1	7	2
B	127	0	0	18	1	0	1
PROJECT TOTALS	2452	2	3	82.0	2.0	7.0	3

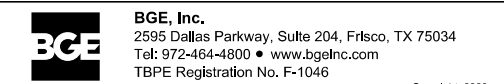
NOTE:

WATER MAIN PIPE (PVC) INCLUDES ALL SUBSIDIARY ITEMS. SUBSIDIARY ITEMS TO INCLUDE BUT NOT LIMITED TO ALL OTHER NECESSARY APPURTENANCES FOR CARRIER PIPE; GROUT ABANDONED LINE, ALL GATE VALVES AND DUCTILE IRON FITTINGS.

LOCATION	# 402 6001	7017 6088	7017 6110	7017 6129	7017 6140	7017 6141	* 7017	* 7017
	TRENCH EXCAVATION PROTECTION	AIR RELEASE VALVE (2 IN)	POST CONSTRUCTION TELEVISION INSPECTION	REMOVE EXIST SAN SWR PIPE (8IN)	PRE-CONSTRUCTION TELEVISION INSPECTION	SAN SEWER (8IN) (DI) (RESTRAINED JT)	BYPASS SYSTEM	DUCTILE IRON FITTINGS
	LF	EA	LF	LF	LF	LF	LS	TON
CSJ 1685-03-058								
A	3360	3	3360	3351	3360	3360	1	1.03
PROJECT TOTALS	3360	3	3360	3351	3360	3360	1	1.03

* FOR CONTRACTOR'S INFORMATION ONLY

QUANTITIES ARE WITHIN THE AREA OF PROPOSED EASEMENT ONLY.



FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
SUMMARY OF
UTILITY QUANTITIES
(HC MUD 109)

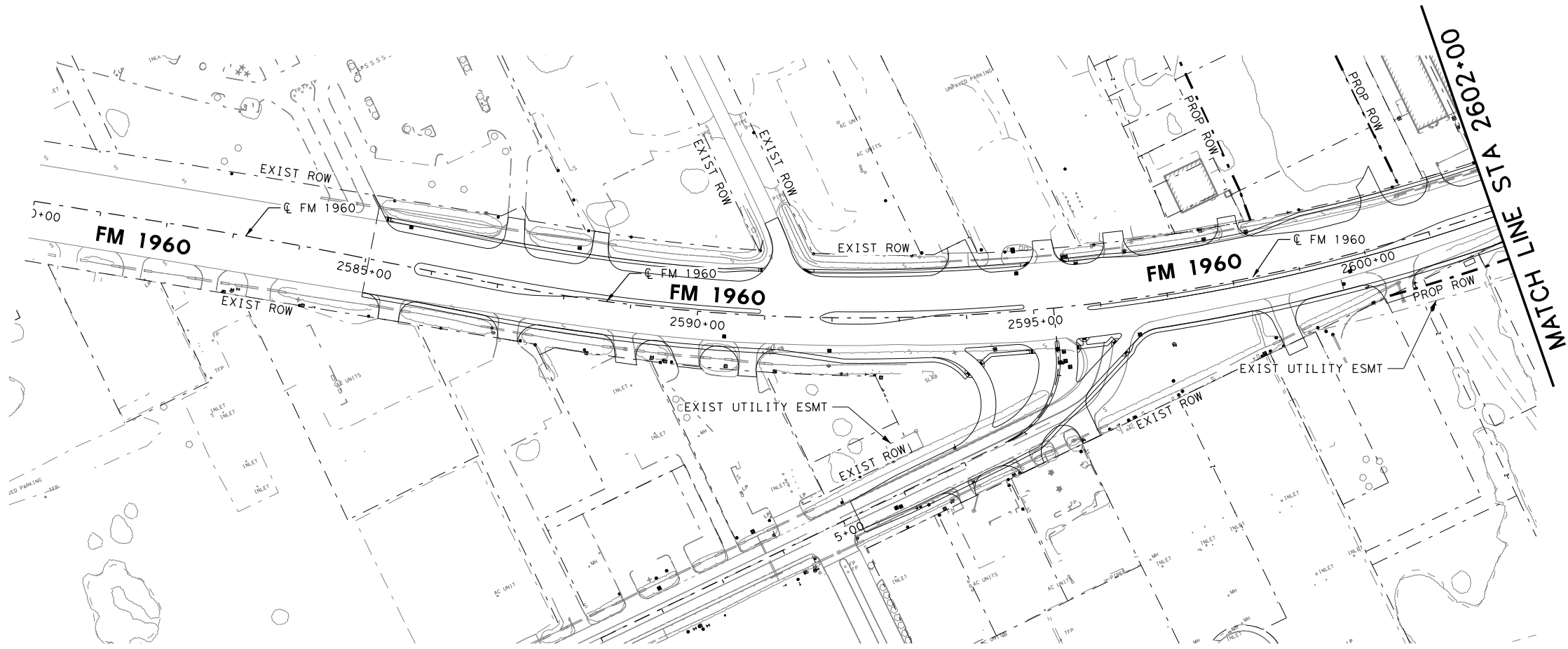
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6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	31
1685	03	058	

FILENAME: FM1960W_Utility Quantities_1.dgn

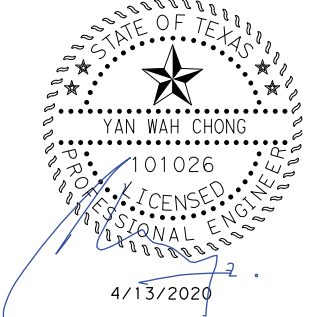
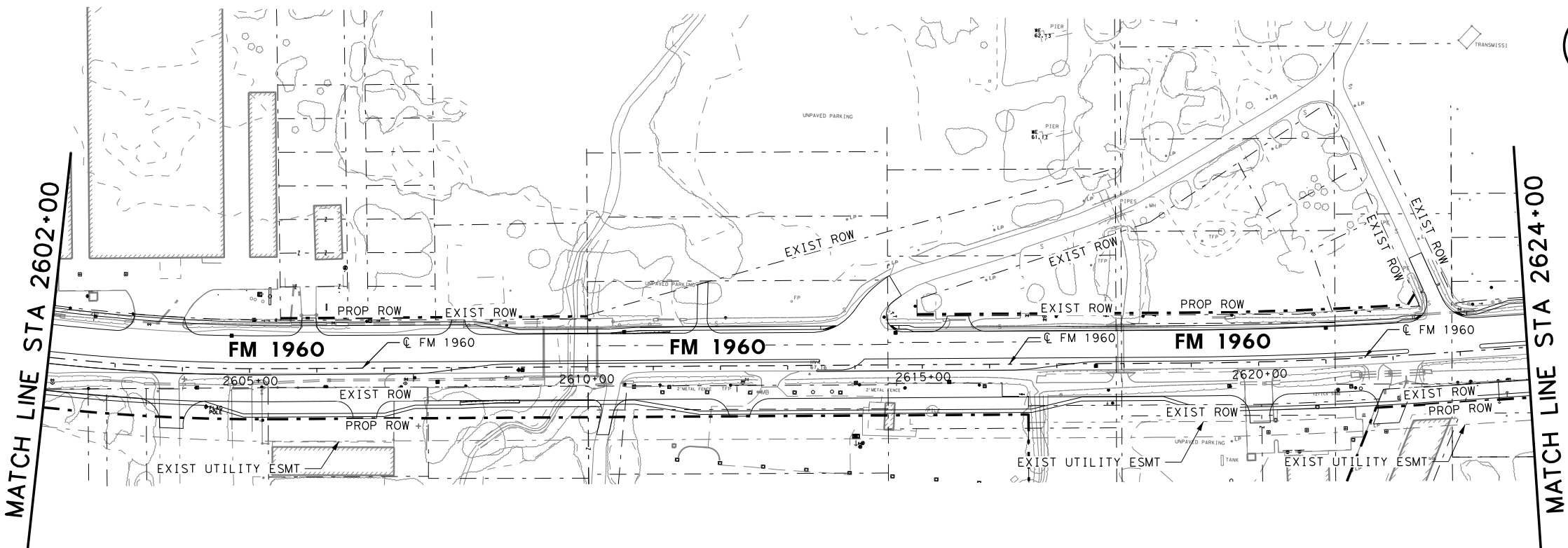
DRAWING DATE: 4/20/2020

FILENAME: FM1960W_Project_Layout_1.dgn

DRAWING DATE: 4/13/2020



HORZ 0' 50' 100' 200'
SCALE IN FEET



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROJECT LAYOUT

BEGIN TO 2624+00
(HC MUD 109)

SHEET 1 OF 4

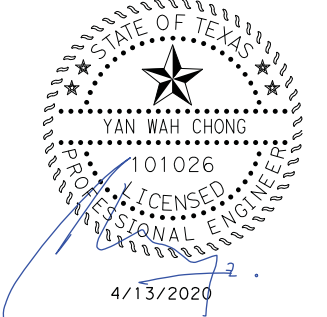
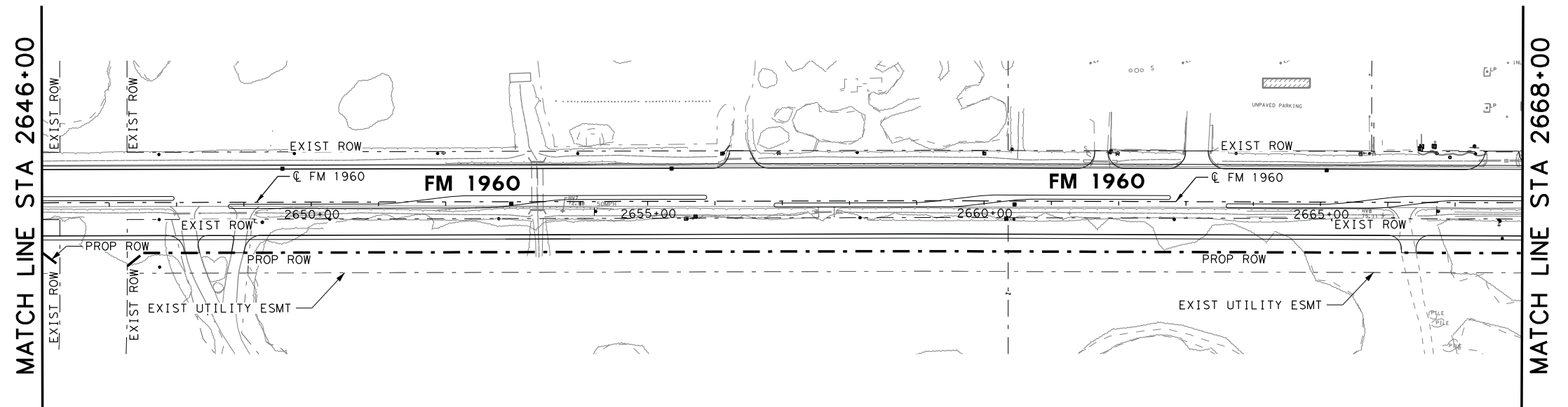
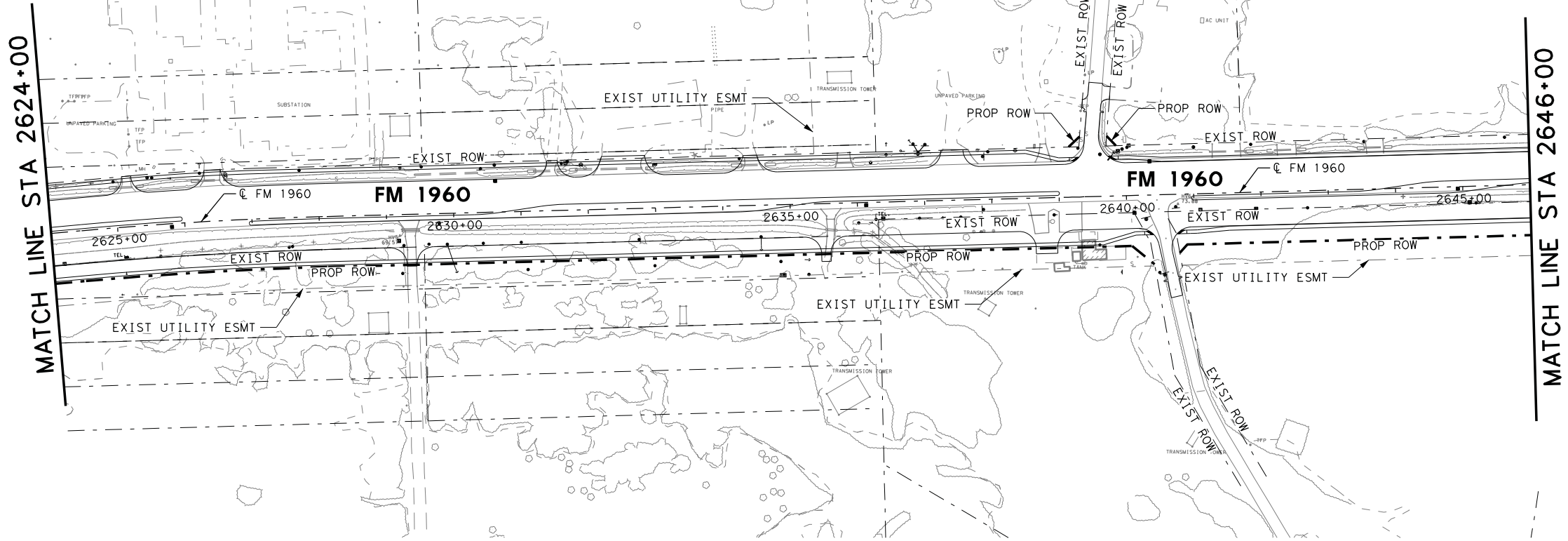
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6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	510
1685	03	058	

FILENAME: FM1960W_Project Layout_2.dgn

DRAWING DATE: 4/13/2020



HORZ 0' 50' 100' 200'
SCALE IN FEET



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROJECT LAYOUT

2624+00 TO 2668+00
(HC MUD 109) SHEET 2 OF 4

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	511
1685	03	058	

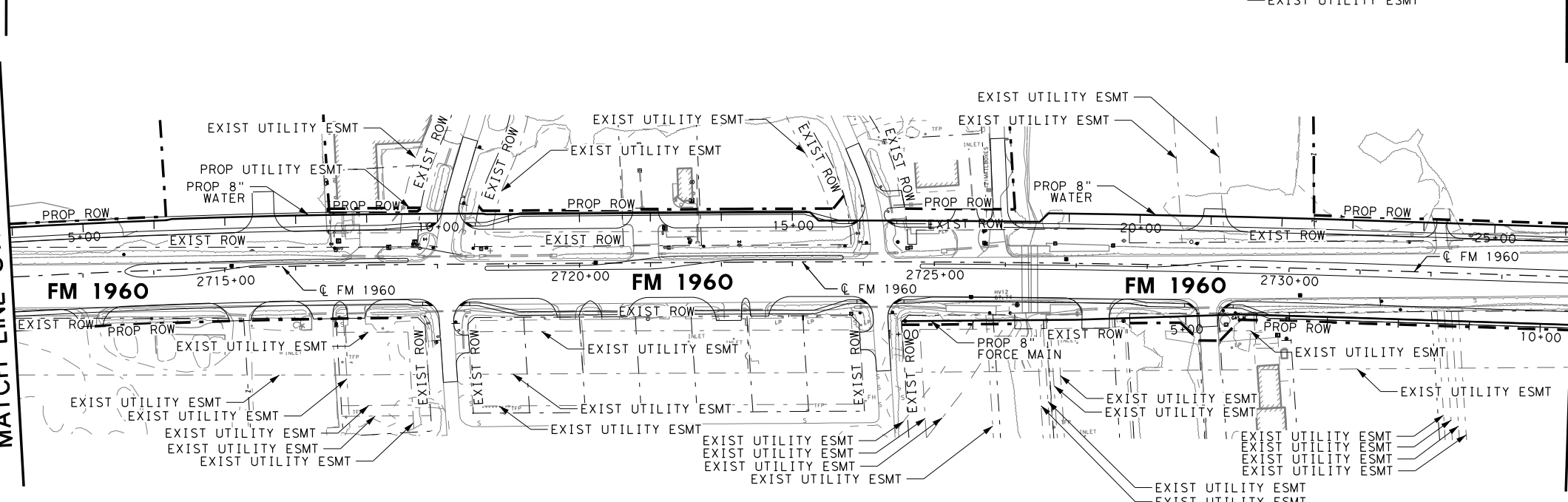
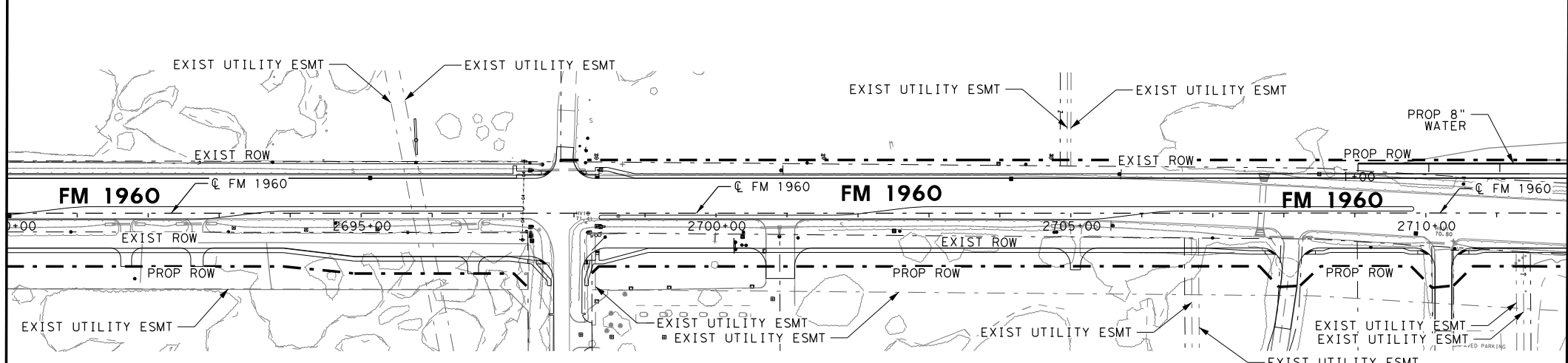
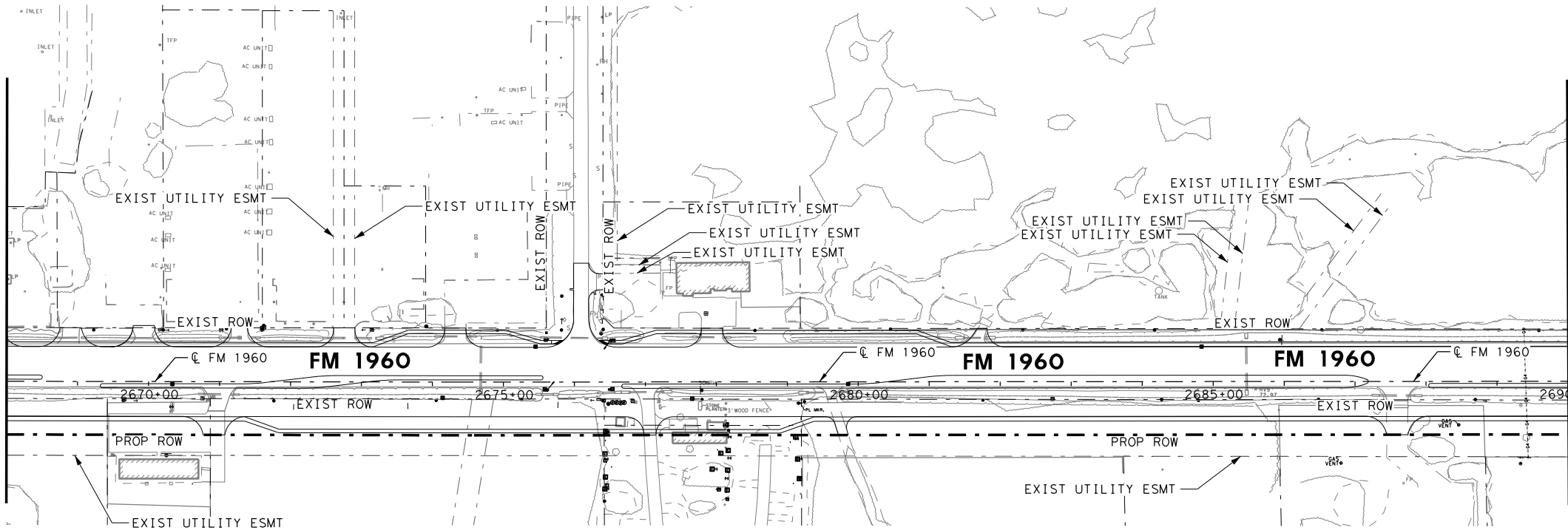
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DRAWING DATE: 4/13/2020

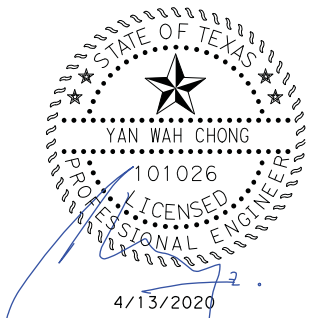
MATCH LINE STA 2668+00

MATCH LINE STA 2690+00

MATCH LINE STA 2712+00



HORZ 0' 50' 100' 200'
SCALE IN FEET



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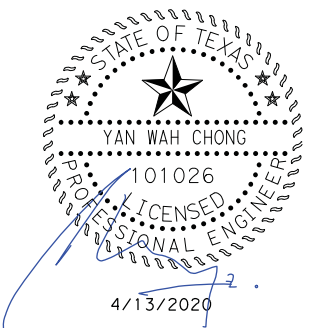
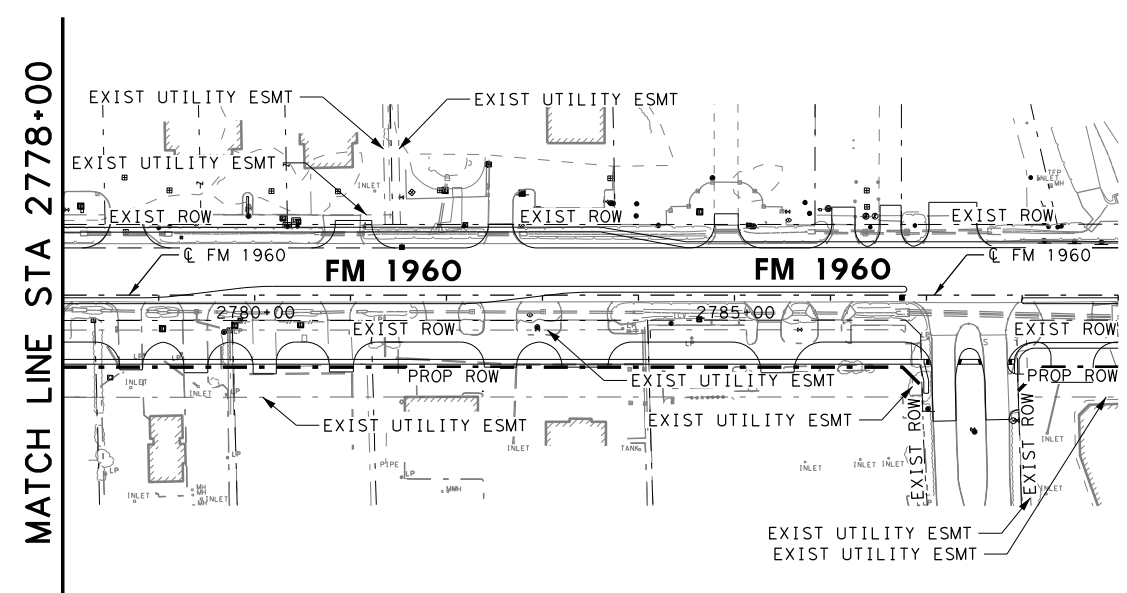
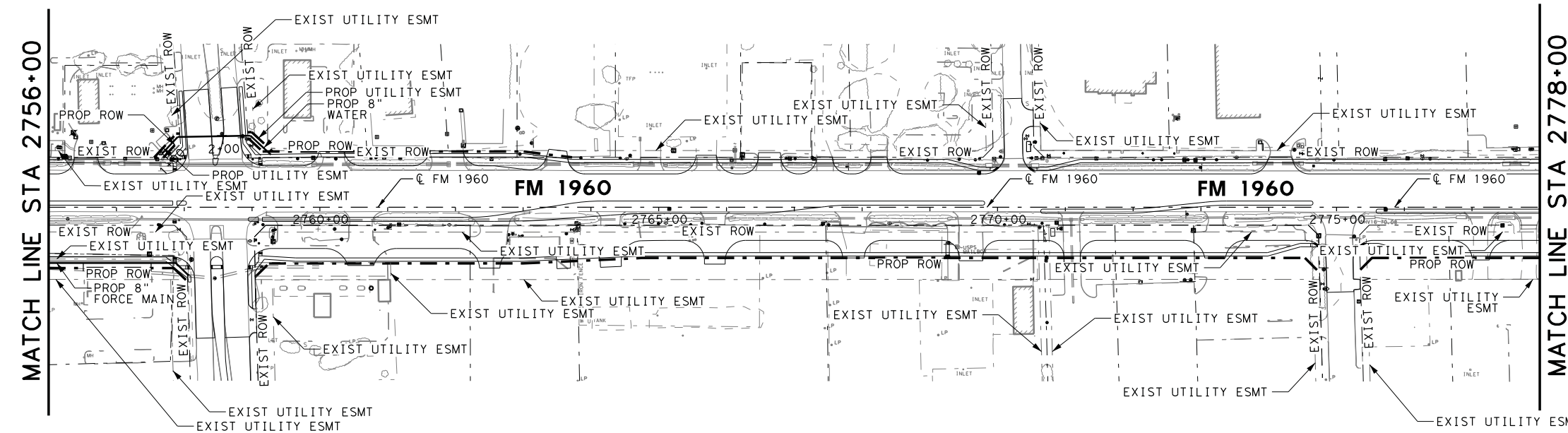
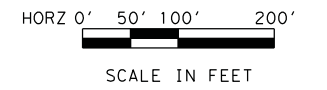
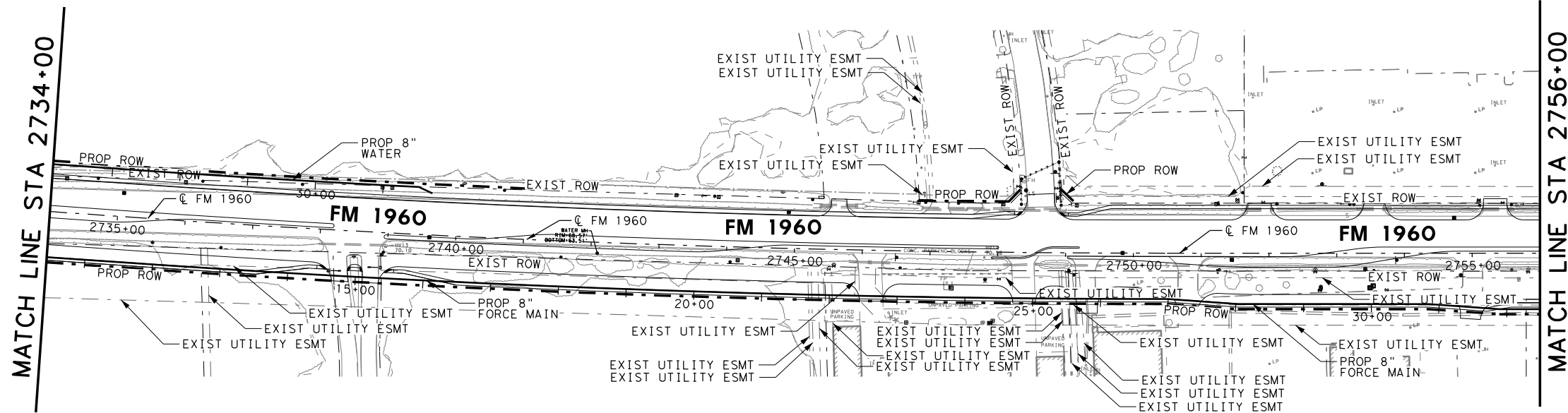
FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROJECT LAYOUT

2668+00 TO 2734+00
(HC MUD 109)

SHEET 3 OF 4

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	512
CONTROL	SECTION	JOB	
1685	03	058	

FILENAME: FM1960W_Project Layout_4.dgn
DRAWING DATE: 4/13/2020



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROJECT LAYOUT

2734+00 TO 2789+00
(HC MUD 109)

SHEET 4 OF 4

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	513
1685	03	058	



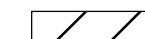
HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

NOTES:

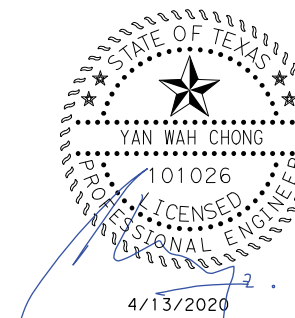
1. SEE GENERAL NOTES SHEET FOR ADDITIONAL UTILITY INFORMATION
2. CONTRACTOR SHALL COORDINATE WITH HC MUD 109 PRIOR TO CUTTING OR ABANDONING ANY EXISTING UTILITY LINES.
3. CONTRACTOR SHALL VERIFY ALL SERVICES HAVE BEEN SWITCHED OVER TO THE NEW UTILITIES PRIOR TO ABANDONING ANY LINES.



TO BE REMOVED



TO BE ABANDONED



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
UTILITY REMOVAL AND
ABANDONMENT LAYOUTS
2706+50 TO 2717+50

(HC MUD 109)

SHEET 1 OF 5

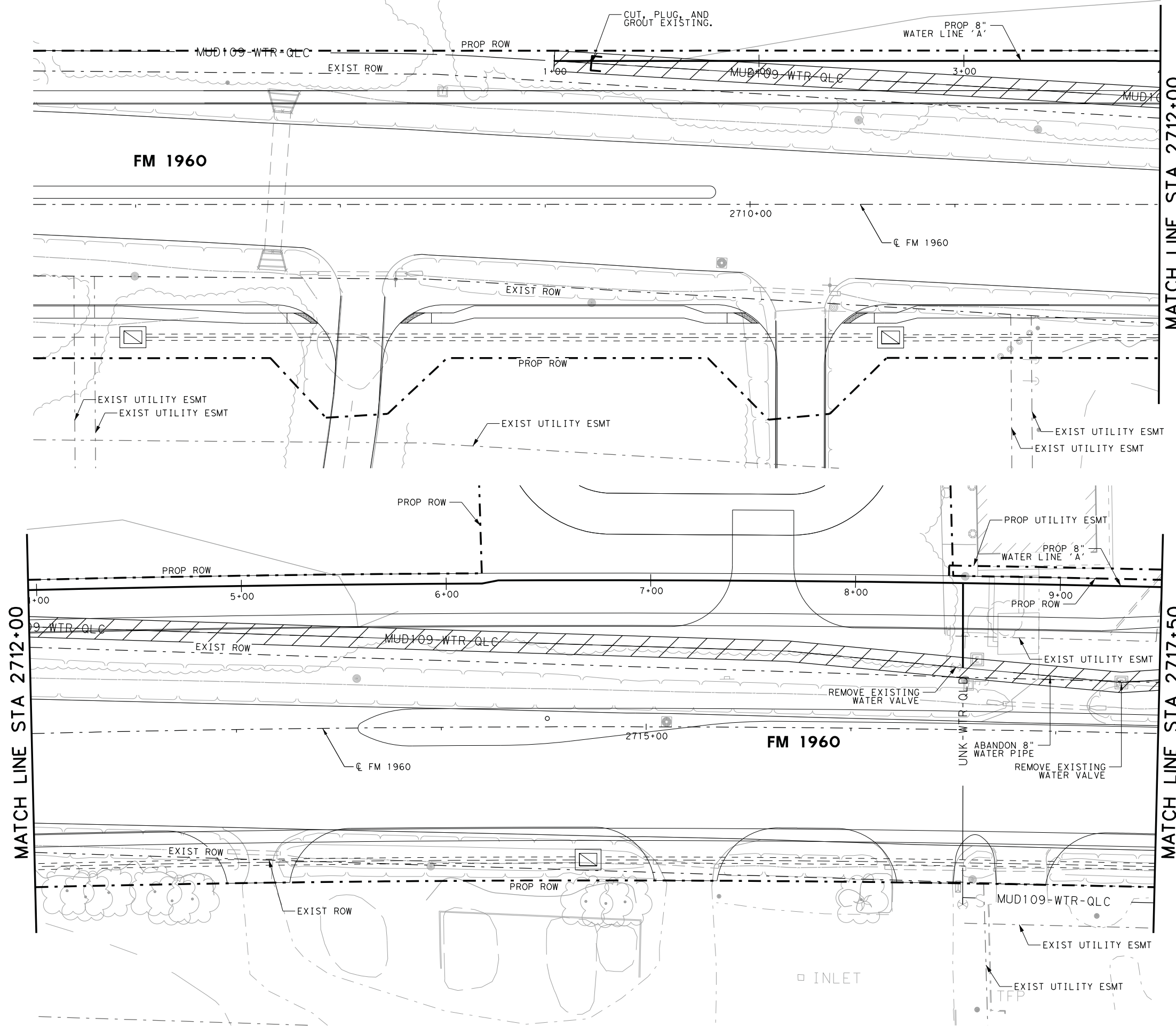
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	514
CONTROL	SECTION	JOB	
1685	03	058	

FILENAME: FM1960W_Abandonment Layout_1.dgn

DRAWING DATE: 4/13/2020

MATCH LINE STA 2712+00

MATCH LINE STA 2717+50



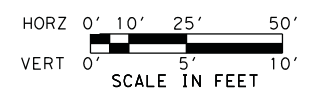
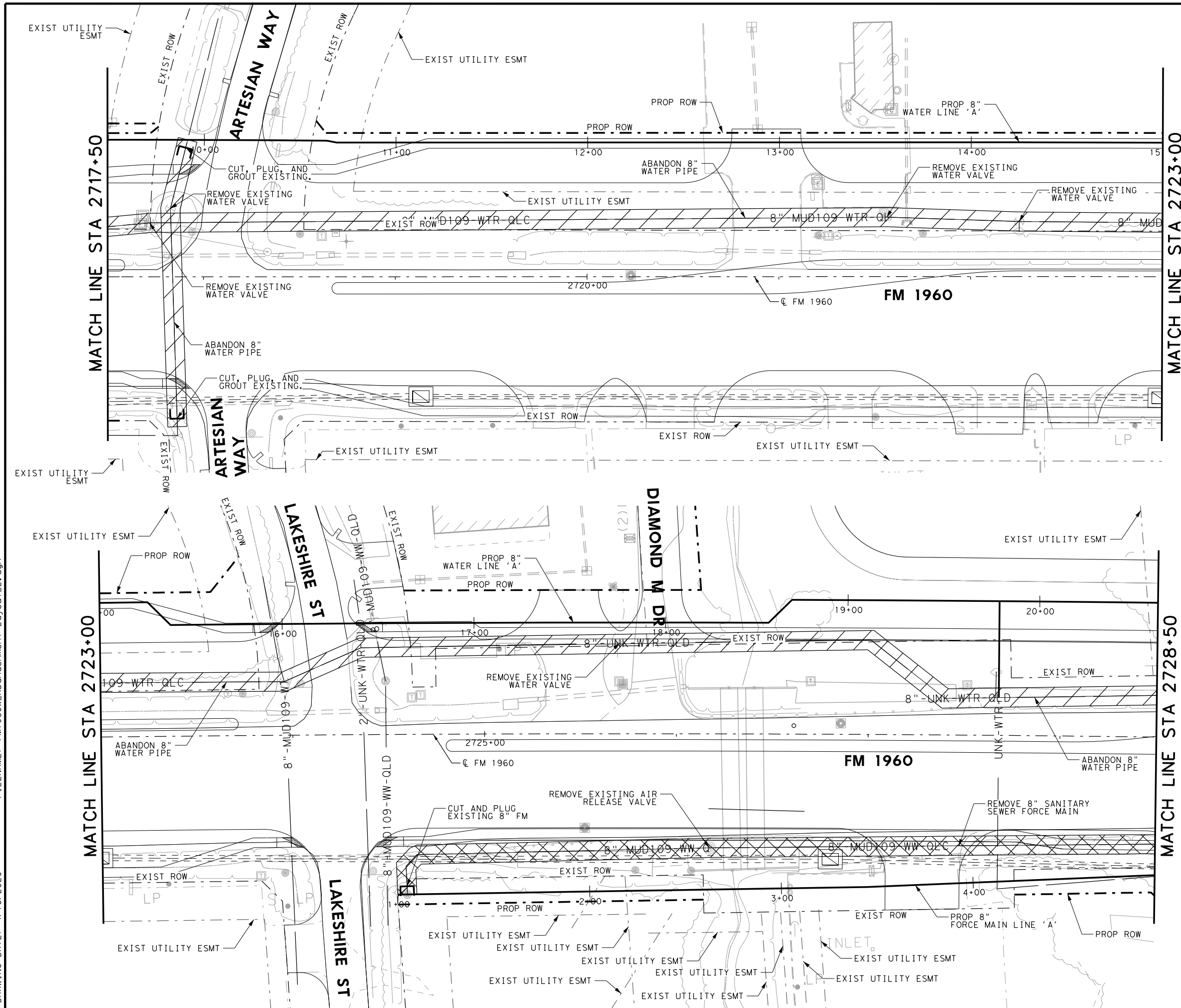
FM 1960

FM 1960

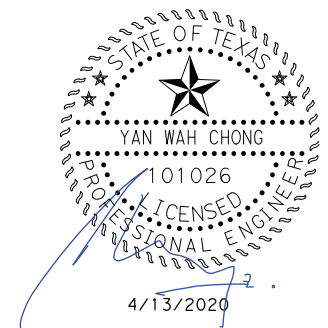
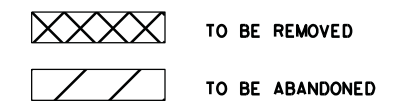
INLET

FILENAME: FM1960W_Abandonment_Layout_2.dgn

DRAWING DATE: 4/16/2020



- NOTES:**
1. SEE GENERAL NOTES SHEET FOR ADDITIONAL UTILITY INFORMATION
 2. CONTRACTOR SHALL COORDINATE WITH HC MUD 109 PRIOR TO CUTTING OR ABANDONING ANY EXISTING UTILITY LINES.
 3. CONTRACTOR SHALL VERIFY ALL SERVICES HAVE BEEN SWITCHED OVER TO THE NEW UTILITIES PRIOR TO ABANDONING ANY LINES.



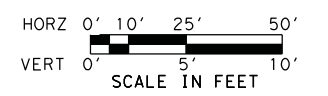
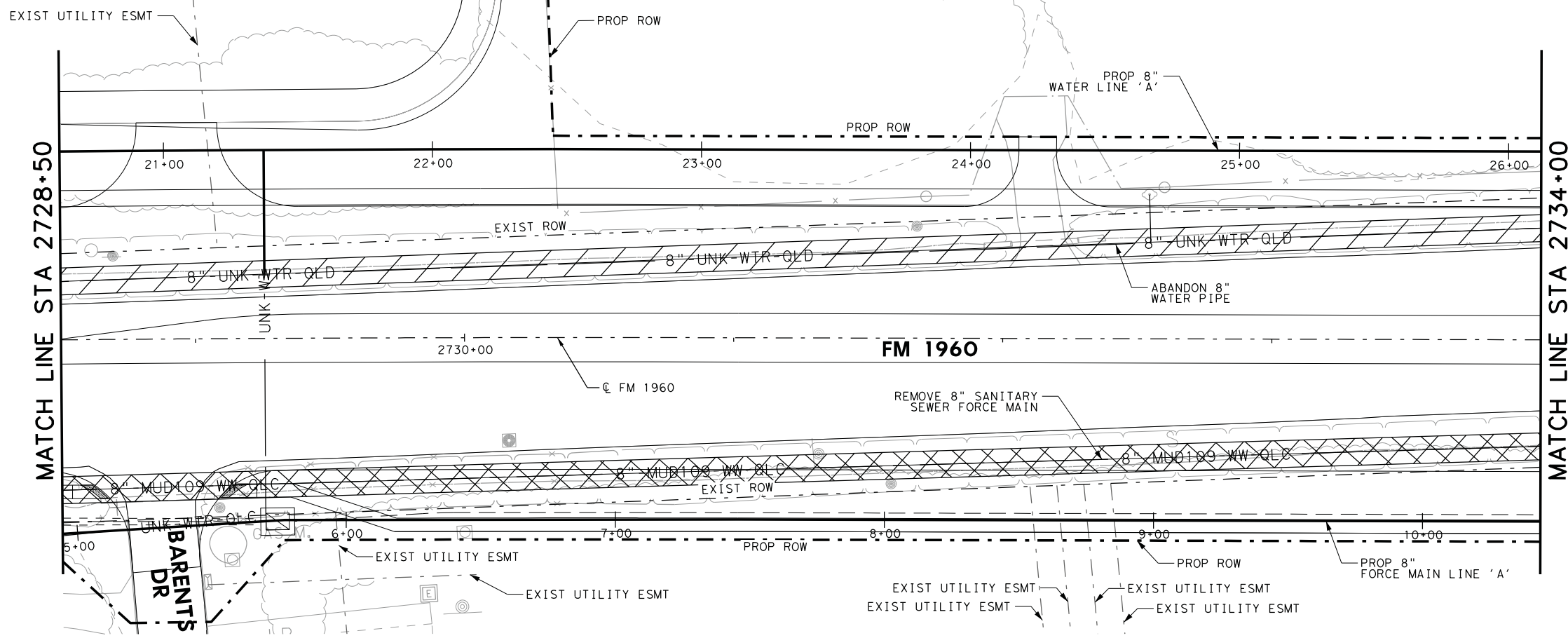
Texas Department of Transportation
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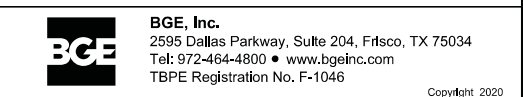
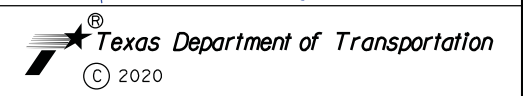
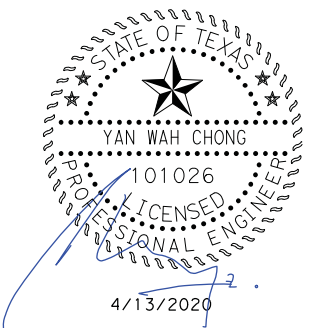
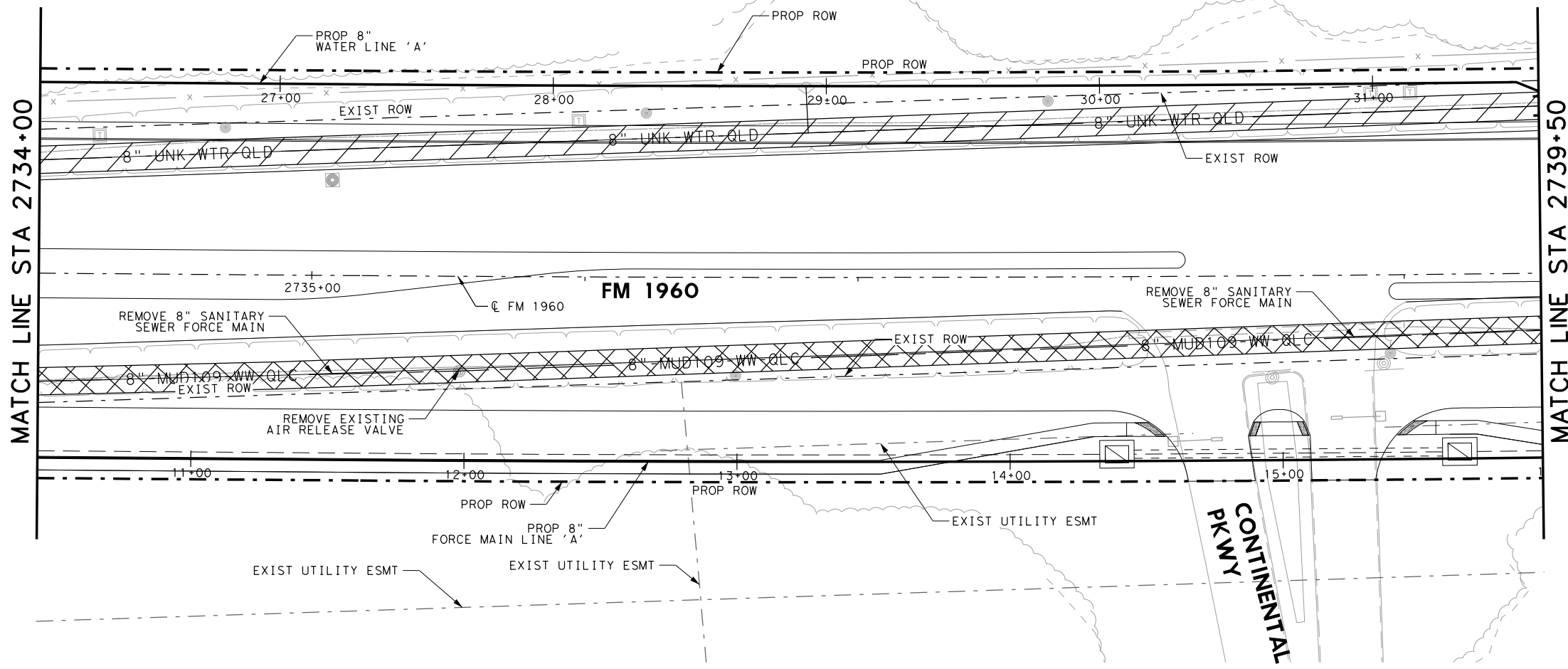
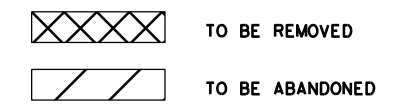
FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
UTILITY REMOVAL AND
ABANDONMENT LAYOUTS
2717+50 TO 2728+50
(HC MUD 109)

FED. RD. DIV. NO.		FEDERAL AID PROJECT NO.		HIGHWAY NO.
6				FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.	
TEXAS	HOU	HARRIS	515	
CONTROL	SECTION	JOB		
1685	03	058		

SHEET 2 OF 5



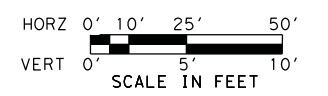
- NOTES:**
1. SEE GENERAL NOTES SHEET FOR ADDITIONAL UTILITY INFORMATION
 2. CONTRACTOR SHALL COORDINATE WITH HC MUD 109 PRIOR TO CUTTING OR ABANDONING ANY EXISTING UTILITY LINES.
 3. CONTRACTOR SHALL VERIFY ALL SERVICES HAVE BEEN SWITCHED OVER TO THE NEW UTILITIES PRIOR TO ABANDONING ANY LINES.



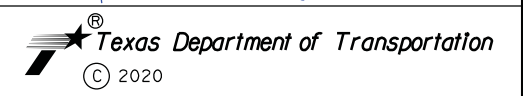
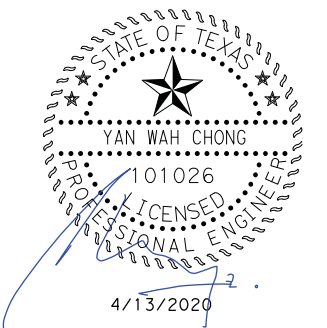
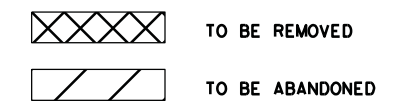
FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
UTILITY REMOVAL AND
ABANDONMENT LAYOUTS
2728+50 TO 2739+50
 (HC MUD 109)

FED. RD. DIV. NO.			FEDERAL AID PROJECT NO.	HIGHWAY NO.
6				FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.	
TEXAS	HOU	HARRIS		
CONTROL	SECTION	JOB		
1685	03	058	516	

FILENAME: FM1960W_Abandonment Layout_3.dgn
 DRAWING DATE: 4/13/2020



- NOTES:
1. SEE GENERAL NOTES SHEET FOR ADDITIONAL UTILITY INFORMATION
 2. CONTRACTOR SHALL COORDINATE WITH HC MUD 109 PRIOR TO CUTTING OR ABANDONING ANY EXISTING UTILITY LINES.
 3. CONTRACTOR SHALL VERIFY ALL SERVICES HAVE BEEN SWITCHED OVER TO THE NEW UTILITIES PRIOR TO ABANDONING ANY LINES.



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
UTILITY REMOVAL AND
ABANDONMENT LAYOUTS
2739+50 TO 2750+50

(HC MUD 109) SHEET 4 OF 5

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	517
CONTROL	SECTION	JOB	
1685	03	058	

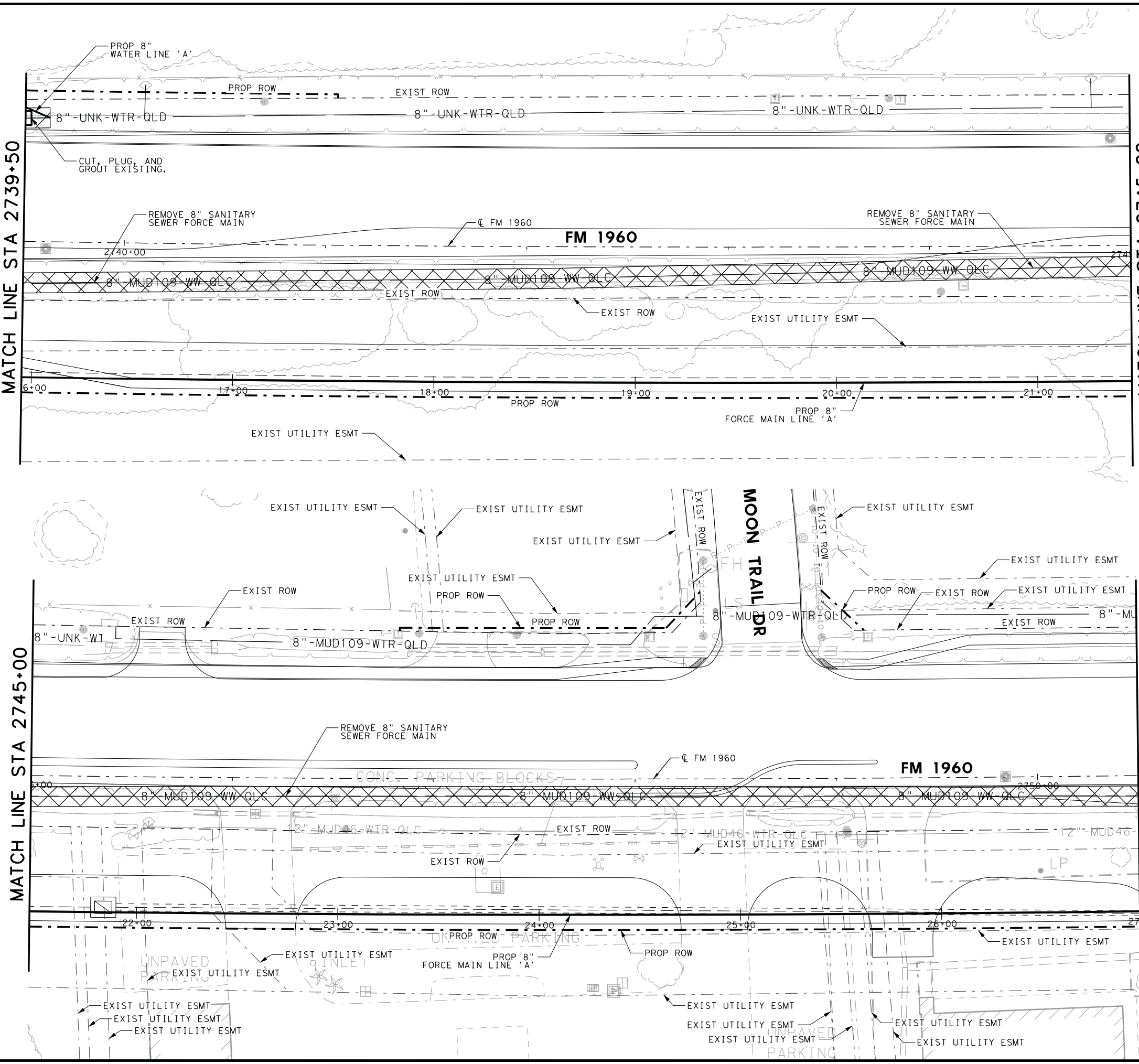
FILENAME: FM1960W_Abandonment Layout_4.dgn
 DRAWING DATE: 4/13/2020

MATCH LINE STA 2739+50

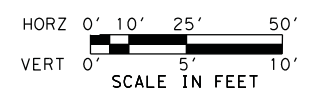
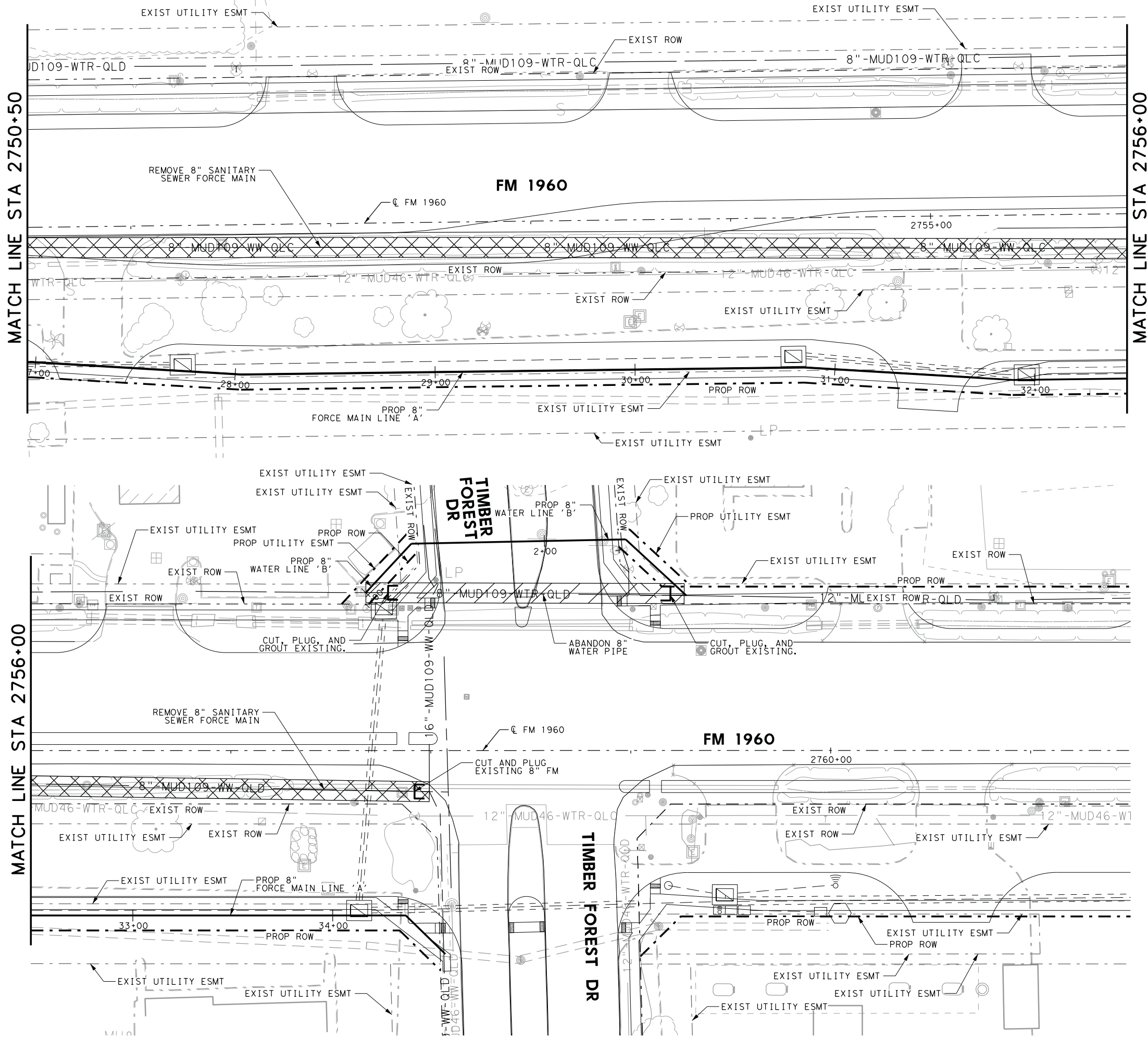
MATCH LINE STA 2745+00

MATCH LINE STA 2745+00

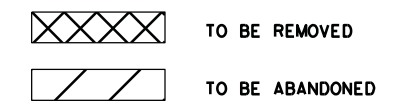
MATCH LINE STA 2750+50



FILENAME: FM1960W_Abandonment Layout_5.dgn
DRAWING DATE: 4/16/2020



- NOTES:
1. SEE GENERAL NOTES SHEET FOR ADDITIONAL UTILITY INFORMATION
 2. CONTRACTOR SHALL COORDINATE WITH HC MUD 109 PRIOR TO CUTTING OR ABANDONING ANY EXISTING UTILITY LINES.
 3. CONTRACTOR SHALL VERIFY ALL SERVICES HAVE BEEN SWITCHED OVER TO THE NEW UTILITIES PRIOR TO ABANDONING ANY LINES.



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
UTILITY REMOVAL AND
ABANDONMENT LAYOUTS
2750+50 TO 2761+50

(HC MUD 109) SHEET 5 OF 5

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	518
CONTROL	SECTION	JOB	
1685	03	058	

WL 'A' STA 1+00 =
 C/L FM 1960 STA 2709+04, 70' LT
 BEGIN 12" WL 'A'
 CONNECT TO EXIST 12" WL
 Δ 03° 29' 08" LT
 N 13932265.0924
 E 3168722.0817

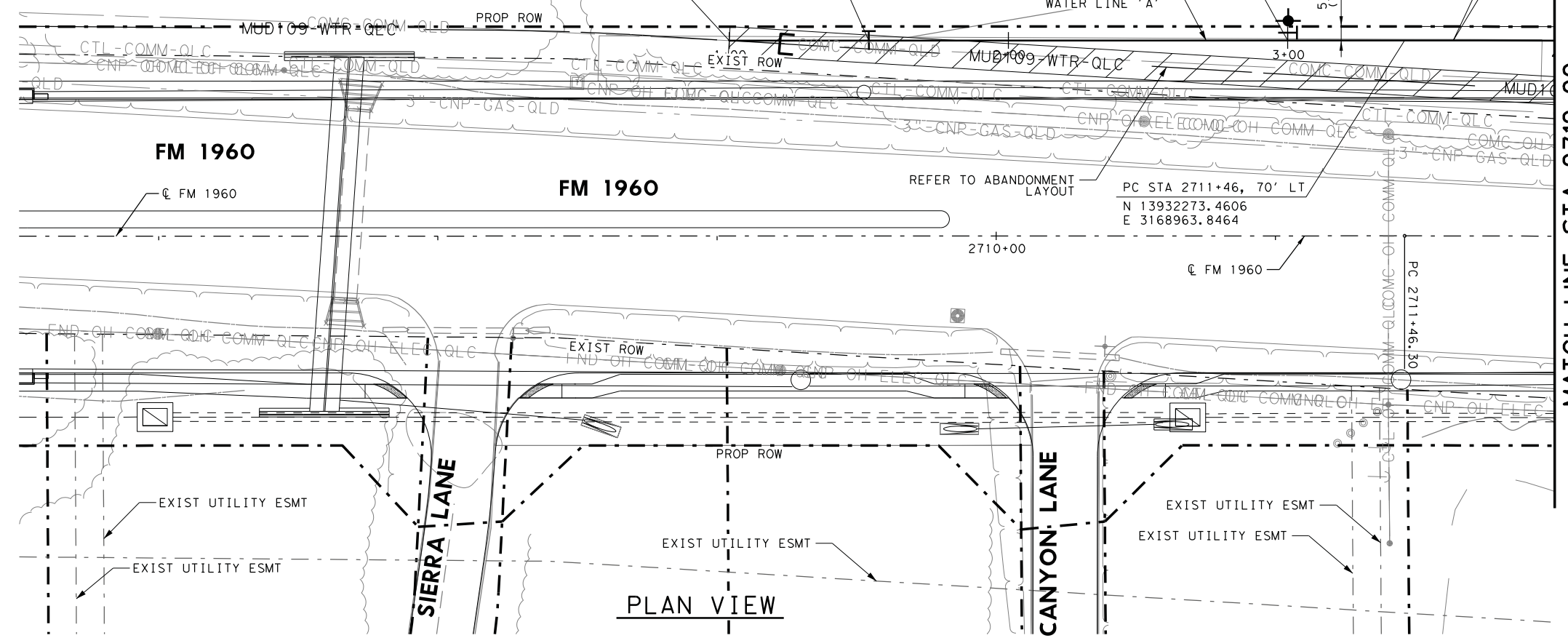
STA 2709+54, 70' LT
 INSTALL
 1-12" GATE VALVE
 N 13932266.8220
 E 3168722.0517

STA 2711+04, 70' LT
 INSTALL
 1- 12"x6" ANCHOR TEE
 1- 6" GATE VALVE
 5 LF OF 6" PVC
 1-FIRE HYDRANT ASSEMBLY
 N 13932272.0108
 E 3168921.9620

C/L CURVE DATA
 Δ = 00° 58' 29"
 R = 11520.00'
 T = 137.8144'
 L = 275.6183'



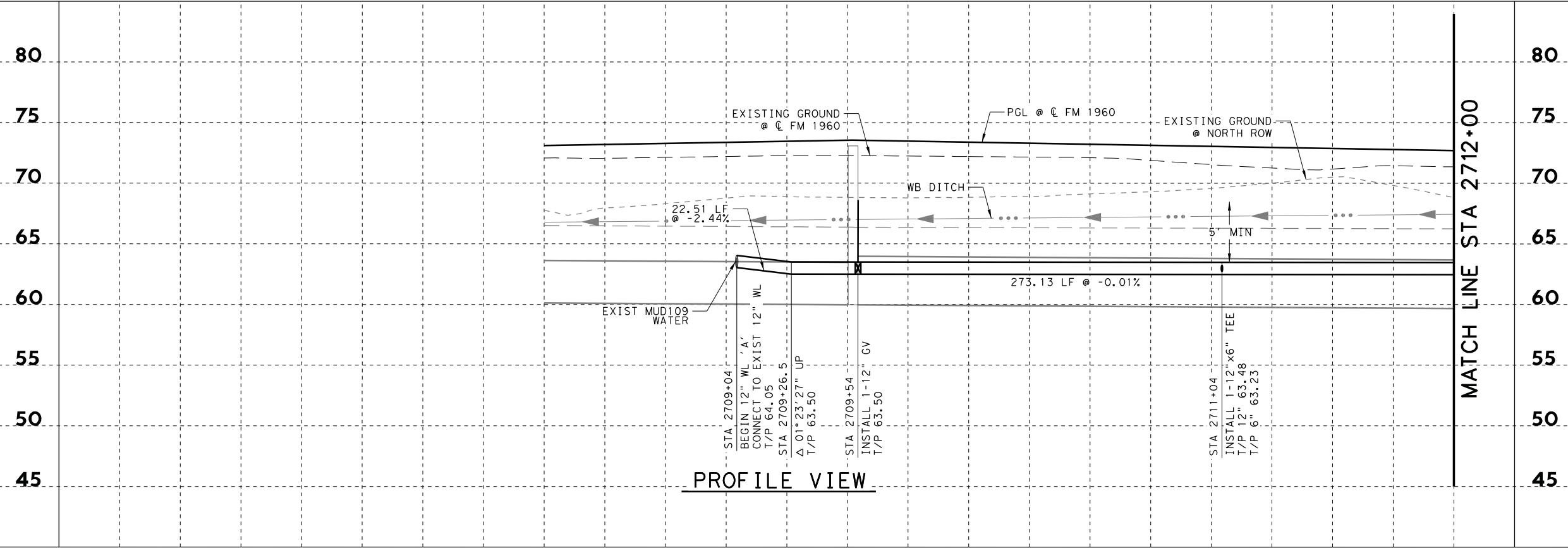
HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET



MATCH LINE STA 2712+00

- NOTES:
1. CONTRACTOR SHALL REMOVE & SALVAGE EXIST FIRE HYDRANT AND RETURN TO HARRIS COUNTY MUD109.
 2. REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
 3. ALL WATER LINES SHALL BE PVC CLASS 150, DR-18, AWWA C-900 UNLESS OTHERWISE INDICATED.
 4. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO PERFORMING THE WORK. EXIST UTILITY ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND HAVE NOT BEEN VERIFIED.
 5. ACCESS TO BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. IF A BUSINESS HAS MULTIPLE DRIVEWAYS, ONE DRIVEWAY MUST REMAIN OPEN AT ALL TIMES. IF A BUSINESS ONLY HAS ONE DRIVEWAY, THE PROPOSED UTILITY SHALL BE INSTALLED BY TRENCHLESS METHODS.
 6. CONTRACTOR SHALL LOCATE EXIST SERVICES. CONTRACTOR TO COORDINATE WITH MUD 109 TO REMOVE AND RELOCATE WATER METER/VAULT AND MAKE CONNECTIONS. REFER TO WATERLINE DETAILS FOR TYPICAL METER SETTINGS.

DRAWING DATE: 4/13/2020 FILENAME: FM1960W_UTIL_30.dgn



MATCH LINE STA 2712+00



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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROPOSED WATER LINE 'A'
 2706+50 TO 2712+00

(HC MUD 109) SHEET 1 OF 14

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	519
CONTROL	SECTION	JOB	
1685	03	058	

2710+00

C/L CURVE DATA
 $\Delta = 00^\circ 58' 29''$
 $R = 11520.00'$
 $T = 137.8144'$
 $L = 275.6183'$

PT 2714+20, 70' LT
 N 13932279.6990
 E 3169239.3875
 $\Delta 10^\circ 40' 23''$ LT
 INSTALL 1-12" 11.25° BEND

STA 2714+31, 71.5' LT
 INSTALL
 1-12" X 6" ANCHOR TEE
 1-6" GATE VALVE
 5LF OF 6" PVC
 1- FIRE HYDRANT ASSEMBLY
 N 13932281.3063
 E 3169251.7050

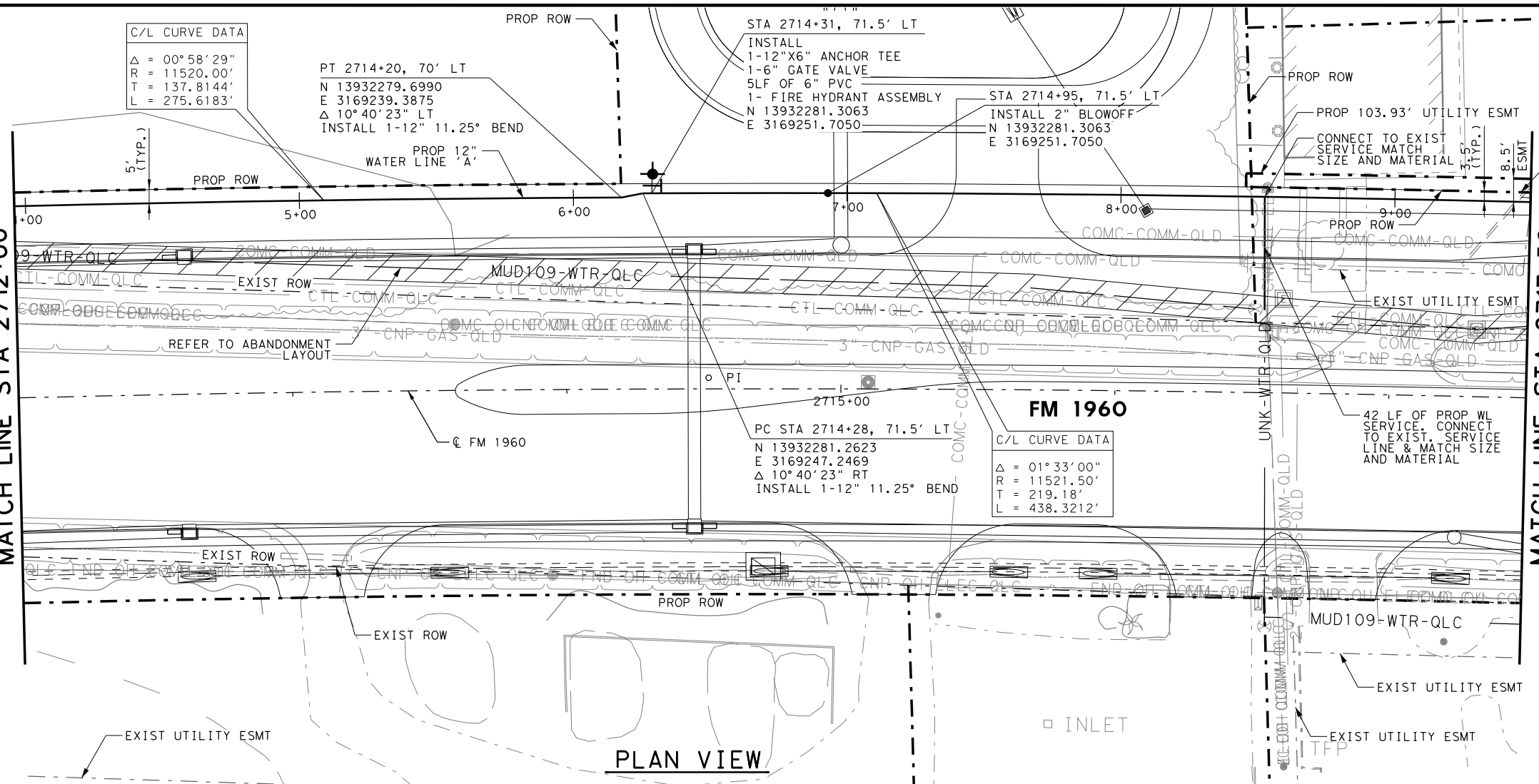
STA 2714+95, 71.5' LT
 INSTALL 2" BLOWOFF
 N 13932281.3063
 E 3169251.7050



HORIZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

MATCH LINE STA 2712+00

MATCH LINE STA 2717+50



FM 1960

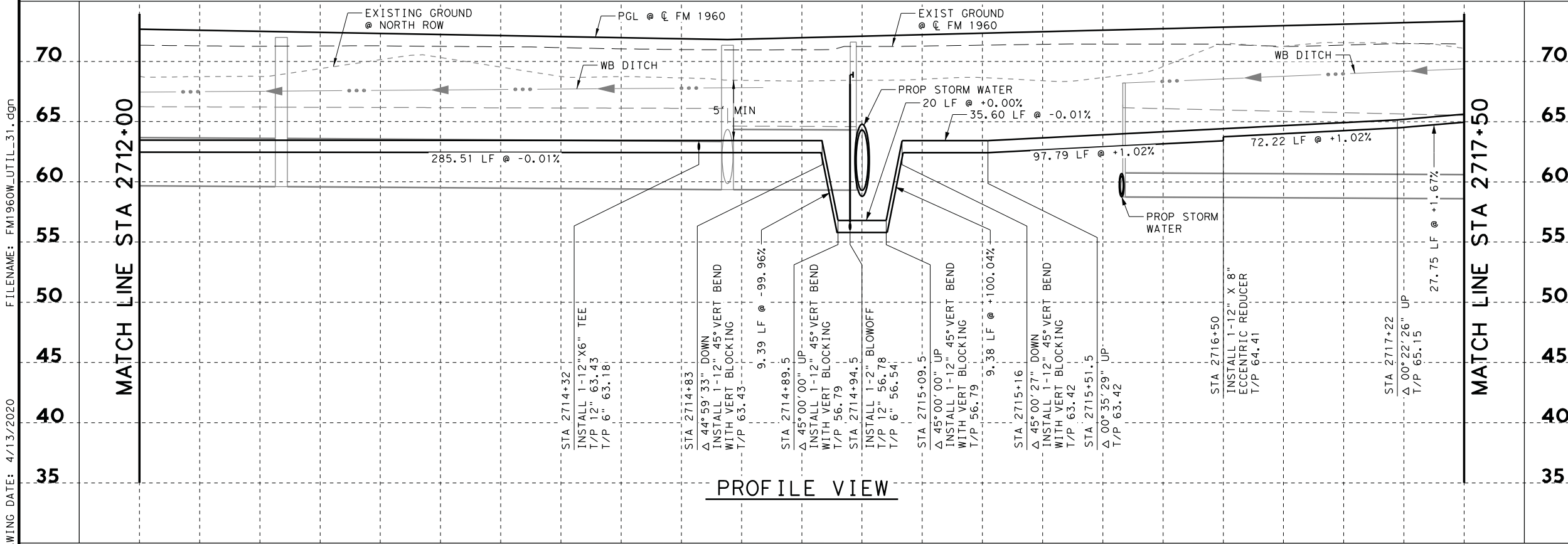
C/L CURVE DATA
 $\Delta = 01^\circ 33' 00''$
 $R = 11521.50'$
 $T = 219.18'$
 $L = 438.3212'$

PC STA 2714+28, 71.5' LT
 N 13932281.2623
 E 3169247.2469
 $\Delta 10^\circ 40' 23''$ RT
 INSTALL 1-12" 11.25° BEND

NOTES:

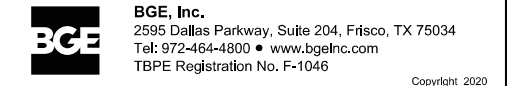
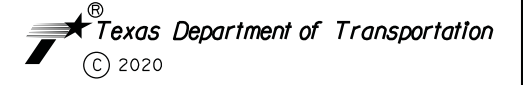
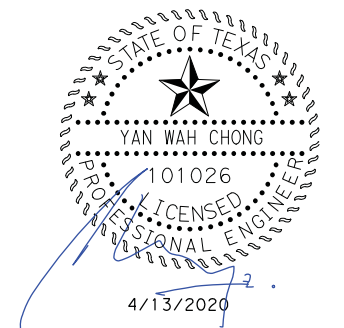
- CONTRACTOR SHALL REMOVE & SALVAGE EXIST FIRE HYDRANT AND RETURN TO HARRIS COUNTY MUD109.
- REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
- ALL WATER LINES SHALL BE PVC CLASS 150, DR-18, AWWA C-900 UNLESS OTHERWISE INDICATED.
- CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO PERFORMING THE WORK. EXIST UTILITY ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND HAVE NOT BEEN VERIFIED.
- ACCESS TO BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. IF A BUSINESS HAS MULTIPLE DRIVEWAYS, ONE DRIVEWAY MUST REMAIN OPEN AT ALL TIMES. IF A BUSINESS ONLY HAS ONE DRIVEWAY, THE PROPOSED UTILITY SHALL BE INSTALLED BY TRENCHLESS METHODS.
- CONTRACTOR SHALL LOCATE EXIST SERVICES. CONTRACTOR TO COORDINATE WITH MUD 109 TO REMOVE AND RELOCATE WATER METER/VAULT AND MAKE CONNECTIONS. REFER TO WATERLINE DETAILS FOR TYPICAL METER SETTINGS.

PLAN VIEW



PROFILE VIEW

2715+00



FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROPOSED WATER LINE 'A'
 2712+00 TO 2717+50

(HC MUD 109)

SHEET 2 OF 14

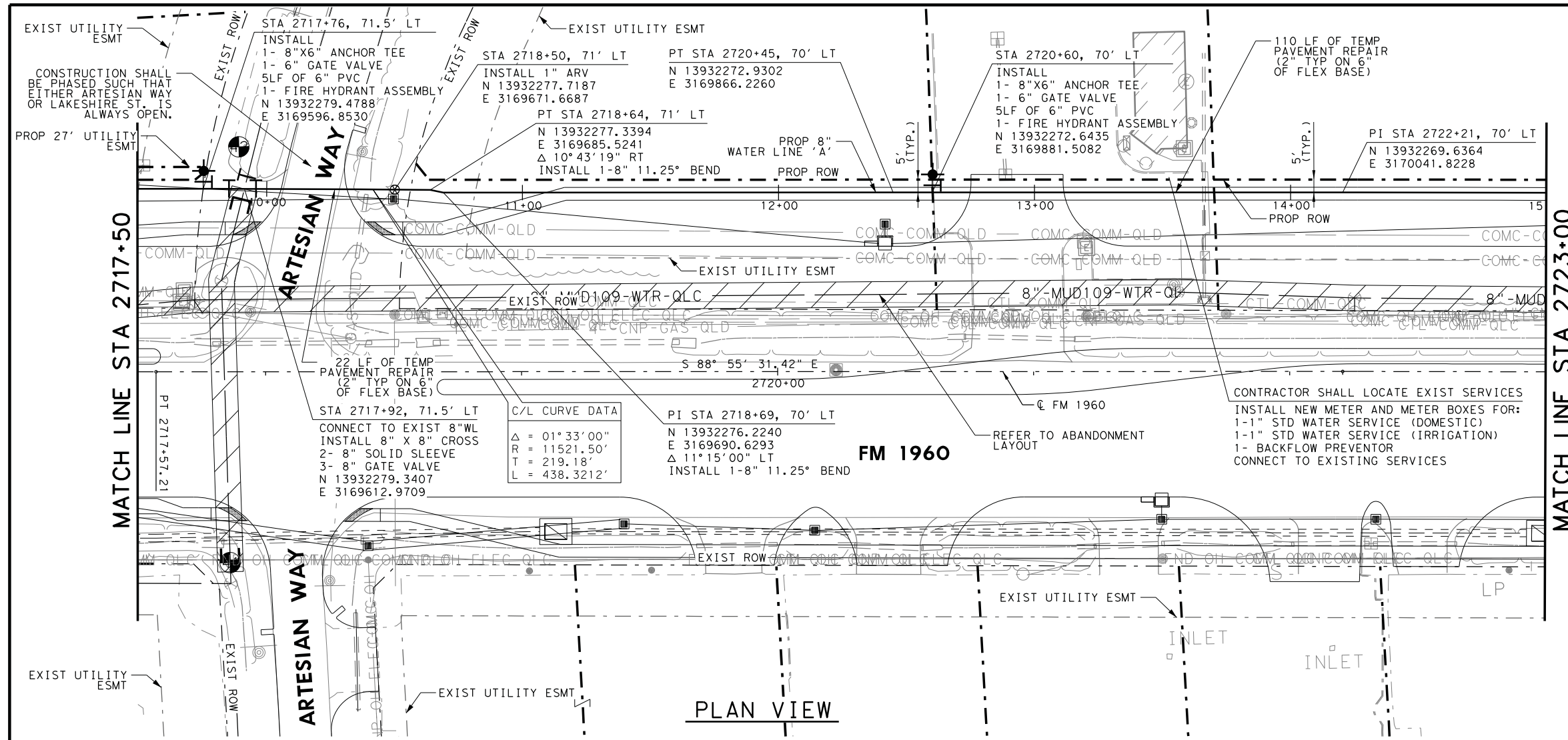
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	520
1685	03	058	

FILENAME: FM1960W_UTIL_31.dgn

DRAWING DATE: 4/13/2020

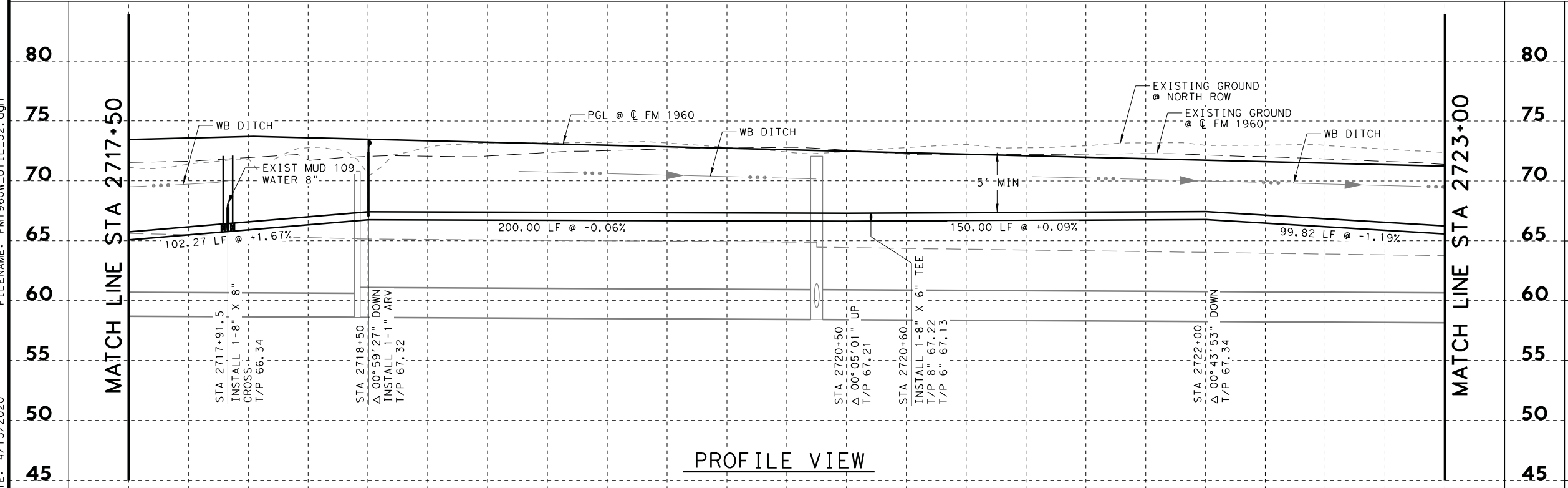


HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

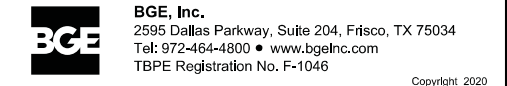
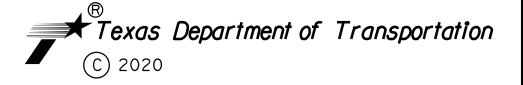


PLAN VIEW

- NOTES:
- CONTRACTOR SHALL REMOVE & SALVAGE EXIST FIRE HYDRANT AND RETURN TO HARRIS COUNTY MUD109.
 - REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
 - ALL WATER LINES SHALL BE PVC CLASS 150, DR-18, AWWA C-900 UNLESS OTHERWISE INDICATED.
 - CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO PERFORMING THE WORK. EXIST UTILITY ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND HAVE NOT BEEN VERIFIED.
 - ACCESS TO BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. IF A BUSINESS HAS MULTIPLE DRIVEWAYS, ONE DRIVEWAY MUST REMAIN OPEN AT ALL TIMES. IF A BUSINESS ONLY HAS ONE DRIVEWAY, THE PROPOSED UTILITY SHALL BE INSTALLED BY TRENCHLESS METHODS.
 - CONTRACTOR SHALL LOCATE EXIST SERVICES. CONTRACTOR TO COORDINATE WITH MUD 109 TO REMOVE AND RELOCATE WATER METER/VAULT AND MAKE CONNECTIONS. REFER TO WATERLINE DETAILS FOR TYPICAL METER SETTINGS.



PROFILE VIEW



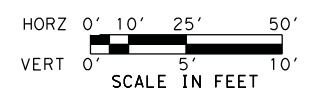
FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROPOSED WATER LINE 'A'
 2717+50 TO 2723+00

(HC MUD 109) SHEET 3 OF 14

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	521
CONTROL	SECTION	JOB	
1685	03	058	

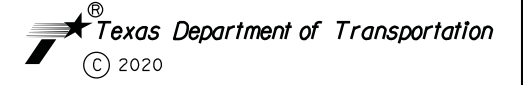
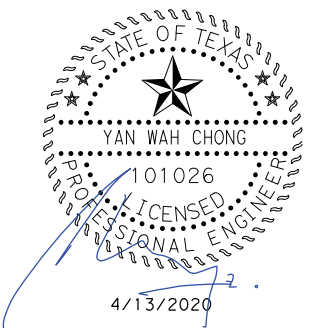
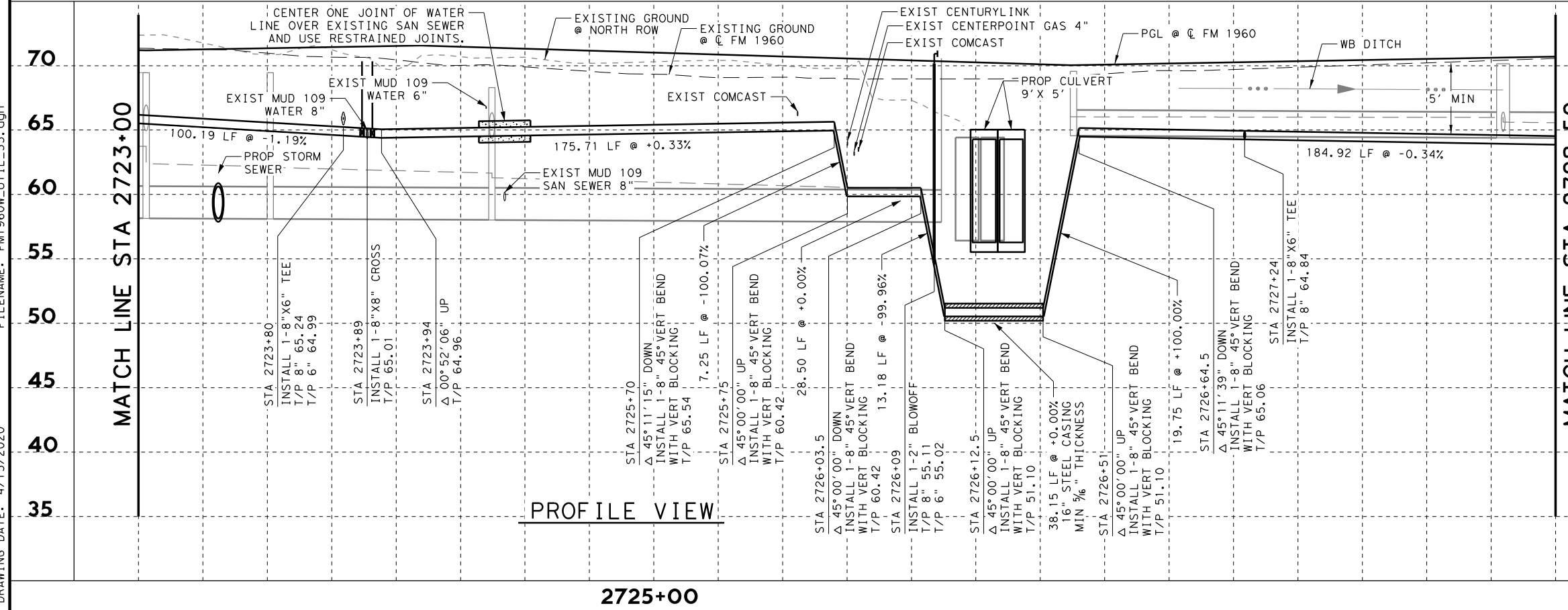
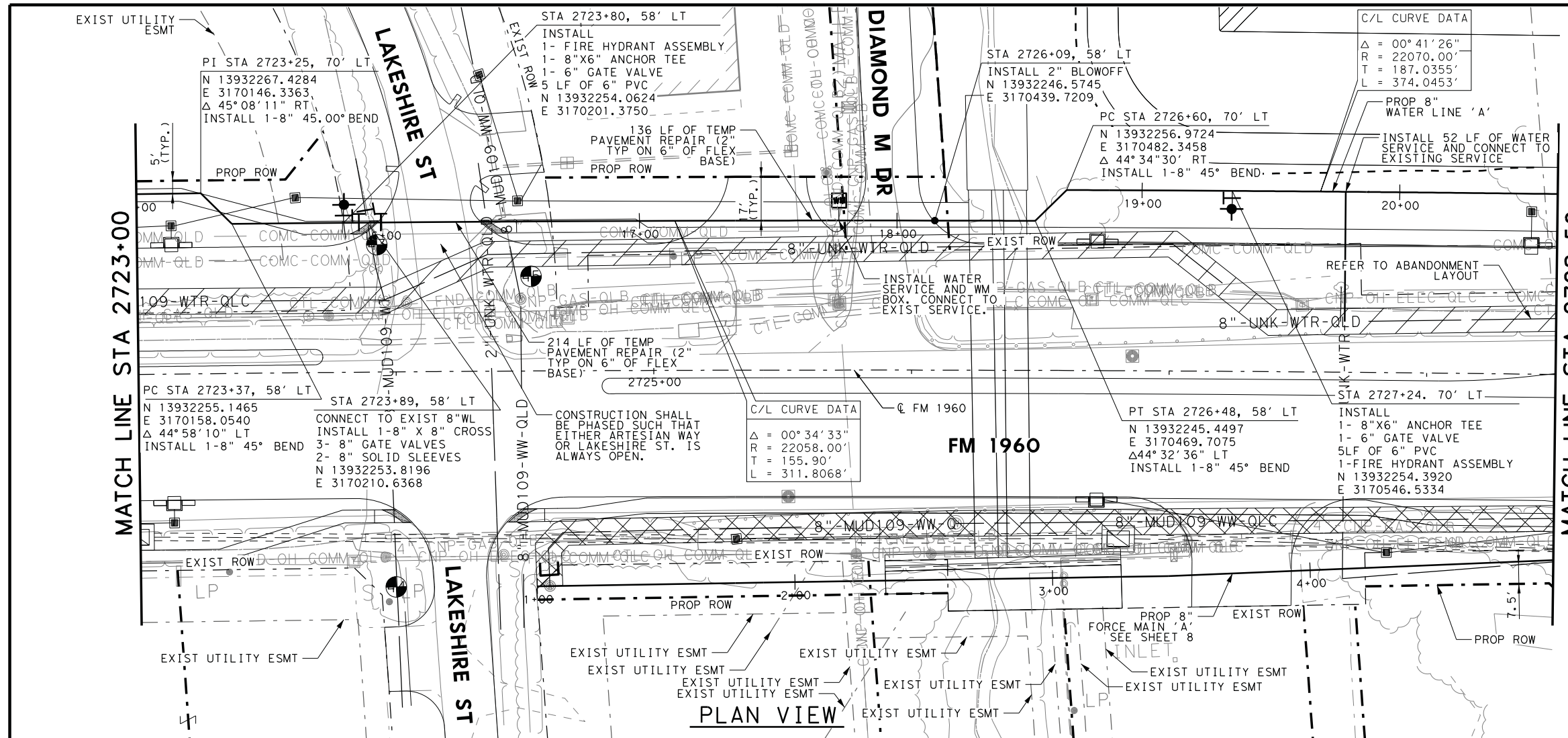
DRAWING DATE: 4/13/2020 FILENAME: FM1960W_UTIL_32.dgn

2720+00



NOTES:

1. CONTRACTOR SHALL REMOVE & SALVAGE EXIST FIRE HYDRANT AND RETURN TO HARRIS COUNTY MUD109.
2. REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
3. ALL WATER LINES SHALL BE PVC CLASS 150, DR-18, AWWA C-900 UNLESS OTHERWISE INDICATED.
4. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO PERFORMING THE WORK. EXIST UTILITY ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND HAVE NOT BEEN VERIFIED.
5. ACCESS TO BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. IF A BUSINESS HAS MULTIPLE DRIVEWAYS, ONE DRIVEWAY MUST REMAIN OPEN AT ALL TIMES. IF A BUSINESS ONLY HAS ONE DRIVEWAY, THE PROPOSED UTILITY SHALL BE INSTALLED BY TRENCHLESS METHODS.
6. CONTRACTOR SHALL LOCATE EXIST SERVICES. CONTRACTOR TO COORDINATE WITH MUD 109 TO REMOVE AND RELOCATE WATER METER/VAULT AND MAKE CONNECTIONS. REFER TO WATERLINE DETAILS FOR TYPICAL METER SETTINGS.

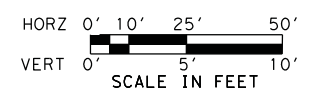


FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROPOSED WATER LINE 'A'
 2723+00 TO 2728+50

(HC MUD 109) SHEET 4 OF 14

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	522
1685	03	058	

DRAWING DATE: 4/13/2020 FILENAME: FM1960W_UTIL_33.dgn



C/L CURVE DATA
 $\Delta = 0^\circ 41' 26''$
 $R = 22070.00'$
 $T = 187.0355'$
 $L = 374.0453'$

STA 2730+33, 70' LT
 INSTALL
 1- 8"X6" ANCHOR TEE
 1- 6" GATE VALVE
 5LF OF 6" PVC
 1- FIRE HYDRANT ASSEMBLY
 N 13932239.3249
 E 3170855.9701

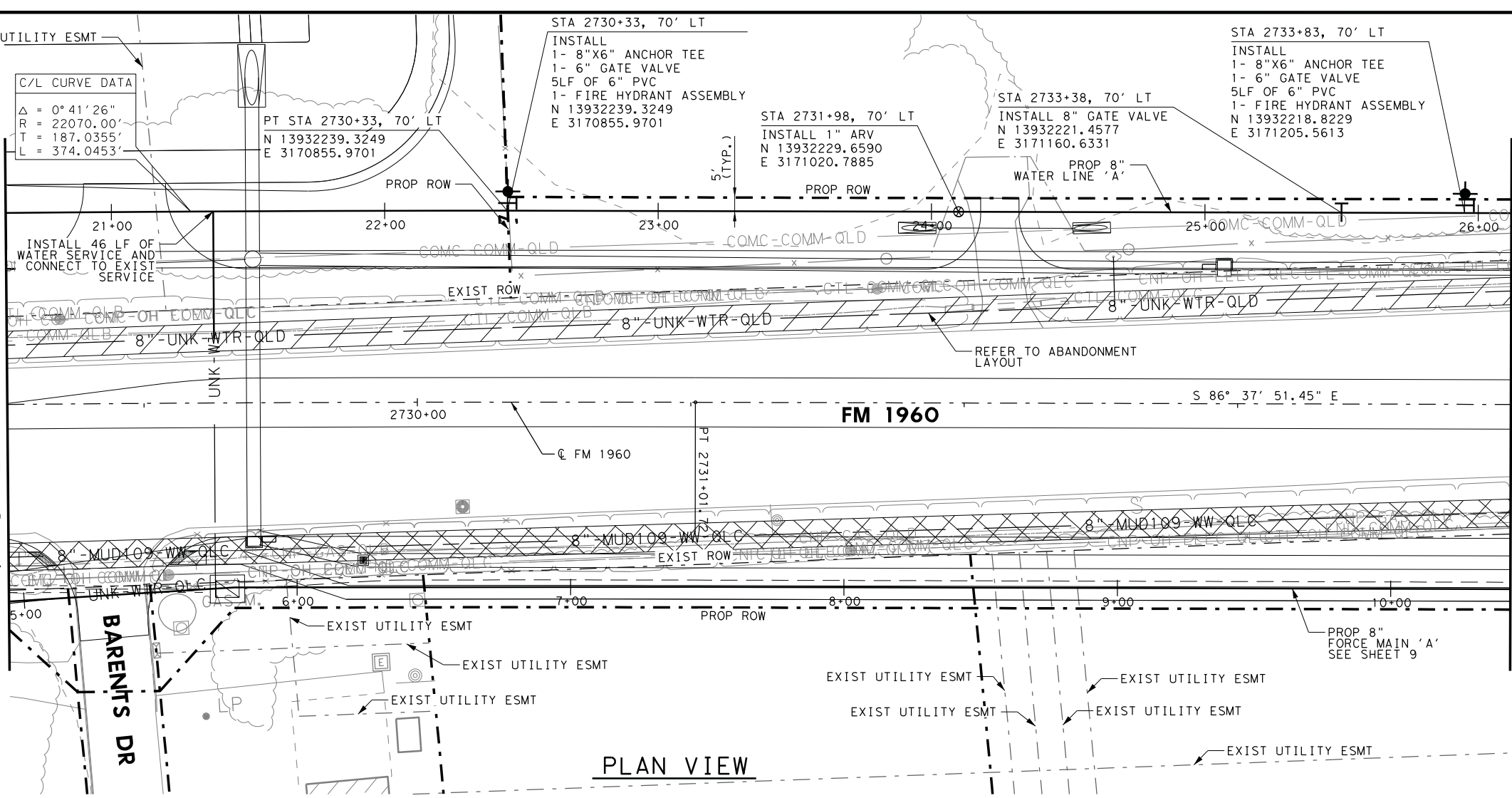
STA 2731+98, 70' LT
 INSTALL 1" ARV
 N 13932229.6590
 E 3171020.7885

STA 2733+38, 70' LT
 INSTALL 8" GATE VALVE
 N 13932221.4577
 E 3171160.6331

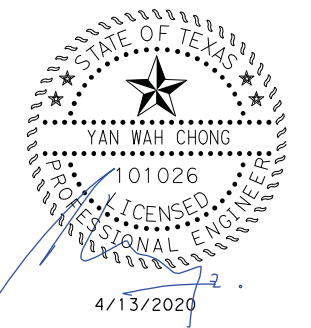
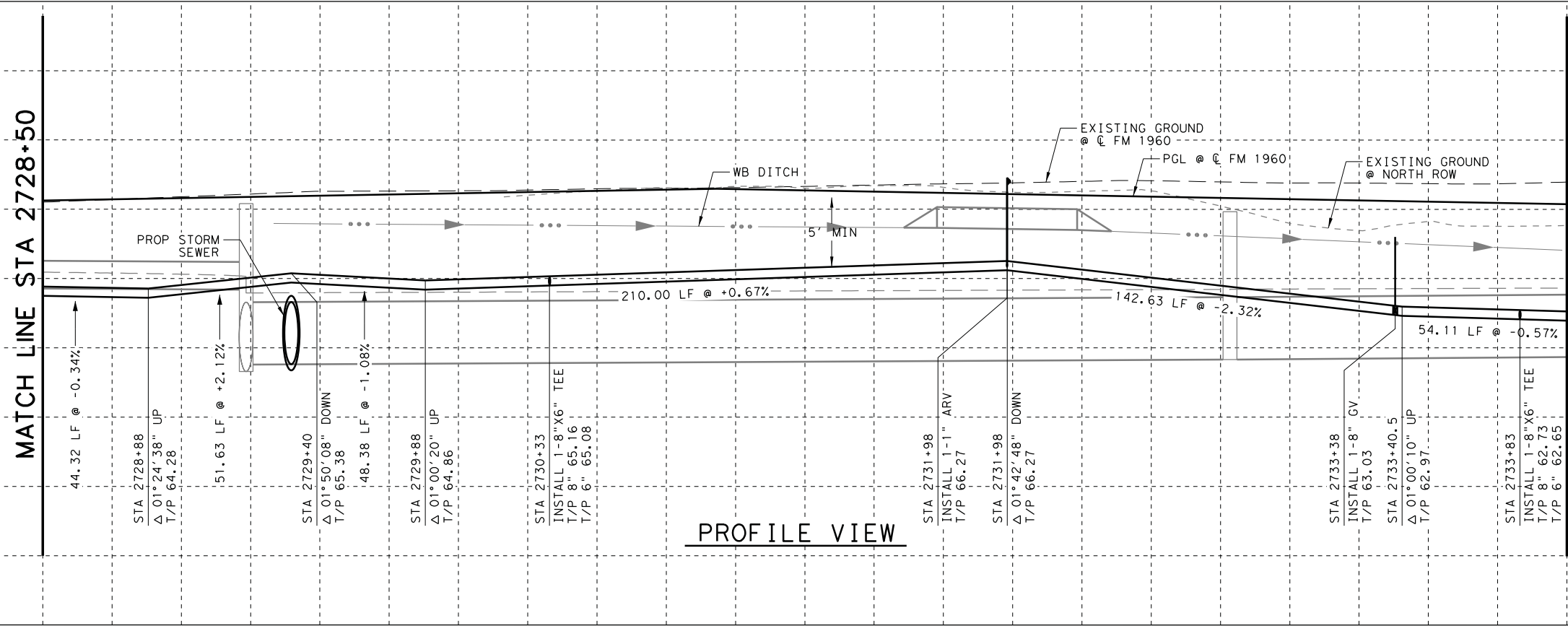
STA 2733+83, 70' LT
 INSTALL
 1- 8"X6" ANCHOR TEE
 1- 6" GATE VALVE
 5LF OF 6" PVC
 1- FIRE HYDRANT ASSEMBLY
 N 13932218.8229
 E 3171205.5613

MATCH LINE STA 2728+50

MATCH LINE STA 2734+00



- NOTES:
- CONTRACTOR SHALL REMOVE & SALVAGE EXIST FIRE HYDRANT AND RETURN TO HARRIS COUNTY MUD109.
 - REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
 - ALL WATER LINES SHALL BE PVC CLASS 150, DR-18, AWWA C-900 UNLESS OTHERWISE INDICATED.
 - CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO PERFORMING THE WORK. EXIST UTILITY ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND HAVE NOT BEEN VERIFIED.
 - ACCESS TO BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. IF A BUSINESS HAS MULTIPLE DRIVEWAYS, ONE DRIVEWAY MUST REMAIN OPEN AT ALL TIMES. IF A BUSINESS ONLY HAS ONE DRIVEWAY, THE PROPOSED UTILITY SHALL BE INSTALLED BY TRENCHLESS METHODS.
 - CONTRACTOR SHALL LOCATE EXIST SERVICES. CONTRACTOR TO COORDINATE WITH MUD 109 TO REMOVE AND RELOCATE WATER METER/VAULT AND MAKE CONNECTIONS. REFER TO WATERLINE DETAILS FOR TYPICAL METER SETTINGS.



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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROPOSED WATER LINE 'A'
 2728+50 TO 2734+00

(HC MUD 109) SHEET 5 OF 14

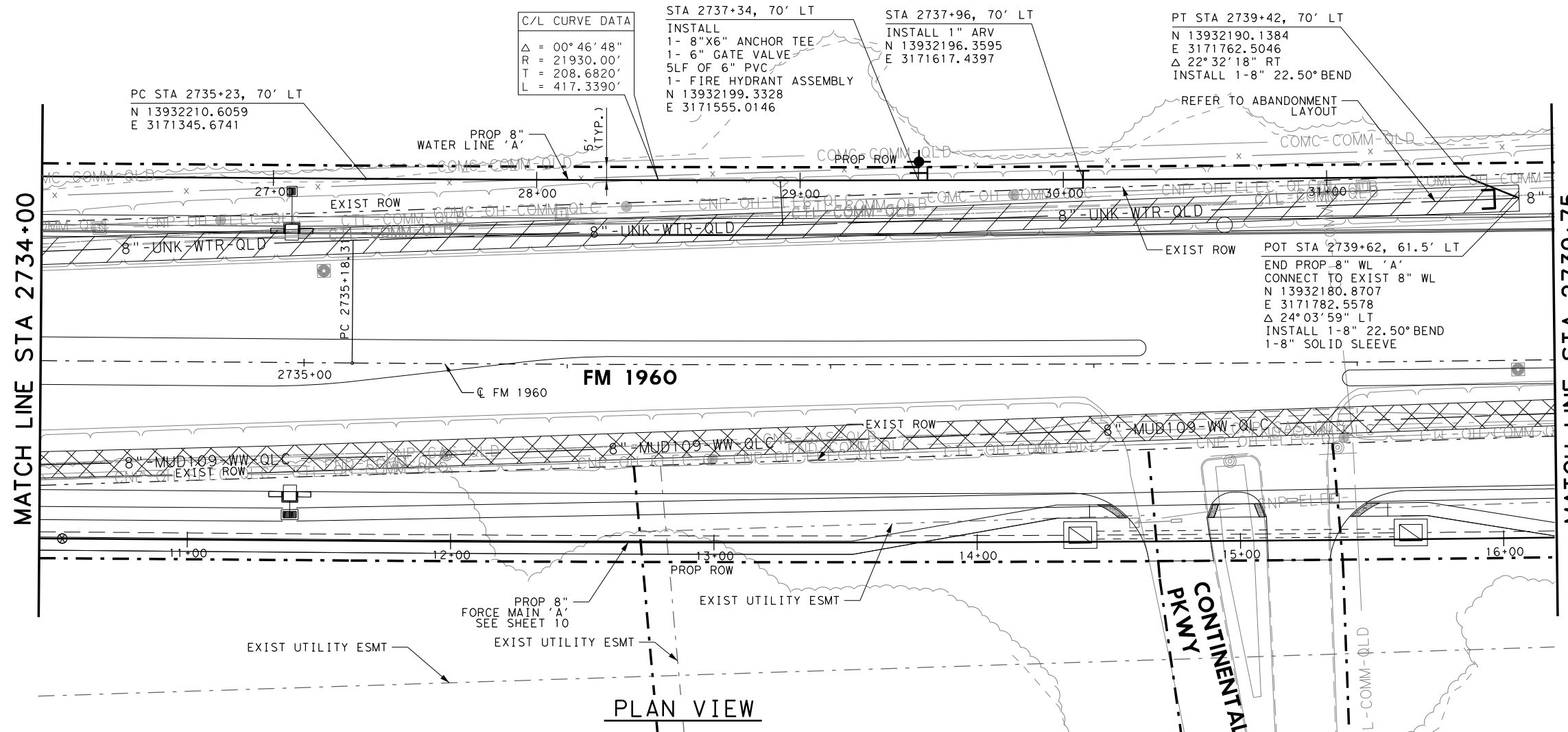
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	523
CONTROL	SECTION	JOB	
1685	03	058	

FILENAME: FM1960W_UTIL_34.dgn

DRAWING DATE: 4/13/2020



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET



C/L CURVE DATA
 $\Delta = 00^\circ 46' 48''$
 $R = 21930.00'$
 $T = 208.6820'$
 $L = 417.3390'$

STA 2737+34, 70' LT
 INSTALL
 1- 8"X6" ANCHOR TEE
 1- 6" GATE VALVE
 5LF OF 6" PVC
 1- FIRE HYDRANT ASSEMBLY
 N 13932199.3328
 E 3171555.0146

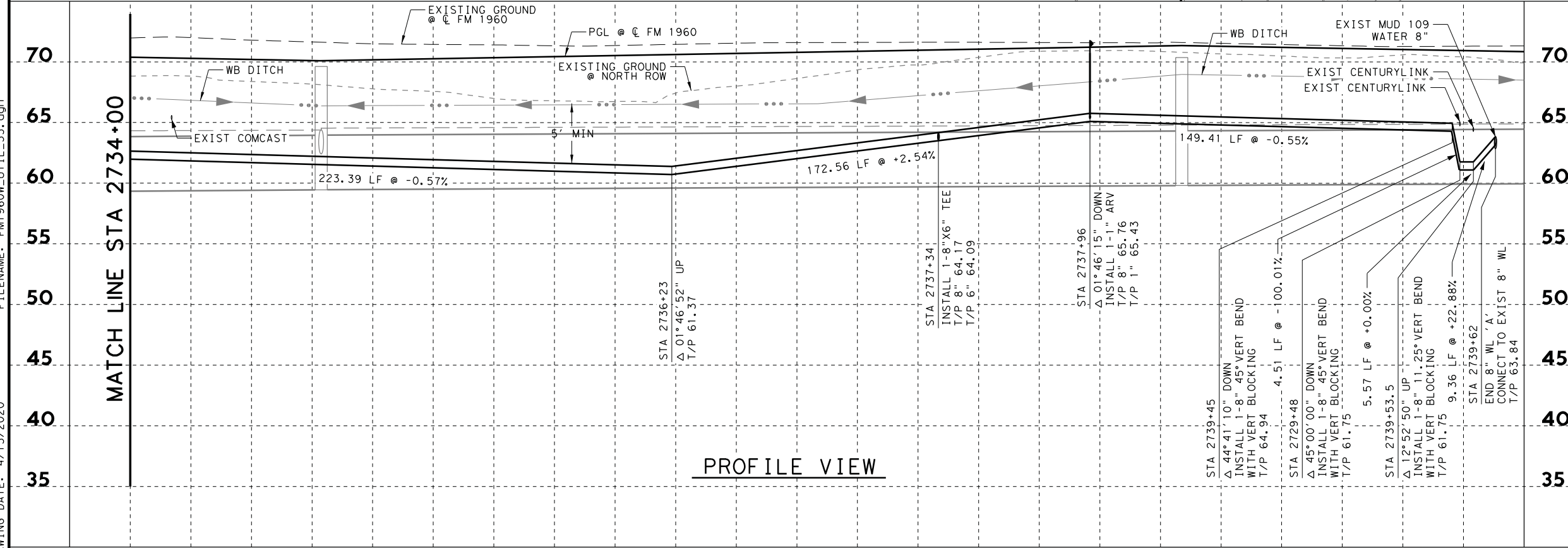
STA 2737+96, 70' LT
 INSTALL 1" ARV
 N 13932196.3595
 E 3171617.4397

PT STA 2739+42, 70' LT
 N 13932190.1384
 E 3171762.5046
 $\Delta 22^\circ 32' 18''$ RT
 INSTALL 1-8" 22.50° BEND
 REFER TO ABANDONMENT LAYOUT

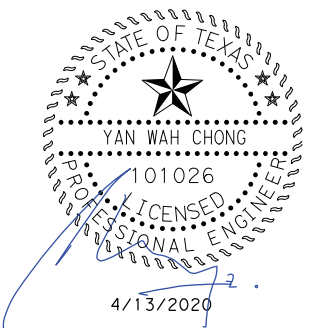
POT STA 2739+62, 61.5' LT
 END PROP 8" WL 'A'
 CONNECT TO EXIST 8" WL
 N 13932180.8707
 E 3171782.5578
 $\Delta 24^\circ 03' 59''$ LT
 INSTALL 1-8" 22.50° BEND
 1-8" SOLID SLEEVE

- NOTES:
1. CONTRACTOR SHALL REMOVE & SALVAGE EXIST FIRE HYDRANT AND RETURN TO HARRIS COUNTY MUD109.
 2. REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
 3. ALL WATER LINES SHALL BE PVC CLASS 150, DR-18, AWWA C-900 UNLESS OTHERWISE INDICATED.
 4. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO PERFORMING THE WORK. EXIST UTILITY ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND HAVE NOT BEEN VERIFIED.
 5. ACCESS TO BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. IF A BUSINESS HAS MULTIPLE DRIVEWAYS, ONE DRIVEWAY MUST REMAIN OPEN AT ALL TIMES. IF A BUSINESS ONLY HAS ONE DRIVEWAY, THE PROPOSED UTILITY SHALL BE INSTALLED BY TRENCHLESS METHODS.
 6. CONTRACTOR SHALL LOCATE EXIST SERVICES. CONTRACTOR TO COORDINATE WITH MUD 109 TO REMOVE AND RELOCATE WATER METER/VAULT AND MAKE CONNECTIONS. REFER TO WATERLINE DETAILS FOR TYPICAL METER SETTINGS.

PLAN VIEW



PROFILE VIEW



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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROPOSED WATER LINE 'A'
 2734+00 TO 2739+75

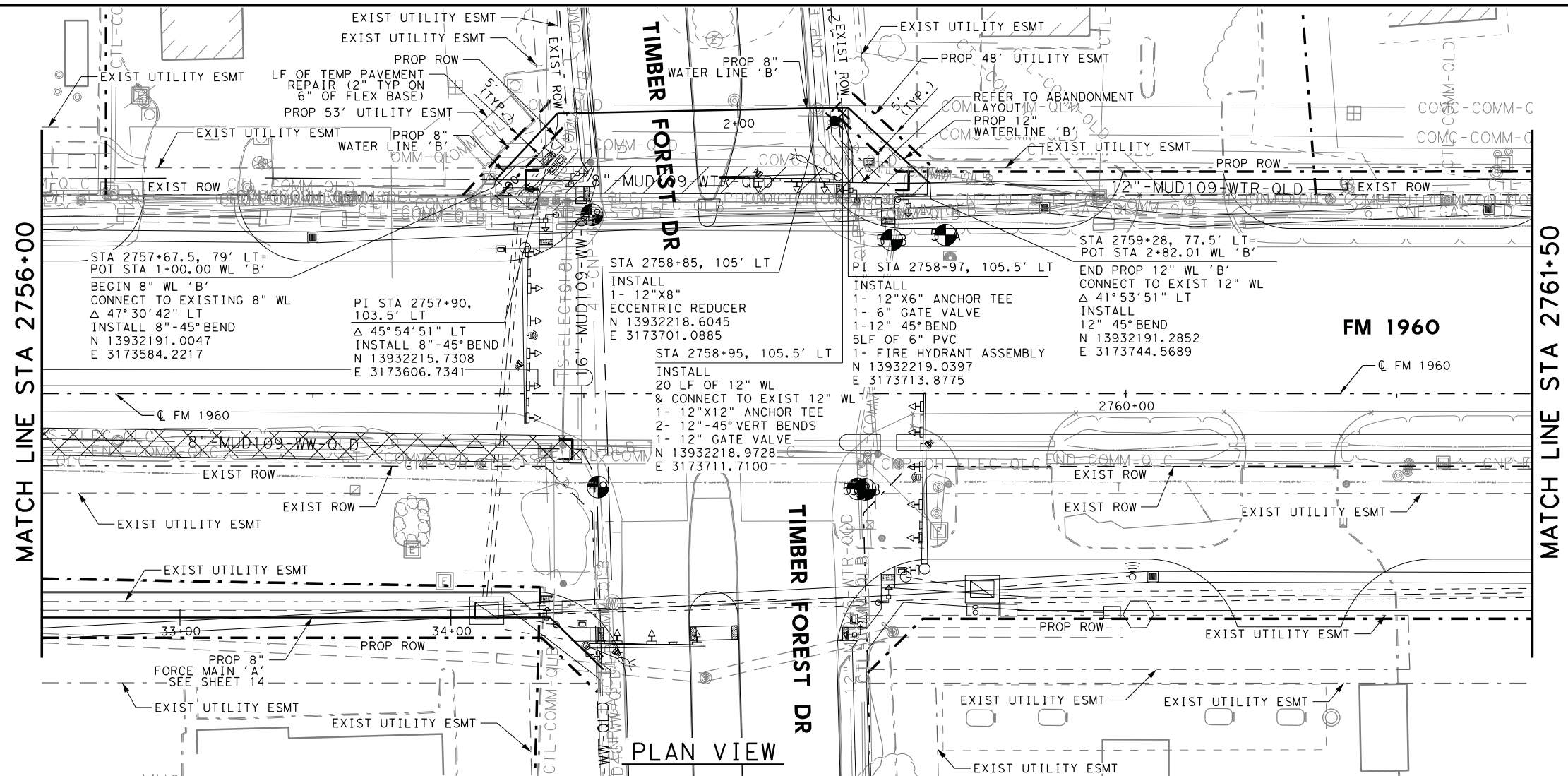
(HC MUD 109) SHEET 6 OF 14

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	524
CONTROL	SECTION	JOB	
1685	03	058	

FILENAME: FM1960W_UTIL_35.dgn
 DRAWING DATE: 4/13/2020

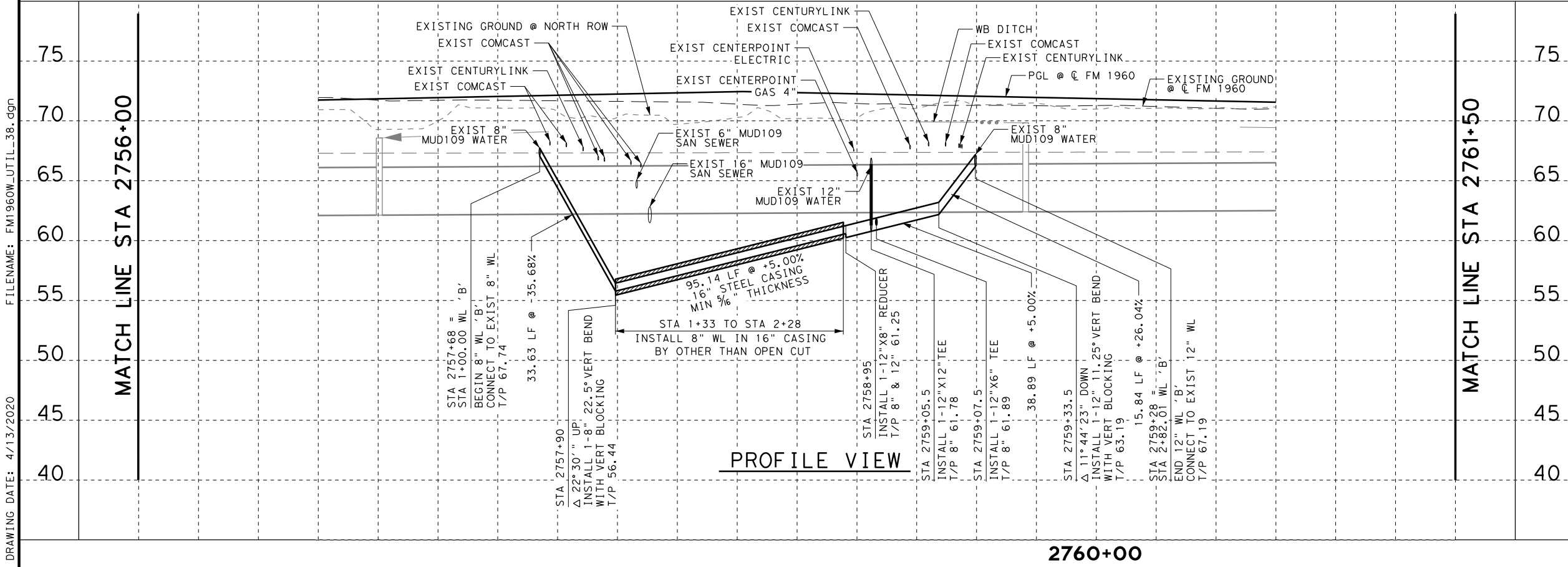


HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET



- NOTES:
1. CONTRACTOR SHALL REMOVE & SALVAGE EXIST FIRE HYDRANT AND RETURN TO HARRIS COUNTY MUD109.
 2. REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
 3. ALL WATER LINES SHALL BE PVC CLASS 150, DR-18, AWWA C-900 UNLESS OTHERWISE INDICATED.
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PLAN VIEW



PROFILE VIEW

STATE OF TEXAS
 YAN WAH CHONG
 101026
 LICENSED PROFESSIONAL ENGINEER
 4/13/2020

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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROPOSED WATER LINE 'B'
 2756+00 TO 2761+50

(HC MUD 109)

FED. RD. DIV. NO.		FEDERAL AID PROJECT NO.		HIGHWAY NO.
6				FM 1960
STATE	DISTRICT	COUNTY		SHEET NO.
TEXAS	HOU	HARRIS		
CONTROL	SECTION	JOB		525
1685	03	058		

DRAWING DATE: 4/13/2020 FILENAME: FM1960W_UTIL_38.dgn

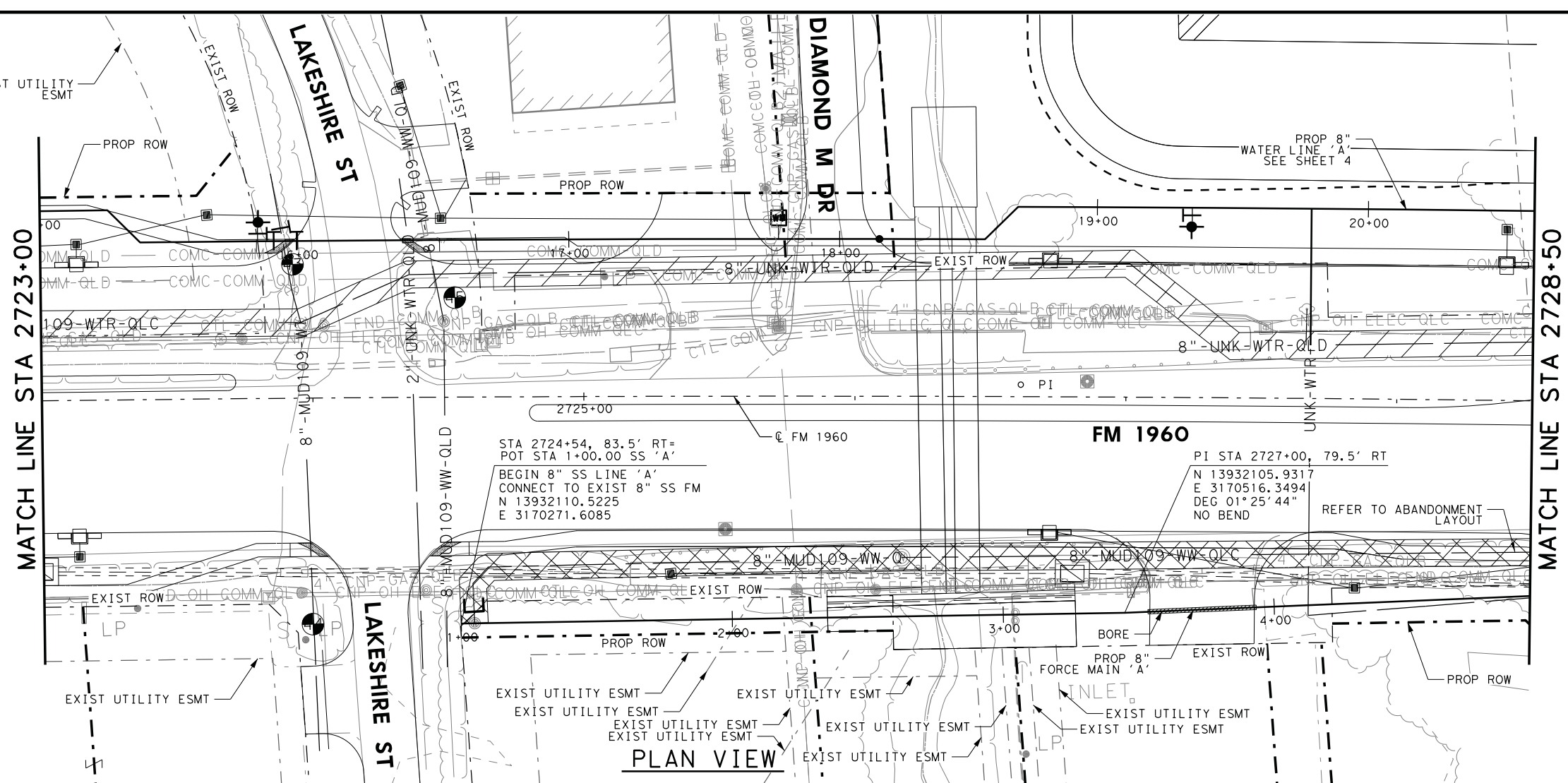
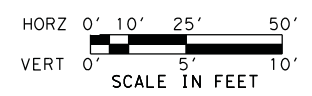
2760+00

MATCH LINE STA 2756+00

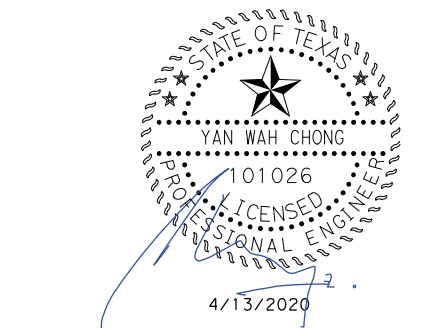
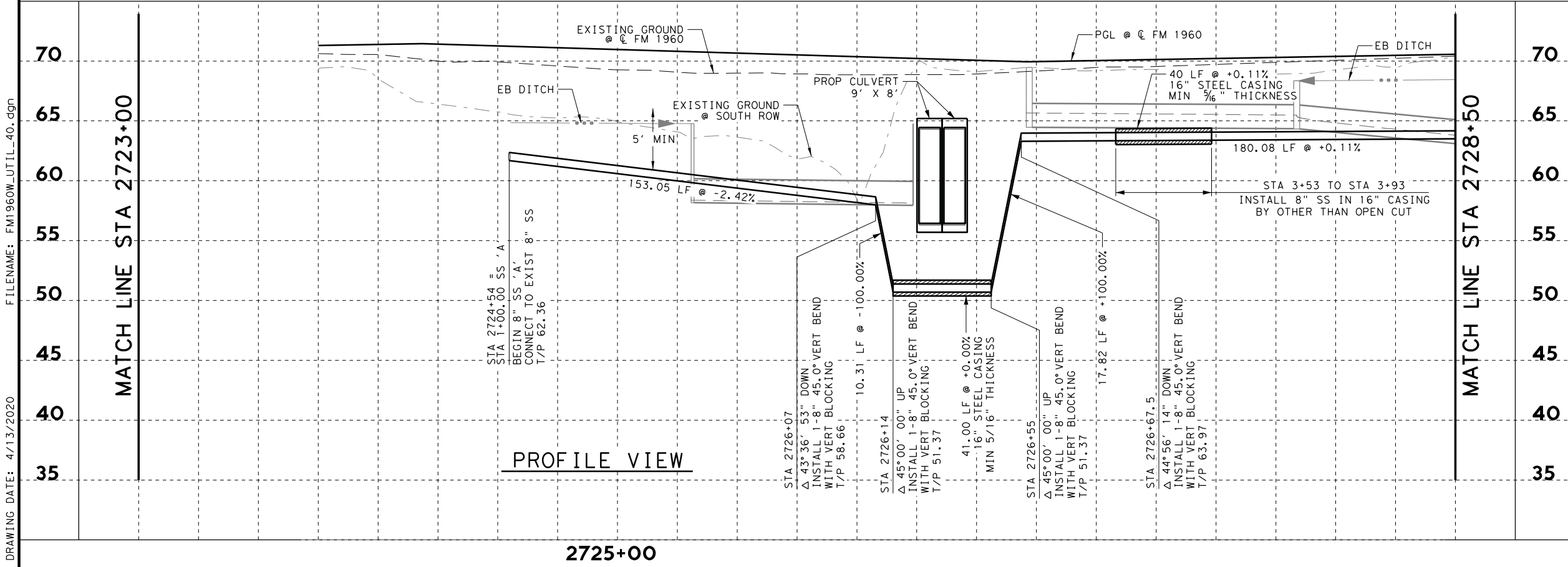
MATCH LINE STA 2761+50

MATCH LINE STA 2756+00

MATCH LINE STA 2761+50



- NOTES:
1. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO PERFORMING THE WORK. EXIST UTILITY ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND HAVE NOT BEEN FIELD VERIFIED.
 2. REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
 3. ALL SEWER LINES SHALL DUCTILE IRON THAT MEETS THE REQUIREMENTS OF ANSI A21.51 (AWWA C151) CLASS 53 UNLESS OTHERWISE INDICATED.
 4. ACCESS TO BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. IF A BUSINESS HAS MULTIPLE DRIVEWAYS, ONE DRIVEWAY MUST REMAIN OPEN AT ALL TIMES. IF A BUSINESS ONLY HAS ONE DRIVEWAY, THE PROPOSED UTILITY SHALL BE INSTALLED BY TRENCHLESS METHODS.



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROP SANITARY SEWER LINE 'A'
2723+00 TO 2728+50

FED. RD. DIV. NO.			FEDERAL AID PROJECT NO.		HIGHWAY NO.
6					FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.		
TEXAS	HOU	HARRIS	526		
CONTROL	SECTION	JOB			
1685	03	058			

FILENAME: FM1960W_UTIL_40.dgn
DRAWING DATE: 4/13/2020

MATCH LINE STA 2723+00

MATCH LINE STA 2728+50

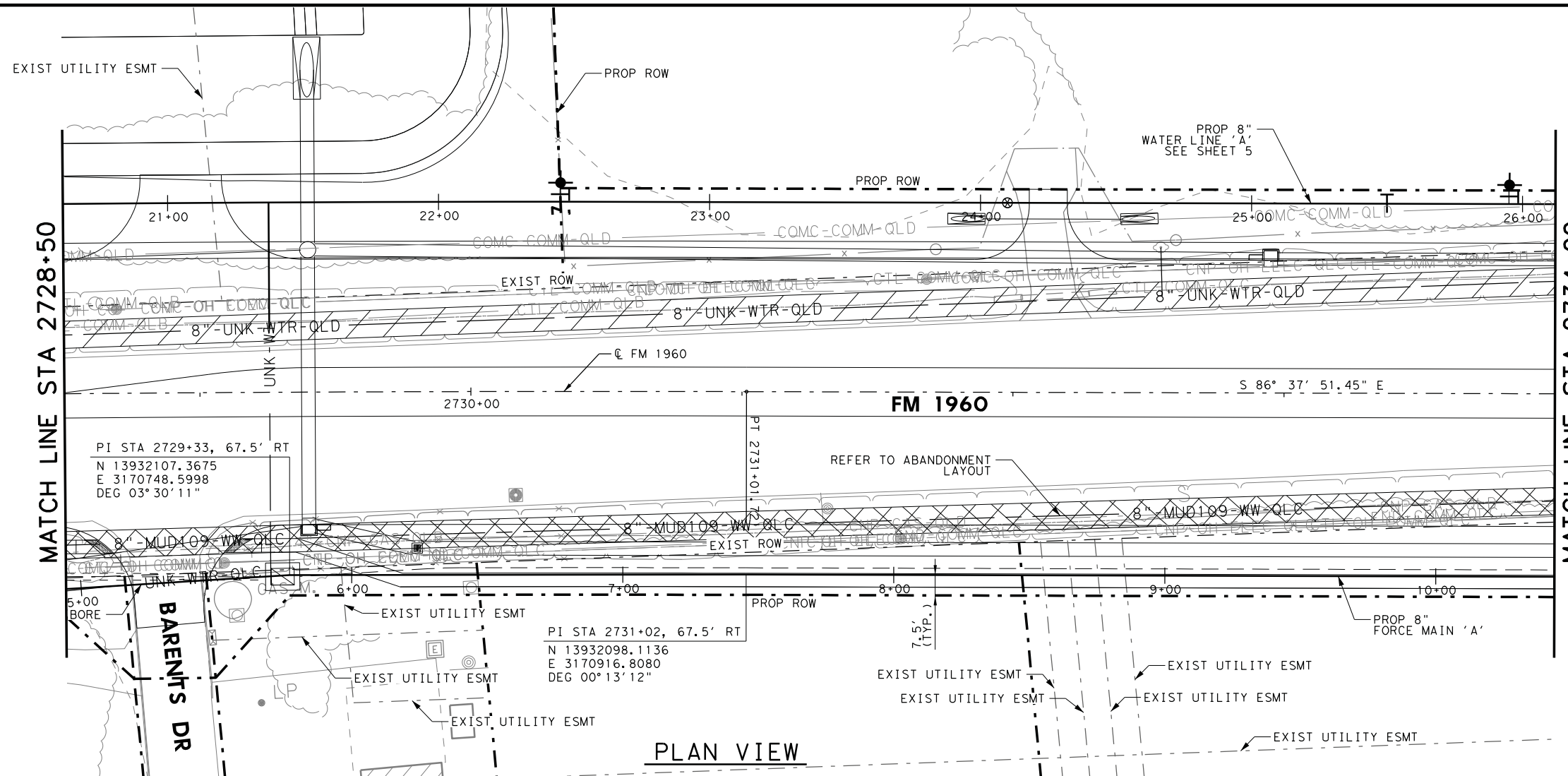
MATCH LINE STA 2723+00

MATCH LINE STA 2728+50

2725+00



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

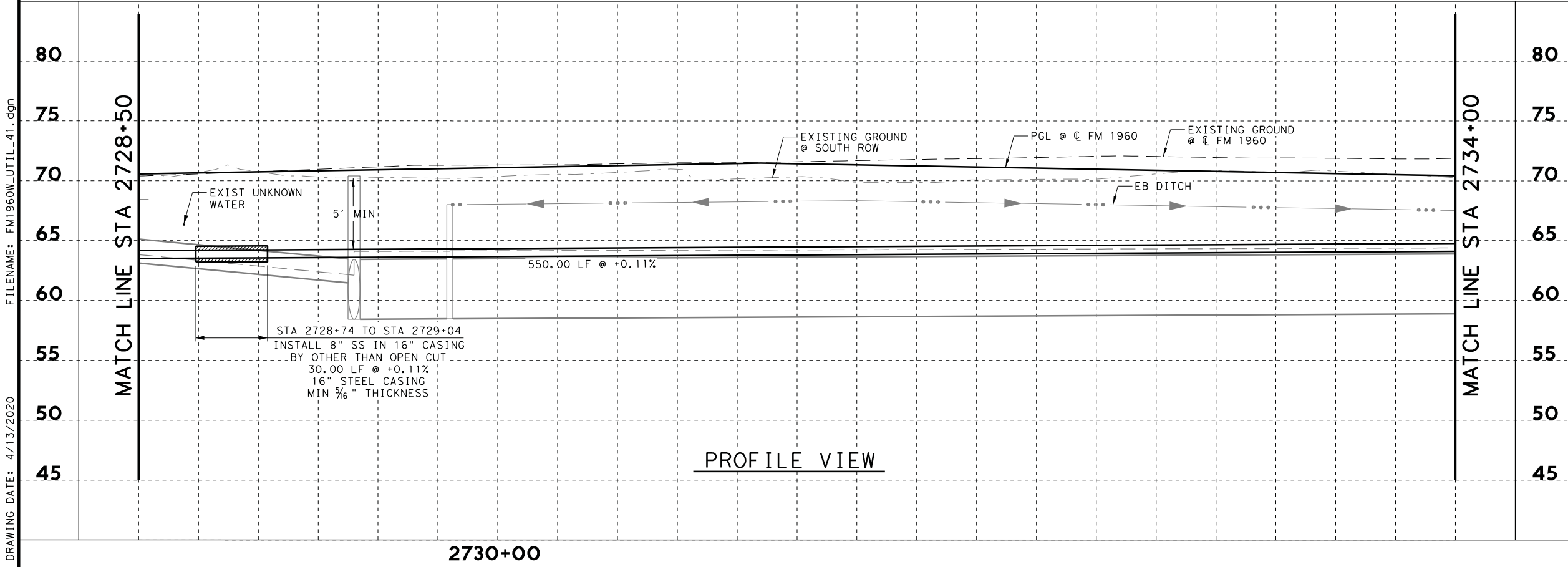


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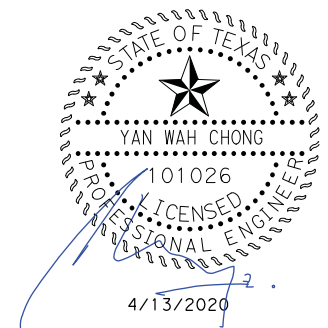
PI STA 2729+33, 67.5' RT
 N 13932107.3675
 E 3170748.5998
 DEG 03° 30' 11"

PI STA 2731+02, 67.5' RT
 N 13932098.1136
 E 3170916.8080
 DEG 00° 13' 12"

PLAN VIEW



PROFILE VIEW



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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROP SANITARY SEWER LINE 'A'
 2728+50 TO 2734+00

(HC MUD 109)

SHEET 9 OF 14

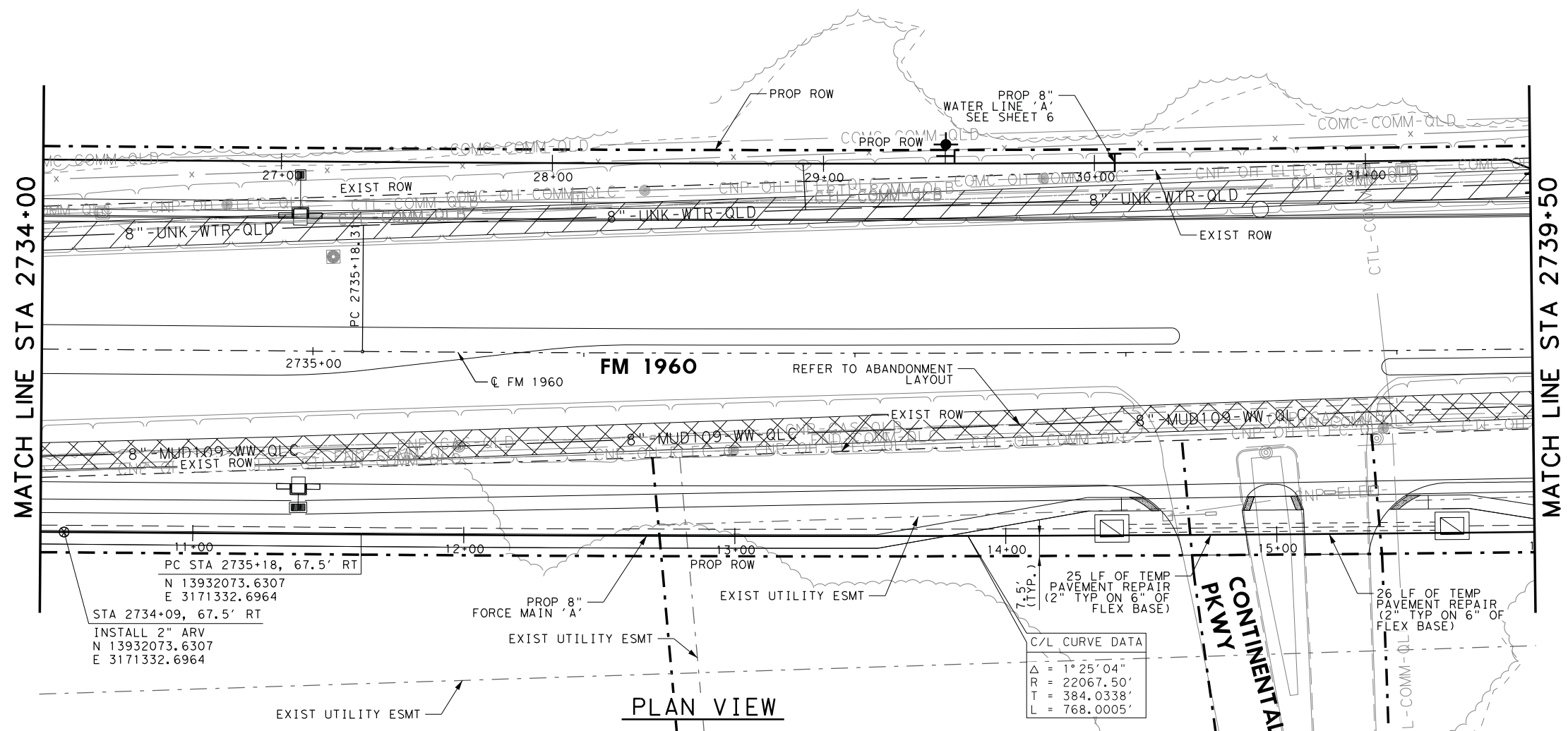
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	527
1685	03	058	

FILENAME: FM1960W_UTIL_41.dgn

DRAWING DATE: 4/13/2020



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

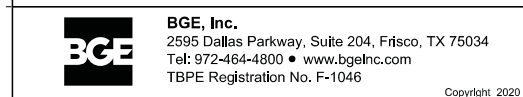
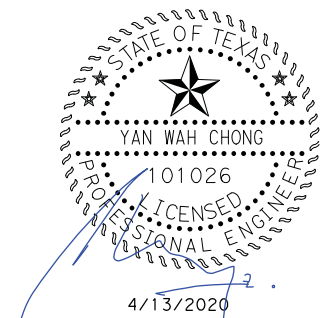
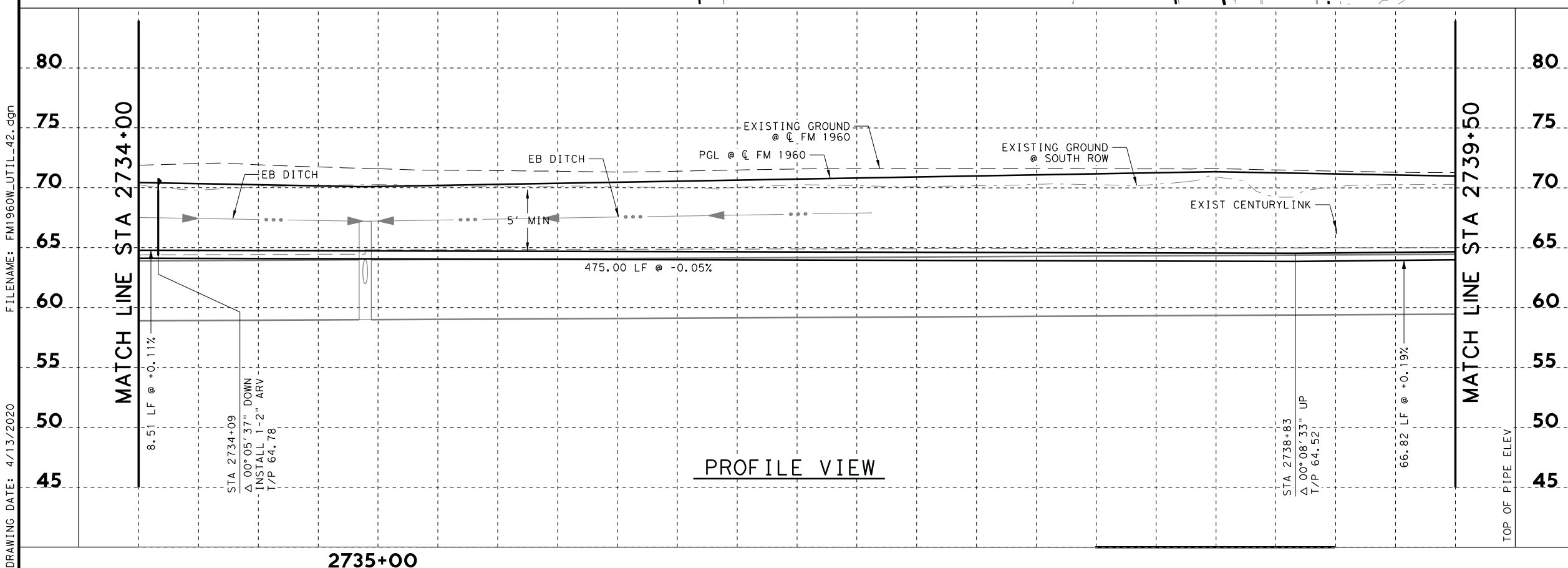


NOTES:

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2. REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
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C/L CURVE DATA

Δ	= 1° 25' 04"
R	= 22067.50'
T	= 384.0338'
L	= 768.0005'



FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROP SANITARY SEWER LINE 'A'
 2734+00 TO 2739+50

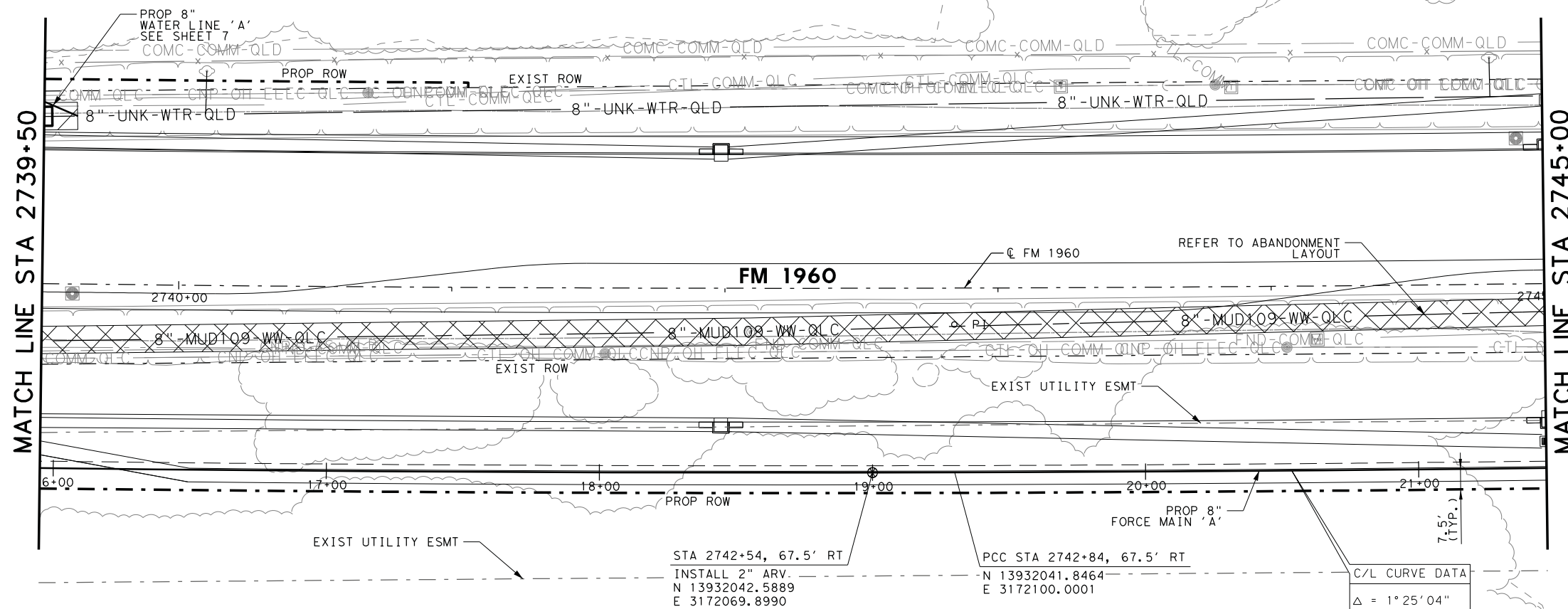
(HC MUD 109) SHEET 10 OF 14

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	528
1685	03	058	

DRAWING DATE: 4/13/2020 FILENAME: FM1960W_UTIL_42.dgn



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET



PLAN VIEW

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO PERFORMING THE WORK. EXIST UTILITY ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND HAVE NOT BEEN FIELD VERIFIED.
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3. ALL SEWER LINES SHALL DUCTILE IRON THAT MEETS THE REQUIREMENTS OF ANSI A21.51 (AWWA C151) CLASS 53 UNLESS OTHERWISE INDICATED.
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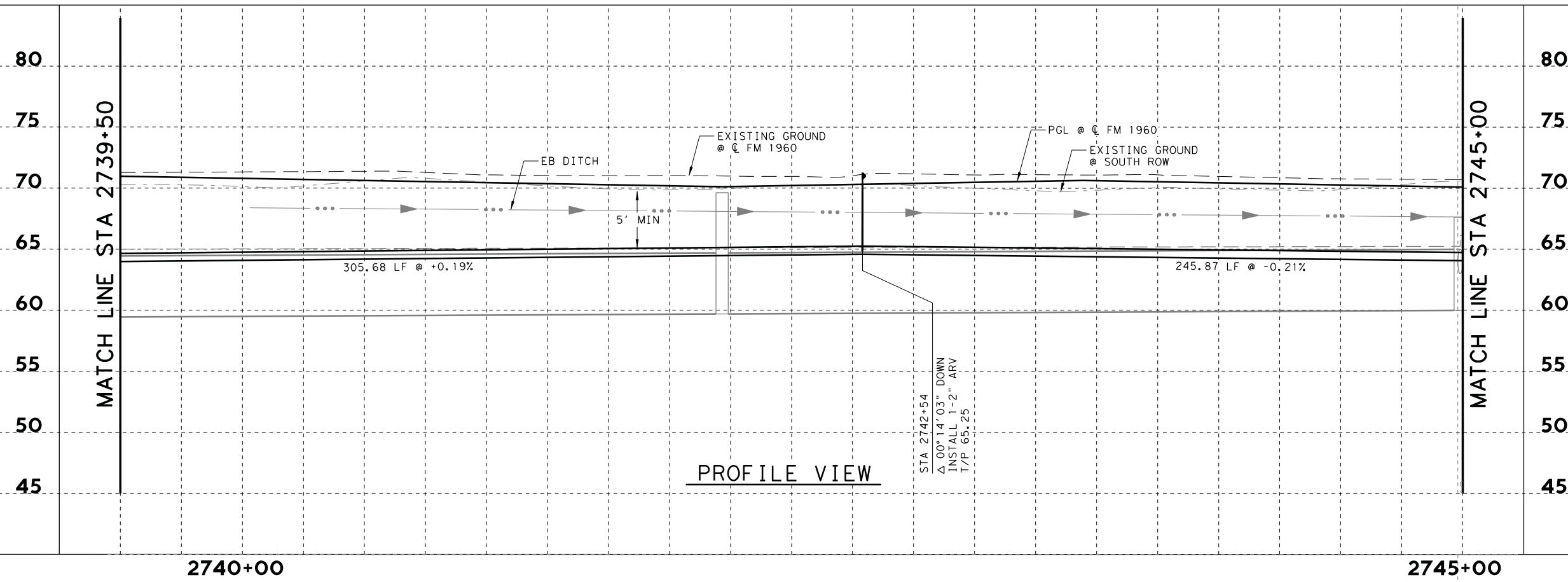
C/L CURVE DATA
 $\Delta = 1^\circ 25' 04''$
 $R = 22067.50'$
 $T = 384.0338'$
 $L = 768.0005'$

STA 2742+54, 67.5' RT
 INSTALL 2" ARV
 N 13932042.5889
 E 3172069.8990

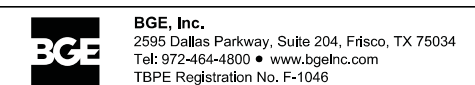
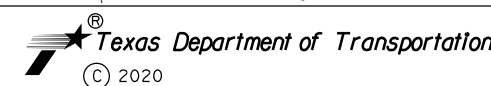
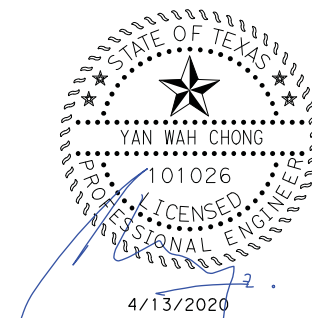
PCC STA 2742+84, 67.5' RT
 N 13932041.8464
 E 3172100.0001

FILENAME: FM1960W_UTIL_43.dgn

DRAWING DATE: 4/13/2020



PROFILE VIEW



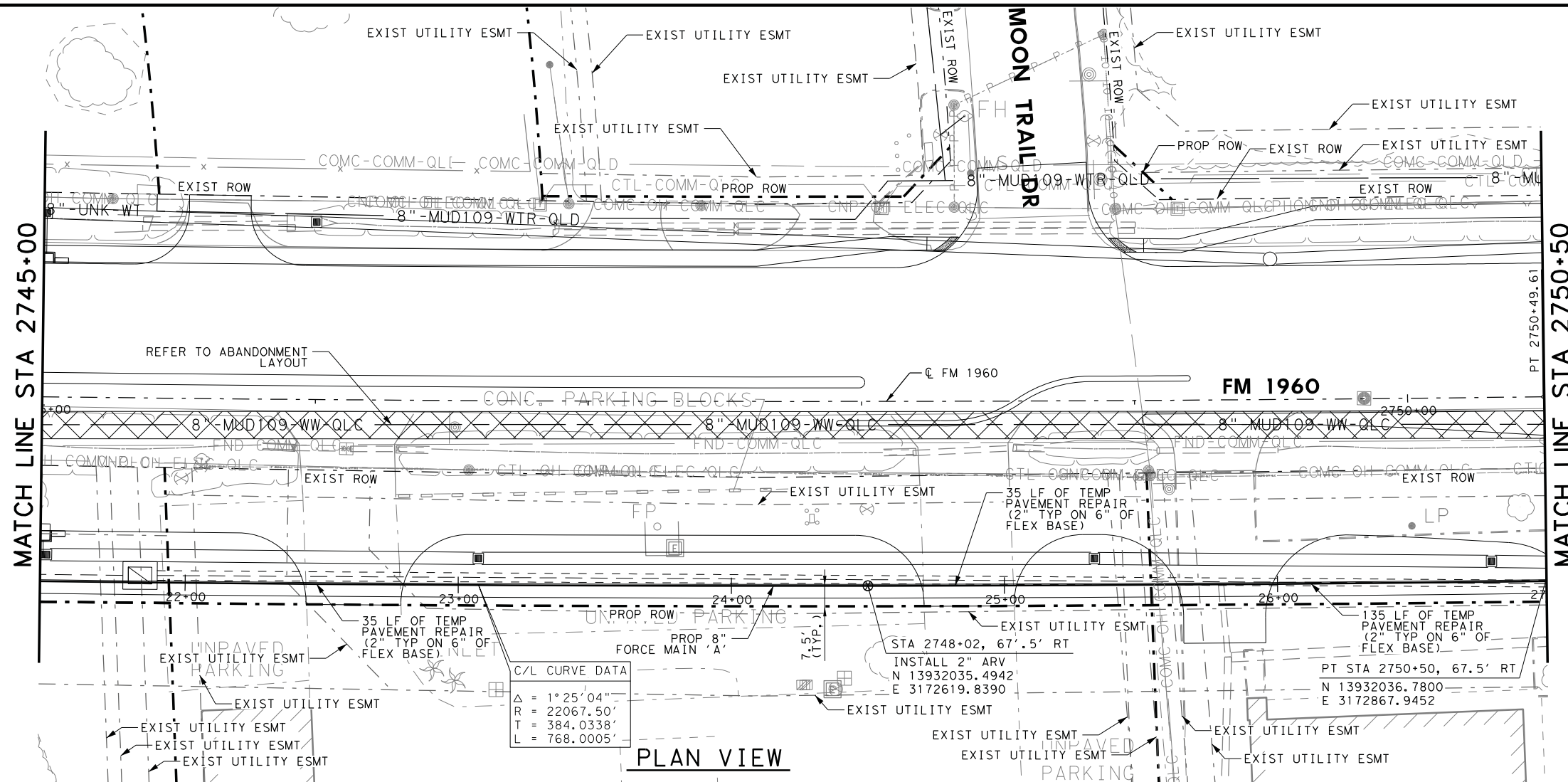
FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROP SANITARY SEWER LINE 'A'
 2739+50 TO 2745+00

(HC MUD 109) SHEET 11 OF 14

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	529
1685	03	058	



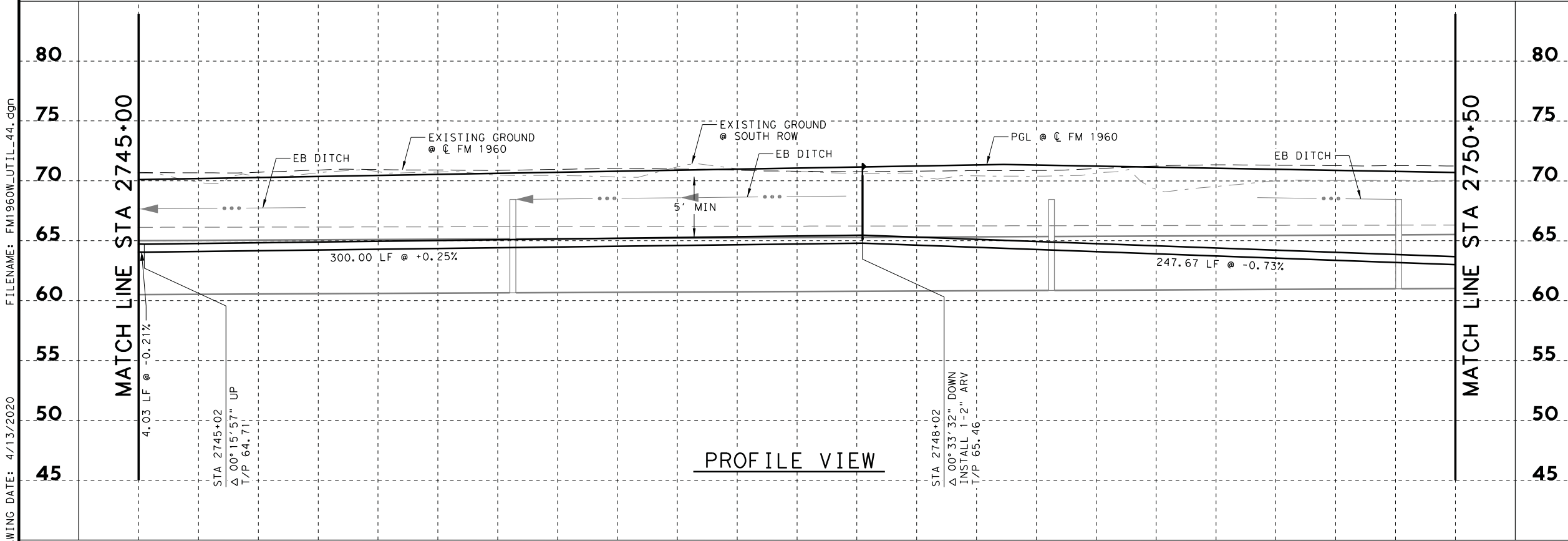
HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET



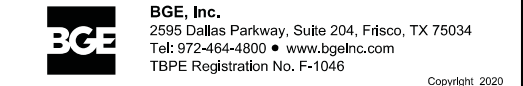
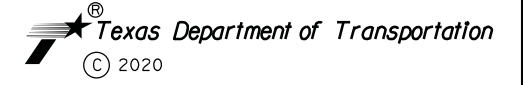
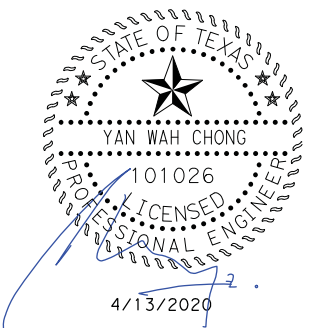
C/L CURVE DATA
 $\Delta = 1^\circ 25' 04''$
 $R = 22067.50'$
 $T = 384.0338'$
 $L = 768.0005'$

PLAN VIEW

- NOTES:
1. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO PERFORMING THE WORK. EXIST UTILITY ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND HAVE NOT BEEN FIELD VERIFIED.
 2. REFER TO HORIZONTAL AND VERTICAL CONTROL SHEETS FOR PROJECT CONTROL.
 3. ALL SEWER LINES SHALL DUCTILE IRON THAT MEETS THE REQUIREMENTS OF ANSI A21.51 (AWWA C151) CLASS 53 UNLESS OTHERWISE INDICATED.
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PROFILE VIEW



FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROP SANITARY SEWER LINE 'A'
 2745+00 TO 2750+50

(HC MUD 109) SHEET 12 OF 14

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	530
1685	03	058	

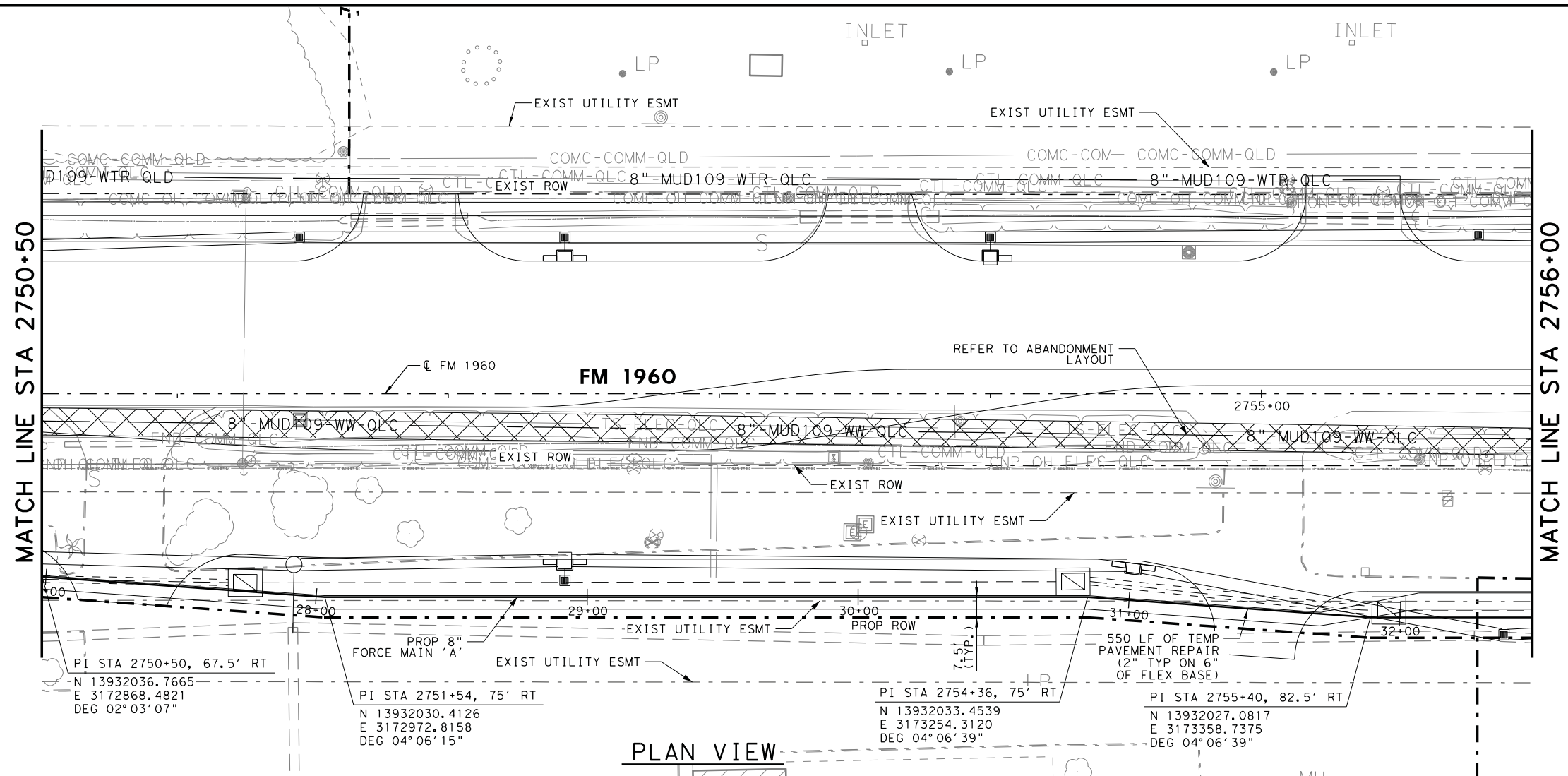
DRAWING DATE: 4/13/2020 FILENAME: FM1960W_UTIL_44.dgn



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

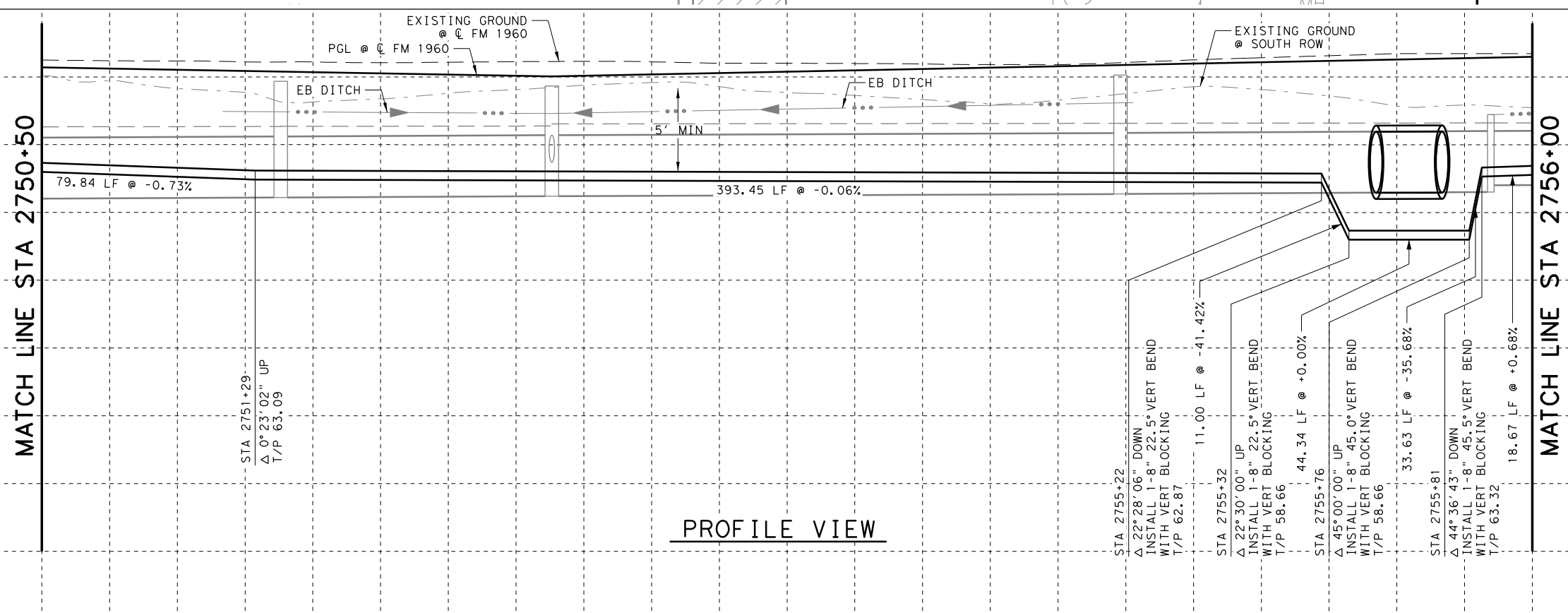
MATCH LINE STA 2750+50

MATCH LINE STA 2756+00

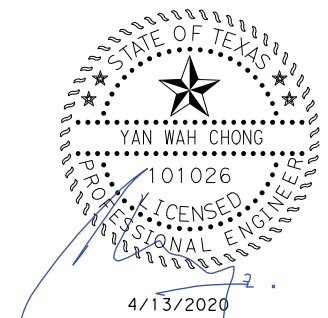


PLAN VIEW

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PROFILE VIEW



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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROP SANITARY SEWER LINE 'A'
2750+50 TO 2756+00

(HC MUD 109) SHEET 13 OF 14

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	531
CONTROL	SECTION	JOB	
1685	03	058	

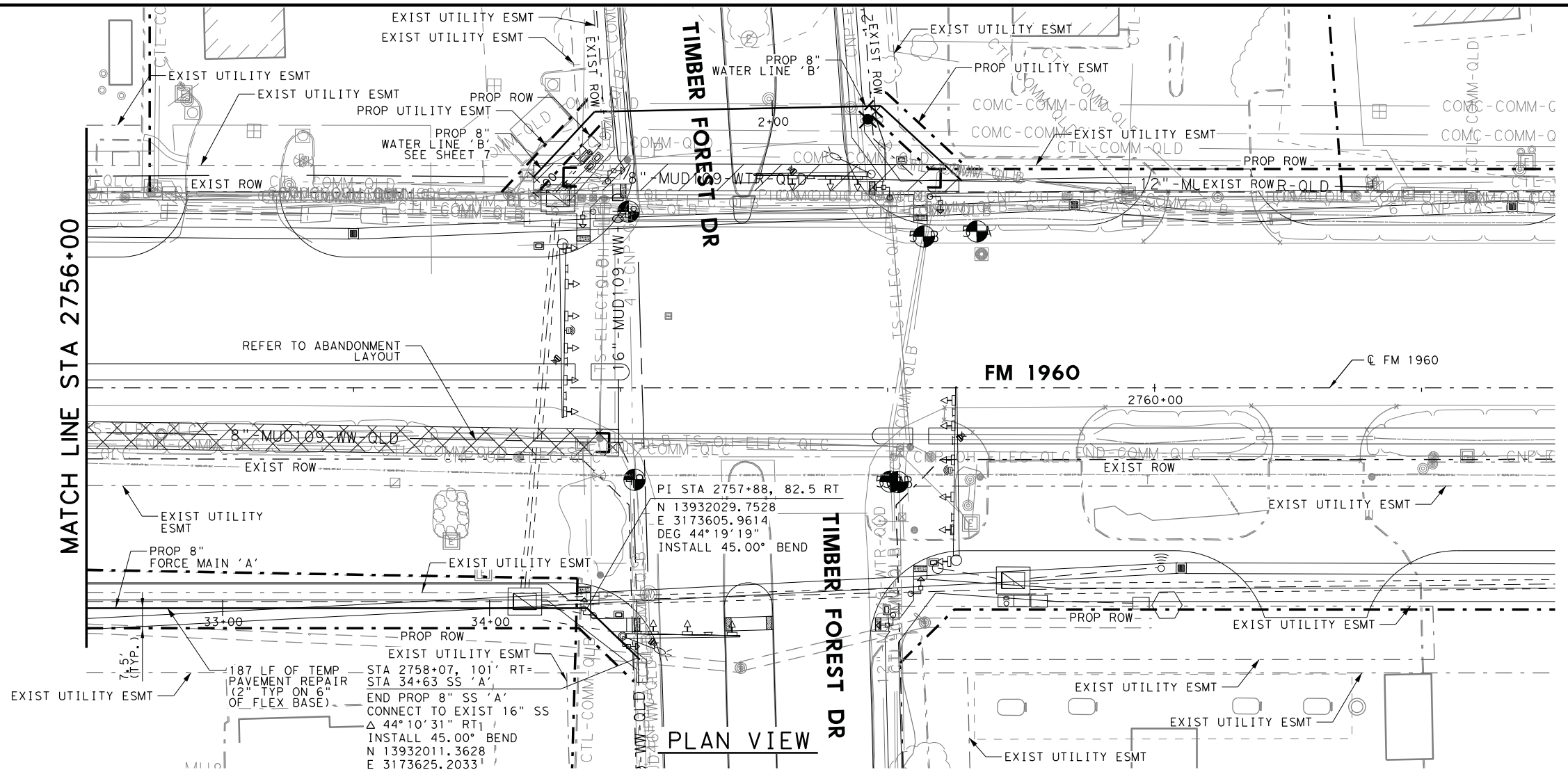
FILENAME: FM1960W_UTIL_45.dgn
 DRAWING DATE: 4/13/2020

2755+00



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

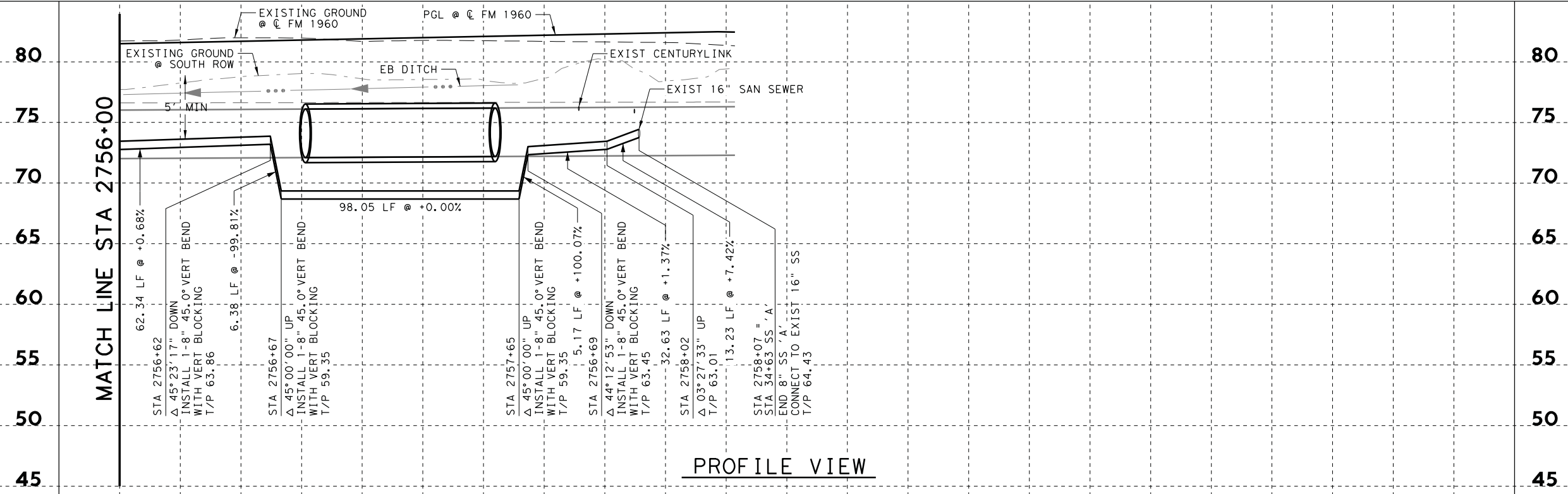
MATCH LINE STA 2756+00



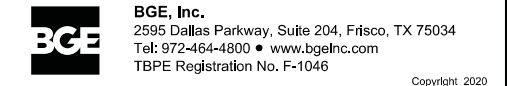
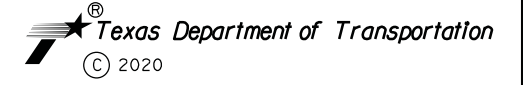
PLAN VIEW

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MATCH LINE STA 2756+00



PROFILE VIEW



FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
PROP SANITARY SEWER LINE 'A'
 2756+00 TO 2761+50

(HC MUD 109) SHEET 14 OF 14

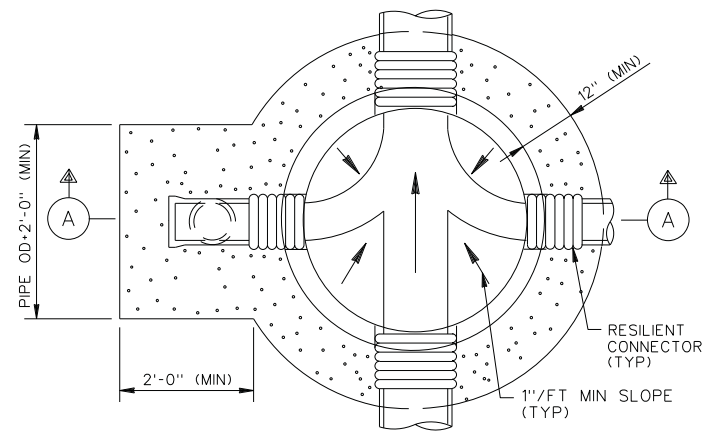
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6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	532
1685	03	058	

2760+00

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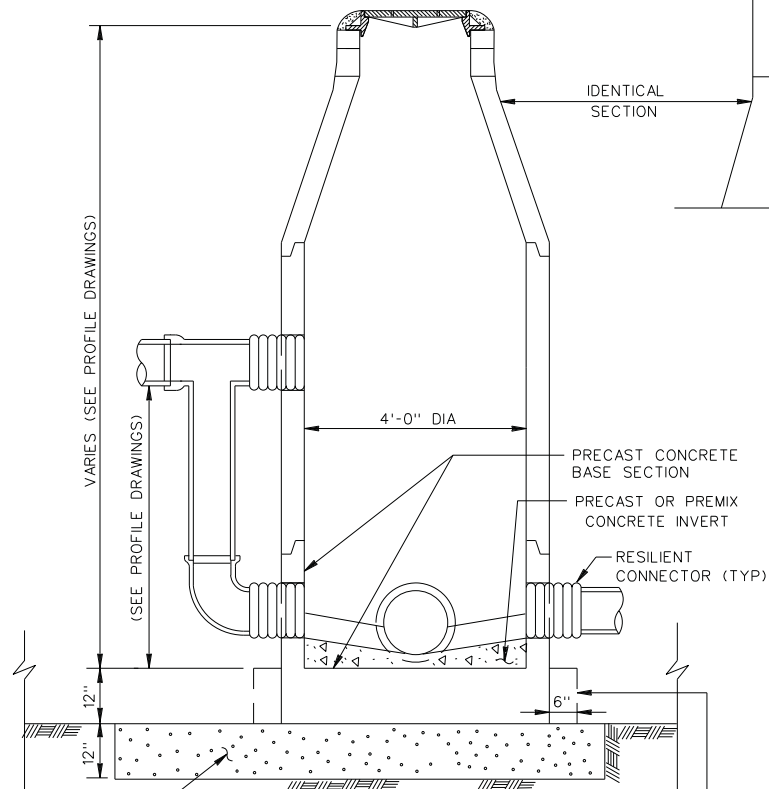
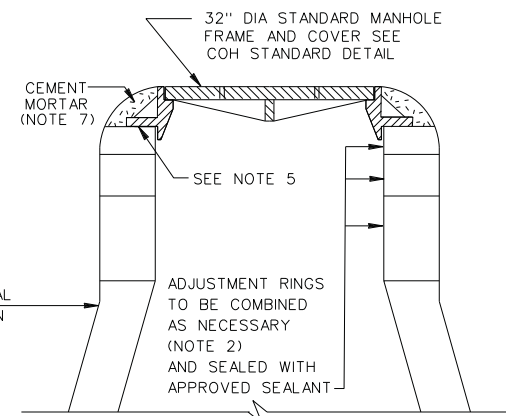
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FOUNDATION PLAN

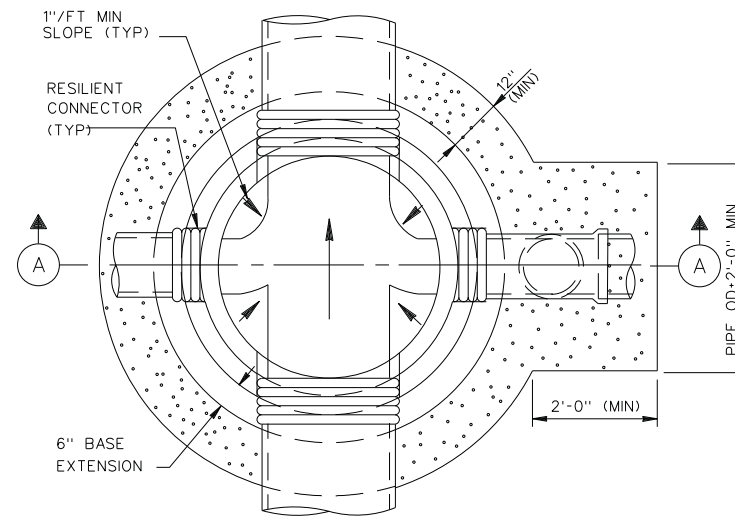
NOTES:

1. DEPTH OF MANHOLE DETERMINES SECTIONS REQUIRED.
2. PRECAST CONCRETE RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12". THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 1'-6".
3. MANHOLE WALL THICKNESS FOR DEPTH EXCEEDING 12'-0" SHALL BE DETERMINED TO MEET LOADING CONDITIONS. MIN THICKNESS 5".
4. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWING.
5. SEAT MANHOLE FRAME IN SEALANT PER COH STANDARD SPECIFICATION.
6. ECCENTRIC PRECAST CONCRETE MANHOLE MAY BE USED.
7. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
8. MIN REINFORCING IN THE PRECAST CONCRETE BASE SHALL BE # 5 @ 8 EW.
9. PROVIDE BACKFILL TO MATCH ADJACENT PIPE TRENCH BACKFILL PER COH STANDARD SPECIFICATION.



SECTION A

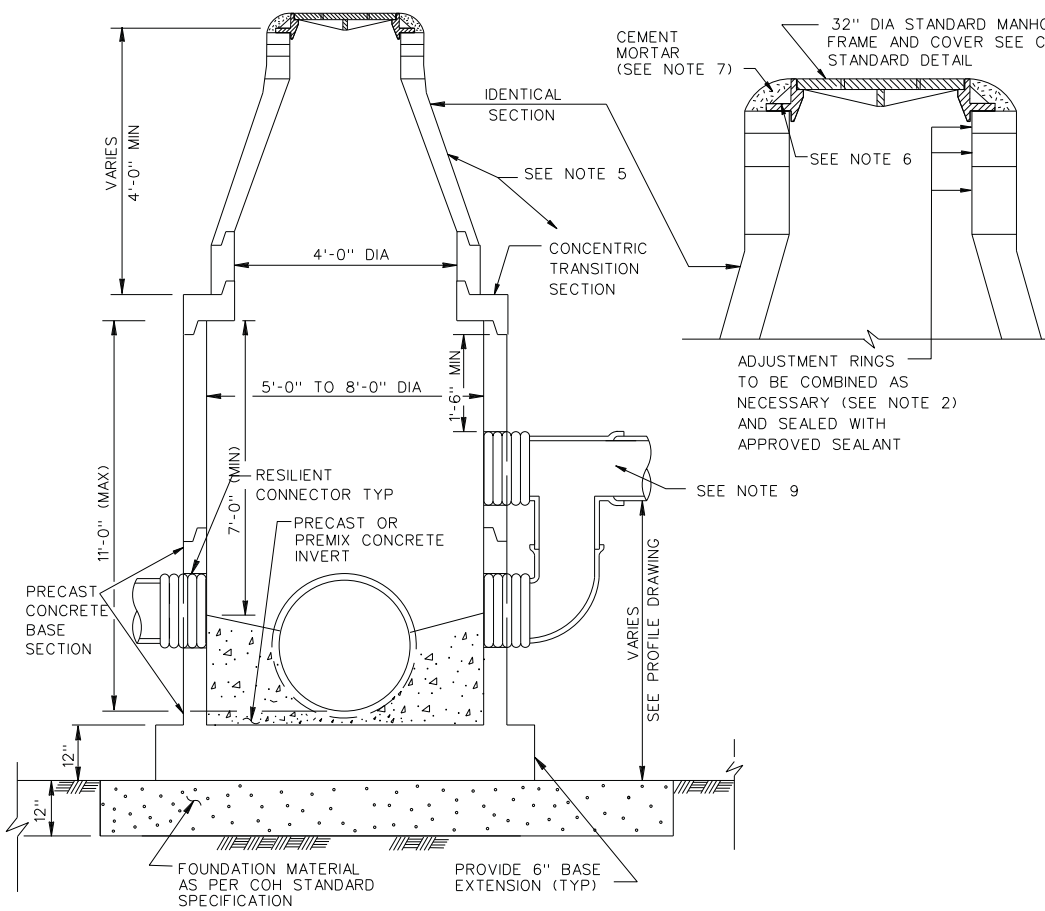
SANITARY SEWER
4'-0" DIAMETER PRECAST
CONCRETE MANHOLE



FOUNDATION PLAN

NOTES:

1. DEPTH OF MANHOLE DETERMINES SECTIONS REQUIRED.
2. PRECAST CONCRETE RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12". THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 1'-6".
3. MANHOLE WALL THICKNESS FOR DEPTH EXCEEDING 12'-0" SHALL BE DETERMINED TO MEET LOADING CONDITIONS. MIN THICKNESS 5".
4. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWING.
5. ALTERNATE ECCENTRIC CONE AND/OR TRANSITION SECTION MAY BE USED.
6. SEAT MANHOLE FRAME IN SEALANT PER COH STANDARD SPECIFICATION.
7. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
8. MIN REINFORCING IN THE PRECAST CONCRETE BASE SHALL BE # 5 @ 8 EW.
9. WHERE DIMENSIONAL RESTRICTIONS DICTATE, THE MANHOLE BASE HEIGHT SHALL BE ADJUSTED TO HAVE THE UPPER INLET PIPE OF THE DROP ENTER INTO THE 4'-0" DIAMETER RISER SECTION.
10. PROVIDE BACKFILL TO MATCH ADJACENT PIPE TRENCH BACKFILL PER COH STANDARD SPECIFICATION.



SECTION A

SANITARY SEWER
5'-0" TO 8'-0" DIAMETER
PRECAST CONCRETE MANHOLE

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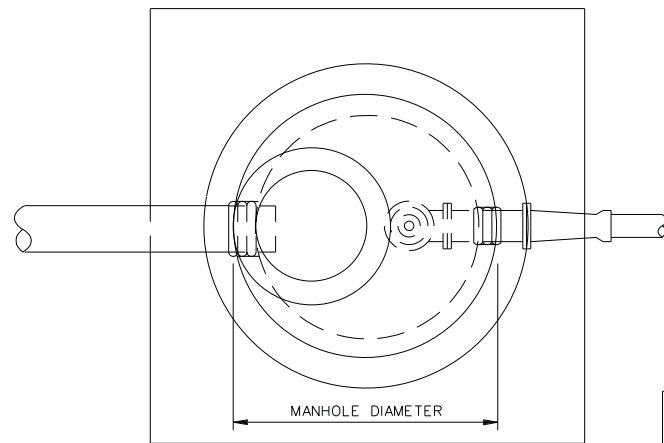
SANITARY DETAILS
(HC MUD 109)

SHEET 1 OF 11

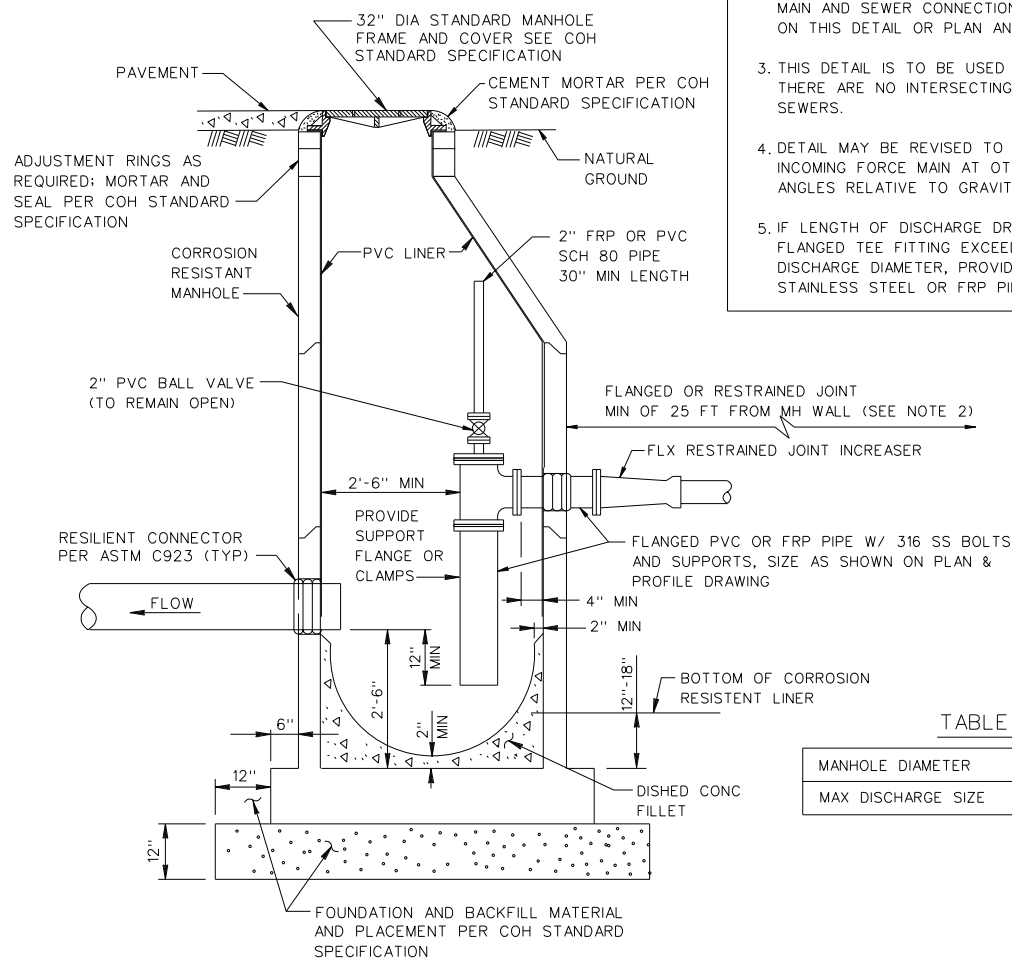
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6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
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CONTROL	SECTION	JOB	
1685	03	058	558

FILENAME: FM1960W_Details_02.dgn

DRAWING DATE: 4/13/2020



PLAN VIEW



ELEVATION VIEW

SANITARY SEWER
CORROSION RESISTANT MANHOLE
FOR FORCE MAIN DISCHARGE

NOTES:

1. SEAT MANHOLE FRAME IN SEALANT PER COH STANDARD SPECIFICATION.
2. IF FORCE MAIN HAS BENDS WITHIN 25 FT OF MANHOLE, EXTEND RESTRAINED JOINTS TO 25 FT MINIMUM UPSTREAM OF BEND.
3. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREA.
4. MINIMUM REINFORCING IN BASE SHALL BE 5 @ 8 E W.
5. PRECAST RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12". THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 1'-6".

NOTES TO SPECIFIER:

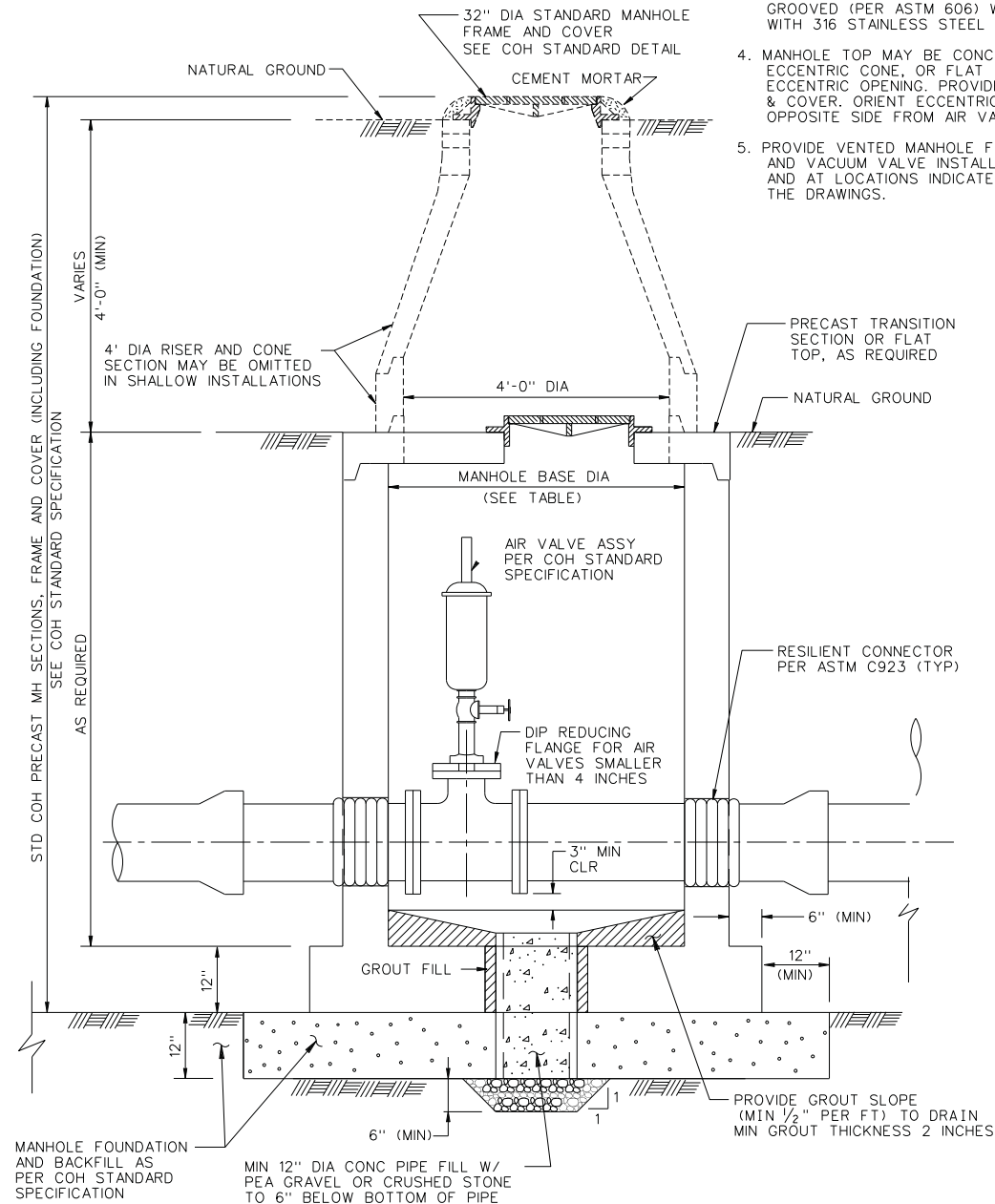
1. INDICATE SIZE OF FORCE MAIN, INCREASER AND DISCHARGE EITHER ON THIS DETAIL OR ON PLAN AND PROFILE.
2. PROVIDE INVERT ELEVATIONS OR FORCE MAIN AND SEWER CONNECTIONS TO MH, ON THIS DETAIL OR PLAN AND PROFILE.
3. THIS DETAIL IS TO BE USED ONLY WHEN THERE ARE NO INTERSECTING GRAVITY SEWERS.
4. DETAIL MAY BE REVISED TO ORIENT INCOMING FORCE MAIN AT OTHER ANGLES RELATIVE TO GRAVITY SEWER.
5. IF LENGTH OF DISCHARGE DROP BELOW FLANGED TEE FITTING EXCEEDS 7 TIMES DISCHARGE DIAMETER, PROVIDE STAINLESS STEEL OR FRP PIPE SUPPORT.

TABLE 02082-07

MANHOLE DIAMETER	4'-0"	5'-0"	6'-0"
MAX DISCHARGE SIZE	6"	14"	24"

NOTES TO SPECIFIER:

1. CHECK THAT FORCE MAIN BURIAL DEPTH AT AIR VALVE MANHOLE WILL PROVIDE 1'-0" CLEAR SPACE OVER VALVE INSIDE MANHOLE.
2. SHOW STA LOCATION OR MANHOLE, TOP ELEV, AND VALVE SIZE ON PLAN & PROFILE SHEET.
3. INCLUDE ALSO VENTED MH DETAIL FOR AIR & VACUUM VALVE INSTALLATIONS.



SECTION

SANITARY SEWER
AIR RELEASE OR AIR/VACUUM
RELEASE VALVE MANHOLE

NOTES:

1. AIR VALVE MAY BE AIR RELEASE OR AIR AND VACUUM RELEASE VALVE AS NOTED ON PLAN AND PROFILE SHEET.
2. SEE COH STANDARD SPECIFICATION FOR AIR VALVE ASSEMBLY REQUIREMENTS.
3. PROVIDE LINED DUCTILE IRON PIPE, THICK. CLASS 53, FOR FORCE MAIN WITHIN 12" OF OUTSIDE FACE OF MANHOLE. JOINTS WITHIN MANHOLE MAY BE FLANGED (AS SHOWN) OR GROOVED (PER ASTM 606) WITHIN MANHOLE, WITH 316 STAINLESS STEEL BOLTS.
4. MANHOLE TOP MAY BE CONCENTRIC CONE, ECCENTRIC CONE, OR FLAT TOP WITH ECCENTRIC OPENING. PROVIDE 32" FRAME & COVER. ORIENT ECCENTRIC OPENING OPPOSITE SIDE FROM AIR VALVE.
5. PROVIDE VENTED MANHOLE FOR AIR AND VACUUM VALVE INSTALLATIONS AND AT LOCATIONS INDICATED ON THE DRAWINGS.

TABLE

MANHOLE BASE DIAMETER (FT)	MAX FORCE MAIN DIAMETER
5	8
6	16
8	36



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(HC MUD 109)

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CONTROL	SECTION	JOB	
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NOTES ON USE OF STANDARD DETAIL

TABLE "A"

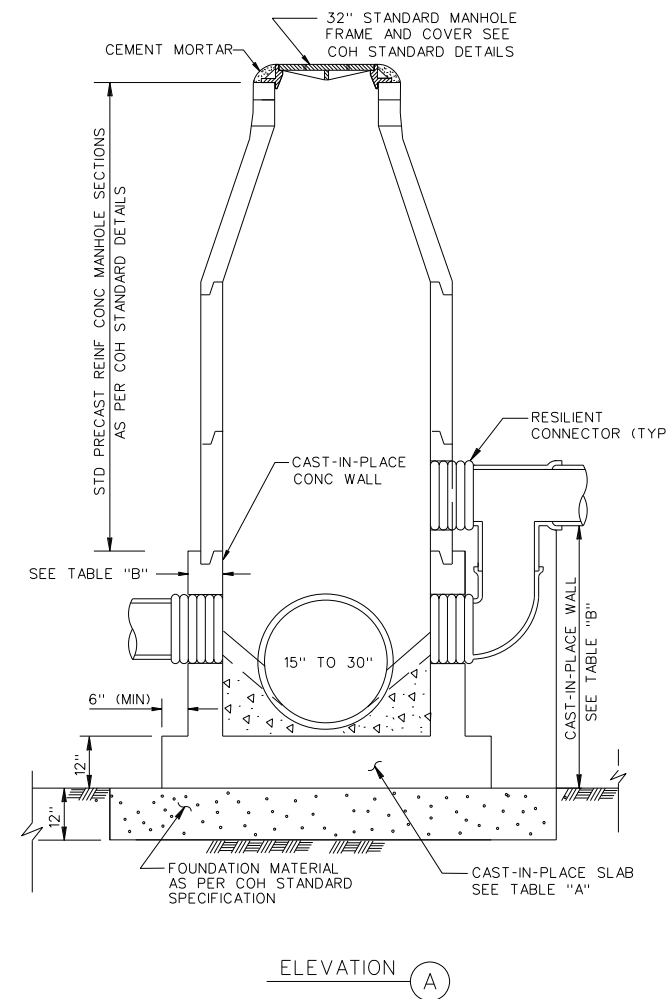
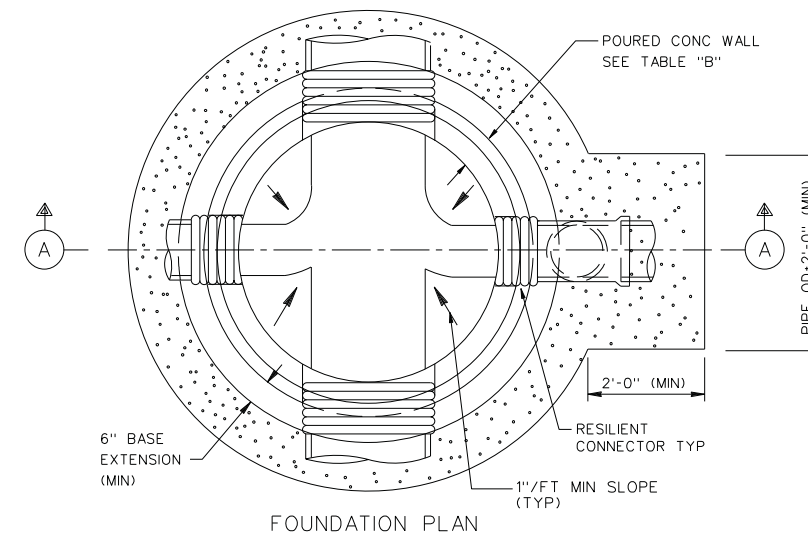
BASE SLAB REINFORCING AND THICKNESS			
MH BASE DIA FT	DEPTH TO INV (FT)	BASE THICKNESS	REINFORCING (E W, T & B)
8	≤ 20	1'-0"	* 6 @ 10"
	≤ 25	1'-2"	* 6 @ 8"
	≤ 30	1'-4"	* 6 @ 7"
	≤ 40	1'-6"	* 6 @ 6"
	≤ 50	1'-8"	* 6 @ 6"
6	≤ 15	1'-0"	* 5 @ 8"
	≤ 20	1'-0"	* 5 @ 8"
	≤ 25	1'-2"	* 5 @ 7"
	≤ 30	1'-2"	* 5 @ 6"
	≤ 40	1'-2"	* 6 @ 8"
5	≤ 15	1'-0"	* 5 @ 8"
	≤ 20	1'-0"	* 5 @ 7"
	≤ 25	1'-0"	* 5 @ 6"
	≤ 30	1'-0"	* 6 @ 10"
	≤ 40	1'-2"	* 6 @ 10"
4	≤ 20	1'-0"	* 5 @ 8"
	≤ 25	1'-0"	* 5 @ 8"
	≤ 30	1'-0"	* 5 @ 7"
	≤ 30	1'-0"	* 5 @ 7"
	≤ 40	1'-0"	* 6 @ 10"

NOTE TO SPECIFIER:

1. TABLES "A" AND "B" WILL BE USED TO DESIGN THE CAST-IN-PLACE BASE AND WALL FOR VARIOUS MANHOLE DIAMETER AND DEPTH.

TABLE "B"

WALL REINFORCING AND THICKNESS					
MH BASE DIA FT	DEPTH TO PIPE TO INV (FT)	MAXIMUM CAST-IN-PLACE WALL HEIGHT	WALL THICKNESS	REINFORCING AT EACH FACE	
				VERTICAL	HORIZONTAL
8	≤ 20	6'-0"	0'-10"	* 6 @ 12"	* 6 @ 12"
	≤ 25	6'-6"	0'-10"	* 6 @ 10"	
	≤ 30	7'-0"	0'-10"	* 6 @ 8"	
	≤ 40	8'-0"	1'-0"	* 6 @ 8"	
	≤ 50	9'-0"	1'-2"	* 6 @ 6"	
6	≤ 15	5'-0"	0'-8"	* 5 @ 12"	* 5 @ 12"
	≤ 20	5'-6"	0'-8"	* 5 @ 8"	
	≤ 25	6'-0"	0'-9"	* 5 @ 8"	
	≤ 30	6'-0"	0'-9"	* 5 @ 6"	* 5 @ 8"
	≤ 40	7'-0"	0'-10"	* 5 @ 8"	
5	≤ 15	5'-0"	0'-8"	* 5 @ 8"	* 4 @ 12"
	≤ 20	5'-4"	0'-8"	* 5 @ 7"	
	≤ 25	5'-8"	0'-10"	* 5 @ 6"	
	≤ 30	6'-0"	0'-10"	* 6 @ 10"	* 5 @ 12"
	≤ 40	6'-4"	0'-10"	* 6 @ 10"	
4	≤ 15	5'-0"	0'-8"	* 5 @ 8"	* 4 @ 12"
	≤ 20	5'-4"	0'-8"	* 5 @ 7"	
	≤ 25	5'-8"	0'-10"	* 5 @ 6"	
	≤ 30	6'-0"	0'-10"	* 6 @ 10"	
	≤ 40	6'-4"	0'-10"	* 6 @ 10"	



NOTES:

1. SEAT MANHOLE FRAME IN SEALANT PER COH STANDARD SPECIFICATION.
2. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
3. PROVIDE BACKFILL TO MATCH ADJACENT PIPE TRENCH BACKFILL PER COH STANDARD SPECIFICATION.
4. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWING.

SANITARY SEWER
PRECAST CONCRETE MANHOLE
WITH CAST-IN-PLACE BASE



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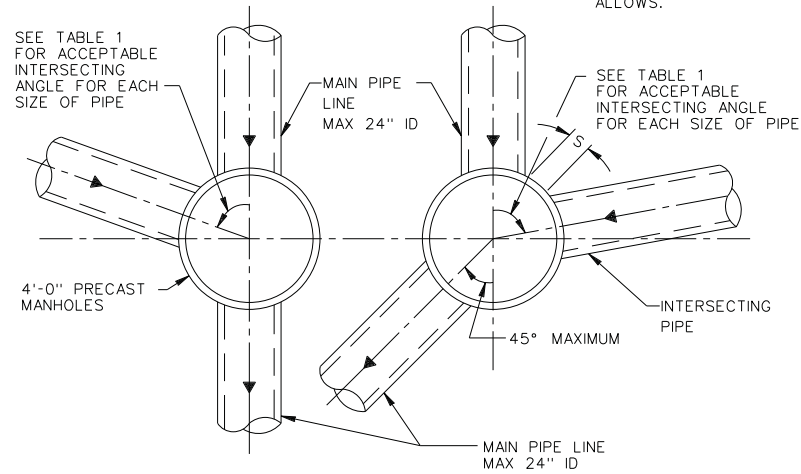
(HC MUD 109)

SHEET 3 OF 11

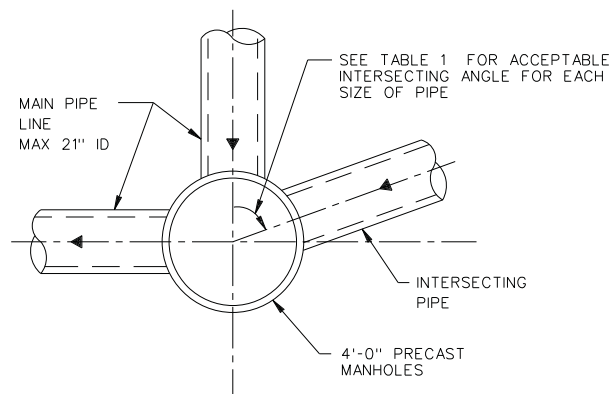
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6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	560
CONTROL	SECTION	JOB	
1685	03	058	

NOTES TO SPECIFIER:

1. "S" INDICATES THAT A SPECIAL DESIGN OR THE NEXT LARGER MANHOLE SIZE SHALL BE USED.
2. TABLE 1 IS BASED ON A MIN SEPARATION DISTANCE "S" OF 15.5" OR INTERSECTION PIPE OD/2, WHICHEVER IS GREATER, BETWEEN MAIN AND INTERSECTING PIPES ALONG THE MANHOLE INSIDE WALL ARC.
3. PIPE WALL THICKNESS USED IN TABLE 1 ARE BASED ON RCP. THE DESIGN ENGINEER MAY CALCULATE TO SEE IF THINNER WALL PIPES CAN MEET THE SEPARATION CRITERIA FOR ANGLES SMALLER THAN THE TABLE ALLOWS.



MAX 24" ID MAIN PIPE ALLOWED FOR STRAIGHT THROUGH TO 45° DEFLECTION



MAX 21" ID MAIN PIPE ALLOWED FOR 45° TO 90° DEFLECTION

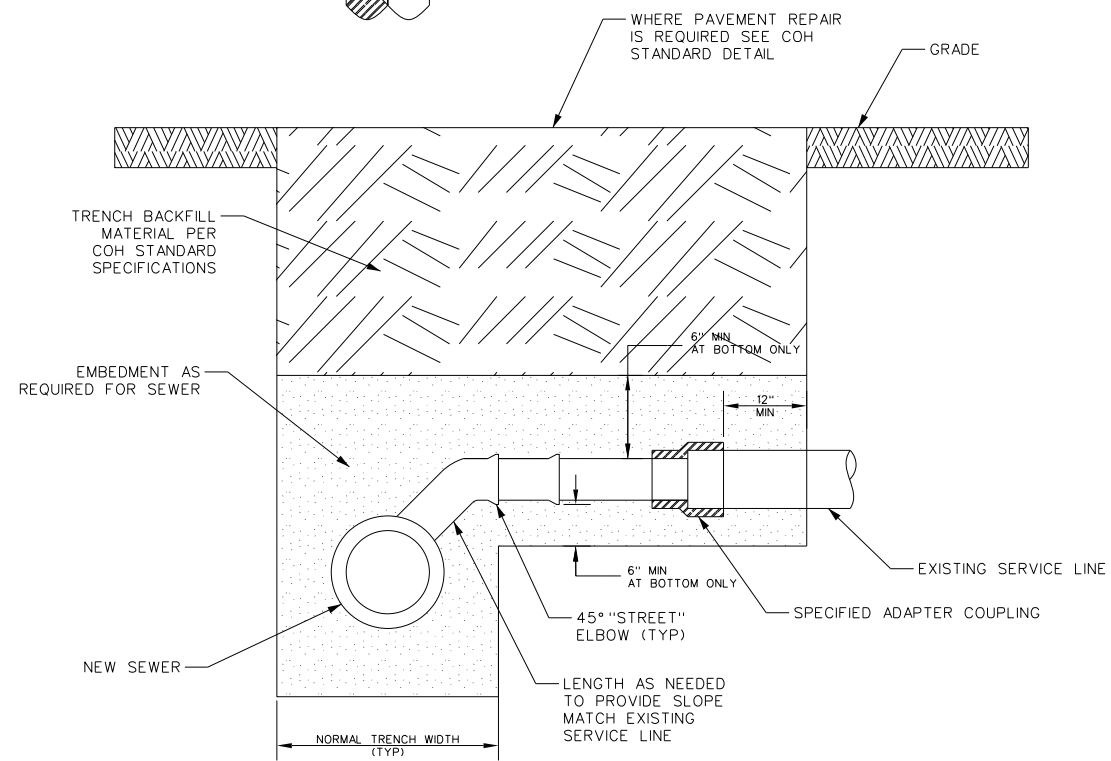
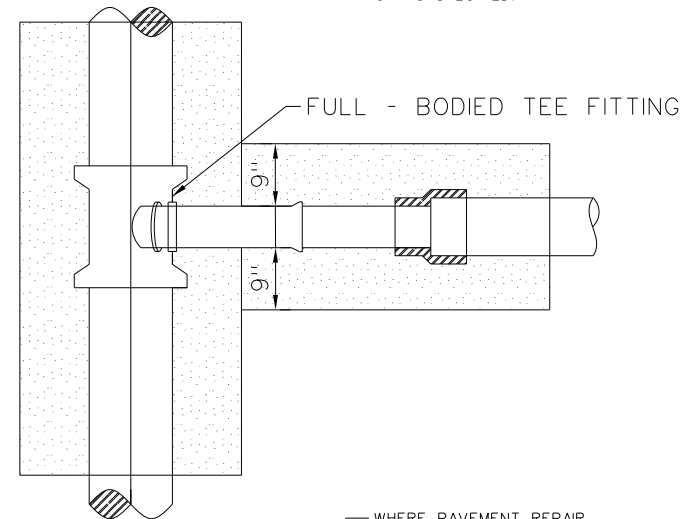
TABLE 1
MIN ANGLE AND INTERSECTING PIPE SIZES FOR A 4'-0" DIA MANHOLE

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE SIZES IN INCHES							
	6"	8"	10"	12"	15"	18"	21"	24"
6	55	58	60	65	70	75	80	85
8		60	63	68	73	77	82	87
10			66	71	75	80	85	90
12				76	80	85	90	-
15					85	90	-	-
18	NOT APPLICABLE UNLESS HYDRAULICS DICTATE (INTERSECTING PIPE > MAIN PIPE)							
21	-							
24	-							

SANITARY SEWER
4'-0" DIAMETER PRECAST
CONCRETE MANHOLE NOTES

NOTES:

1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN AND PROFILE DRAWINGS, OR AS SPECIFIED.

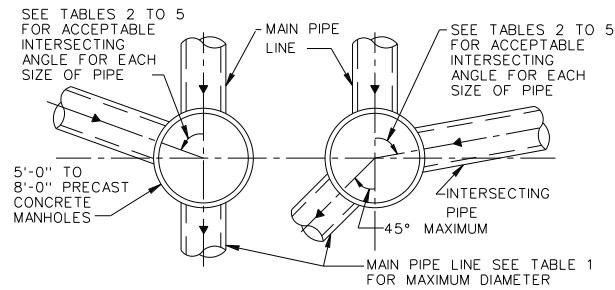


CROSS-SECTION OF SEWER
AT SERVICE CONNECTION

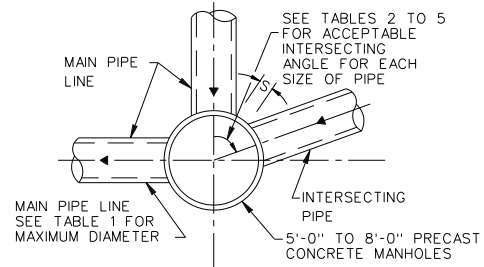
SANITARY SEWER
SERVICE RECONNECTION
ON NEW OR REPLACEMENT SEWER

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1685	03	058	

NOTES ON USE OF STANDARD DETAIL 02082-03



FOR MAIN PIPES FROM STRAIGHT THROUGH TO 45° DEFLECTION



FOR MAIN PIPE WITH 45° TO 90° DEFLECTION

TABLE 1
MAXIMUM MAIN PIPE DIAMETER (I D) IN INCHES

MANHOLE DIAMETER (FT)	STRAIGHT THROUGH TO 45° DEFLECTION	WITH 90° DEFLECTION	TABLE TO BE USED
5	36	27	2
6	42	33	3
7	48	36	4
8	60	42	5

TABLE 2
MINIMUM ANGLE AND INTERSECTING PIPE ID SIZES FOR 5'-0" DIA MANHOLE

INTERSECTING PIPE ID SIZES (INCHES)	MINIMUM INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE ID SIZES IN INCHES										
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"
8	49	50	54	58	61	66	69	73	77	82	86
10		53	57	61	64	68	71	76	79	84	88
12			61	65	68	72	75	80	83	88	-
15				68	71	75	79	83	87	-	-
18					75	79	82	87	90	-	-
21						83	86	90	-	-	-
24							90	-	-	-	-
27								-	-	-	-
30								-	-	-	-
33								-	-	-	-
36								-	-	-	-

* NOT APPLICABLE
(INTERSECTING PIPE GREATER THAN MAIN PIPE)

TABLE 3
MINIMUM ANGLE AND INTERSECTING PIPE ID SIZES FOR 6'-0" DIA MANHOLE

INTERSECTING PIPE ID SIZES (INCHES)	MINIMUM INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE ID SIZES IN INCHES											
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	42"
8	40	42	45	49	51	54	57	61	63	67	70	78
10		44	47	50	53	56	59	62	65	69	72	79
12			50	54	56	60	62	66	68	72	75	83
15				57	59	62	65	69	71	75	78	85
18					62	65	68	71	74	78	81	88
21						68	71	74	77	81	84	-
24							74	77	80	84	87	-
27								83	85	89	-	-
30									-	-	-	-
33										-	-	-
36											-	-
42												-

TABLE 4
MINIMUM ANGLE AND INTERSECTING PIPE ID SIZES FOR 7'-0" DIA MANHOLE

INTERSECTING PIPE ID SIZES (INCHES)	MINIMUM INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE ID SIZES IN INCHES												
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	42"	48"
8	35	36	39	42	44	47	49	52	54	57	59	65	71
10		38	40	43	45	48	50	53	55	59	61	67	73
12			43	46	48	51	53	56	58	61	64	70	76
15				48	50	53	55	58	61	64	66	72	78
18					58	56	58	61	63	66	69	74	81
21						58	60	63	66	69	71	77	83
24							63	66	68	71	74	79	86
27								70	72	76	78	84	90
30									78	81	83	89	-
33										86	88	-	-
36											-	-	-
42												-	-
48													-

TABLE 5
MINIMUM ANGLE AND INTERSECTING PIPE ID SIZES FOR 8'-0" DIA MANHOLE

INTERSECTING PIPE ID SIZES (INCHES)	MINIMUM INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE ID SIZES IN INCHES															
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	42"	48"	54"	60"	
8	30	32	34	36	38	41	43	45	47	50	52	56	61	67	74	
10		33	35	38	40	42	44	46	48	51	53	58	63	68	77	
12			38	40	42	44	46	49	51	53	55	60	65	71	79	
15				42	44	47	48	51	53	56	58	62	67	73	81	
18					46	49	51	53	55	58	66	64	70	75	83	
21						51	53	55	57	60	62	67	72	77	85	
24							55	57	59	62	64	69	74	79	89	
27								61	63	66	68	73	78	83	-	
30									67	70	72	77	82	87	-	
33										74	76	81	86	-	-	
36											81	86	-	-	-	
42												-	-	-	-	
48													-	-	-	
54														-	-	
60															-	

SANITARY SEWER
5'-0" TO 8'-0" DIAMETER
PRECAST CONCRETE MANHOLE NOTES

NOTES TO SPECIFIER:

1. "-" INDICATES THAT A SPECIAL DESIGN OR THE NEXT LARGER MANHOLE SIZE SHALL BE USED.
2. TABLES 2 TO 5 ARE BASED ON A MIN SEPARATION DISTANCE "S" OF 15.5' OR INTERSECTION PIPE OD/2, WHICHEVER IS GREATER, BETWEEN MAIN AND INTERSECTING PIPES ALONG THE MANHOLE INSIDE WALL ARC.
3. PIPE WALL THICKNESS USED IN TABLES 2 TO 5 ARE BASED ON RCP. THE DESIGN ENGINEER MAY CALCULATE TO SEE IF THINNER WALL PIPES CAN MEET THE SEPARATION CRITERIA FOR ANGLES SMALLER THAN THE TABLES ALLOW.
4. LIMITATIONS TO BASE HEIGHT ARE BASED ON RESISTING BUOYANT UPLIFT FORCES BASED ON WATER AT GROUND SURFACE AND A SAFETY FACTOR OF 1.20.
5. A SPECIAL DESIGN IS REQUIRED IF MANHOLE ID IS GREATER THAN 8 FT.

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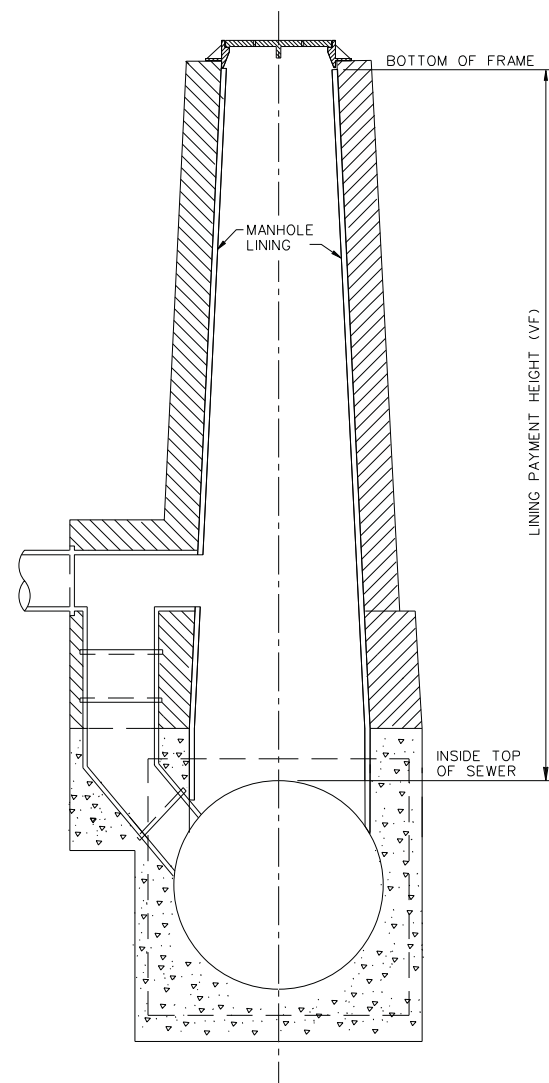
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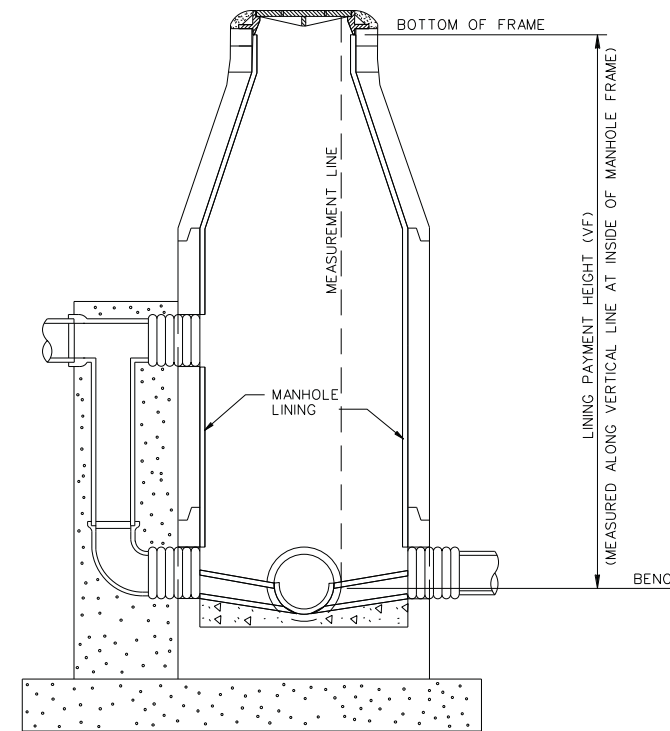
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STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	562
CONTROL	SECTION	JOB	
1685	03	058	

FILENAME: FM1960W_Details_06.dgn

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TYPICAL MONOLITHIC SEWER MANHOLE



TYPICAL PIPE SEWER MANHOLE

THIS IS NOT A STANDARD DETAIL.
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FOR MEASUREMENT PURPOSES

SANITARY SEWER
MANHOLE LINING
PAYMENT LIMITS



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN

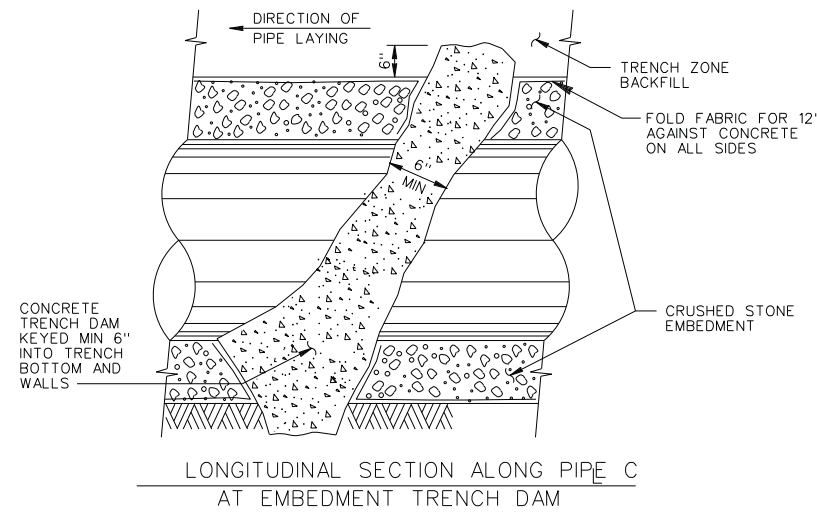
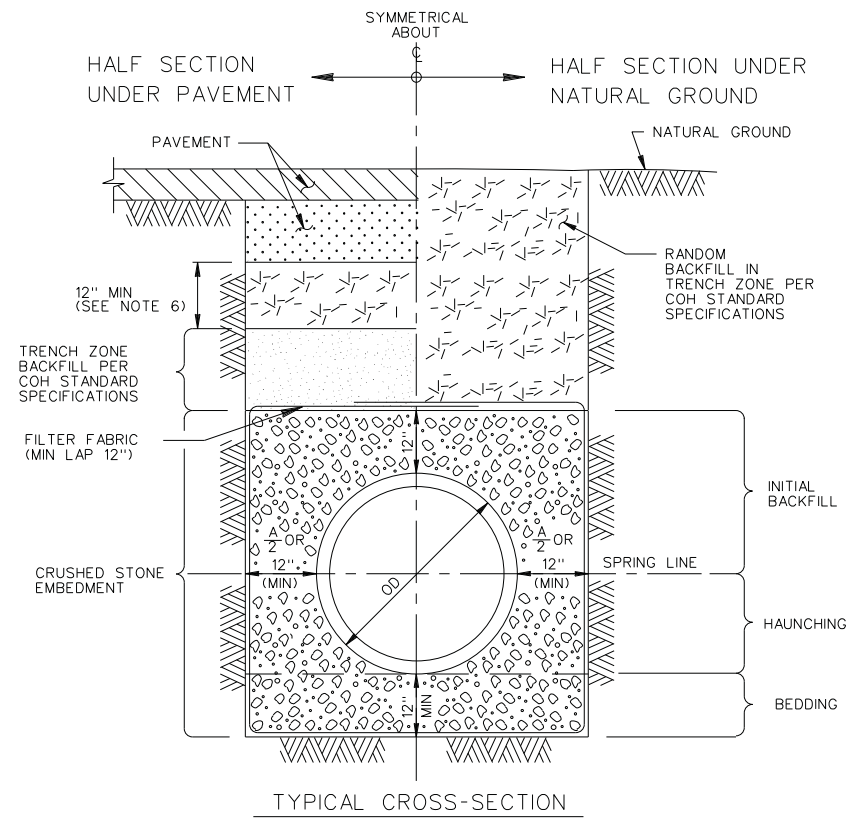
SANITARY DETAILS

(HC MUD 109) SHEET 6 OF 11

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	563
CONTROL	SECTION	JOB	
1685	03	058	

FILENAME: FM1960W_Details_07.dgn

DRAWING DATE: 4/13/2020



SANITARY SEWER EMBEDMENT AND TRENCH ZONE BACKFILL FOR DRY OR WET STABLE TRENCH

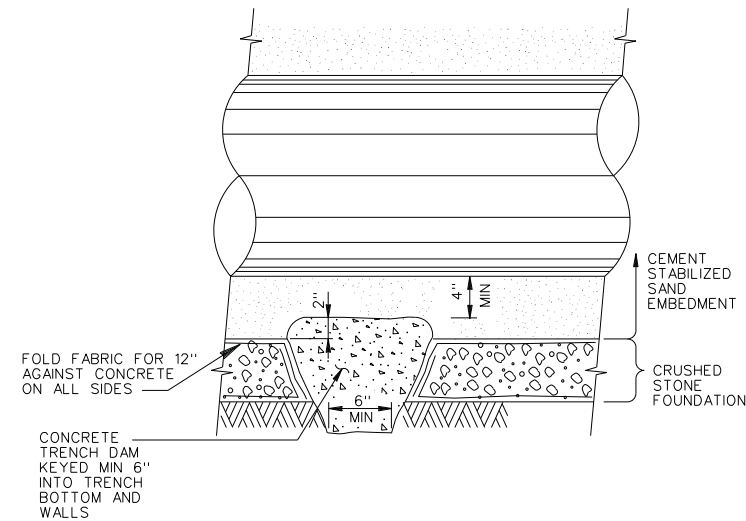
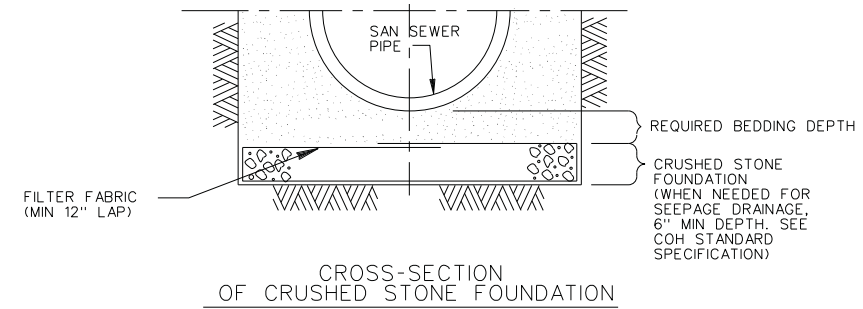
NOTES:

1. MIN TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"
2. MAX TRENCH WIDTH SHALL BE NOT GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
3. TRENCH DAM MAY BE FORMED OR UNFORMED. ACTUAL SHAPE OF CONCRETE TRENCH DAM CROSS SECTION MAY BE DETERMINED BY CONTRACTOR IN FIELD, MEETING MINIMUM THICKNESS AND KEY DEPTH REQUIREMENTS.
4. TRENCH DAM SHALL BE PLACED AT LEAST 5 FT AWAY FROM ANY PIPELINE STRUCTURE. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.
5. PLACE TRENCH DAMS IN CLASS I EMBEDMENTS AT THE MIDPOINT OF LINE SEGMENTS LONGER THAN 100 FEET BETWEEN MANHOLES.
6. SELECT BACKFILL FOR RIGID PAVEMENT; FLEXIBLE BASE MATERIAL FOR ASPHALT PAVEMENT.

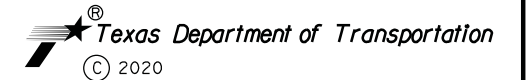
NOTES:

1. ACTUAL SHAPE OF CONCRETE TRENCH DAM CROSS SECTION MAY BE DETERMINED BY CONTRACTOR IN FIELD, MEETING MINIMUM THICKNESS AND KEY DEPTH REQUIREMENTS.
2. THIS DETAIL SHALL BE USED WITH CEMENT STABILIZED SAND EMBEDMENT, OR OTHER CLASS II EMBEDMENT, IN WET STABLE TRENCH CONDITIONS.
3. PLACE TRENCH DAMS IN CLASS I EMBEDMENTS AT THE MIDPOINT OF LINE SEGMENTS LONGER THAN 100 FEET BETWEEN MANHOLES.



LONGITUDINAL SECTION ALONG PIPE LC AT FOUNDATION TRENCH DAM

SANITARY SEWER CRUSHED STONE FOUNDATION FOR WET STABLE TRENCH



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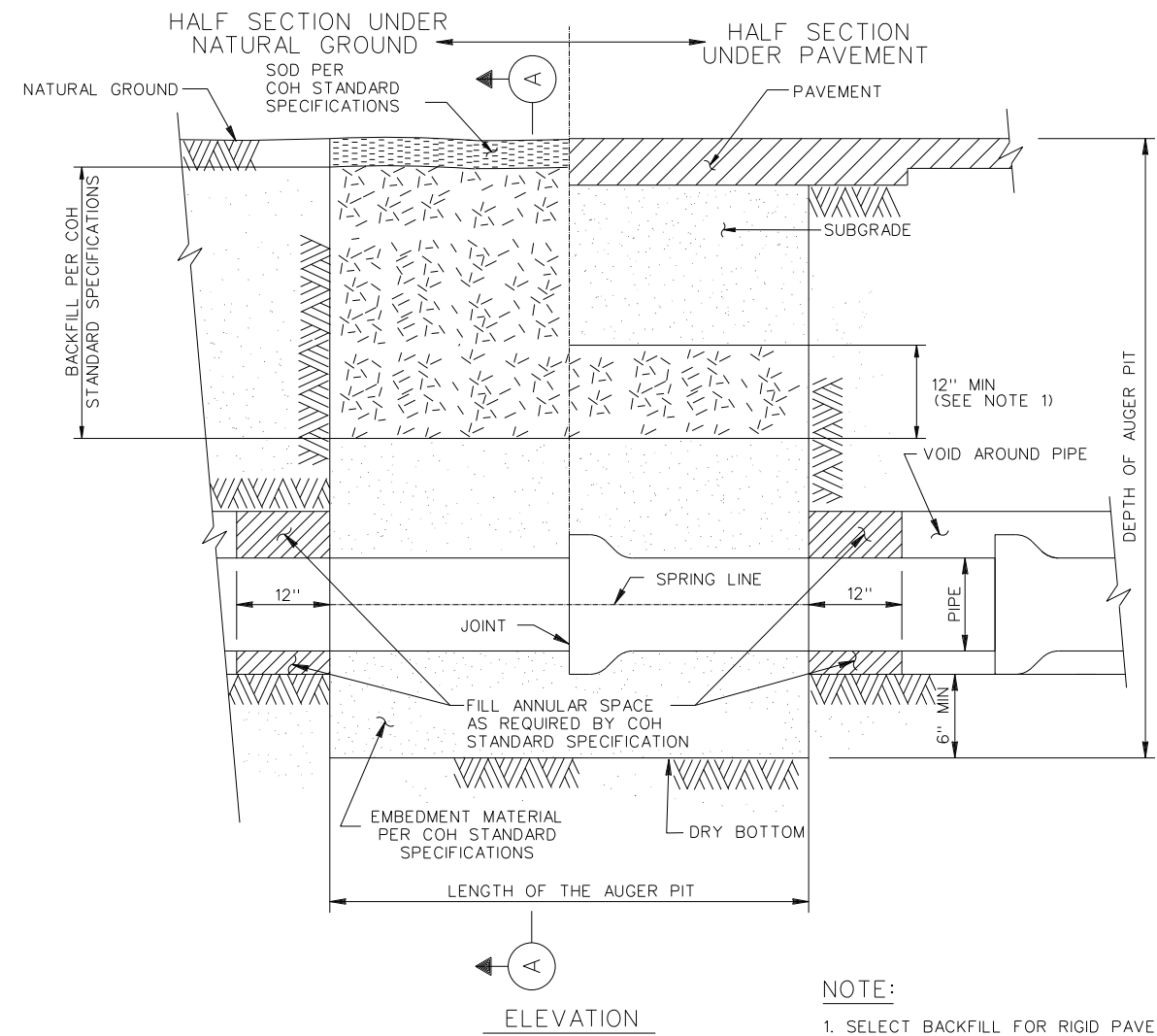
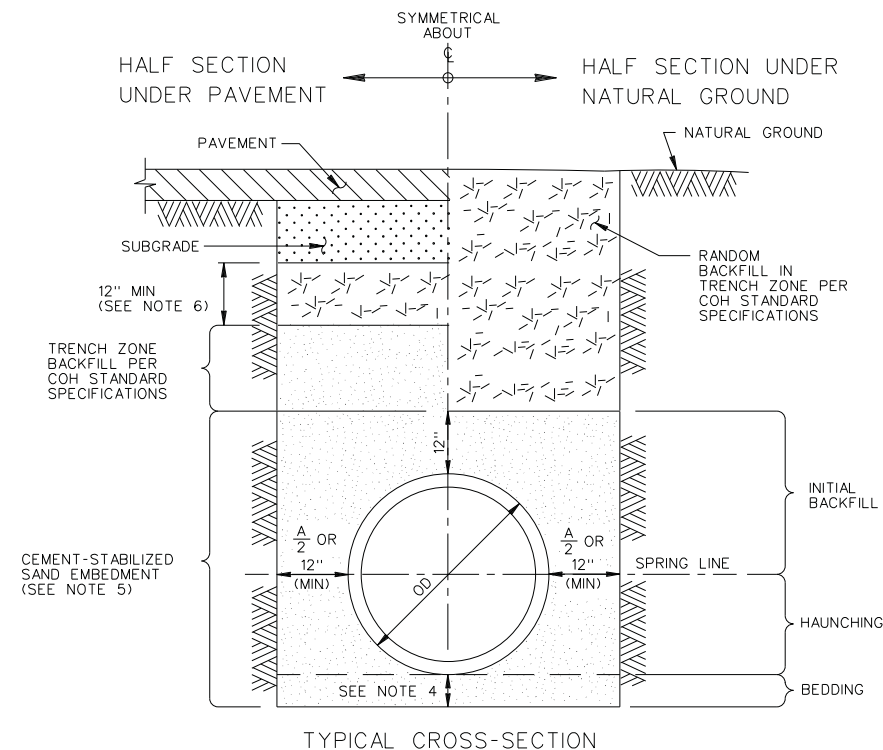
FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN

SANITARY DETAILS

(HC MUD 109)

SHEET 7 OF 11

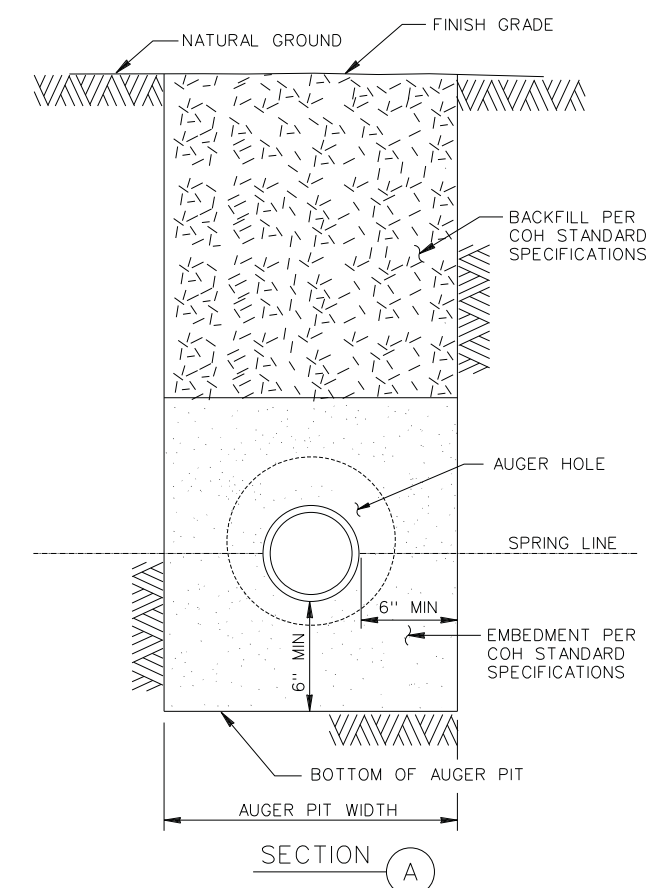
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	564
1685	03	058	



NOTE:
 1. SELECT BACKFILL FOR RIGID PAVEMENT;
 FLEXIBLE BASE MATERIAL FOR ASPHALT
 PAVEMENT.

- NOTES:**
1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER COH STANDARD. SEE COH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
 2. MIN TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"
 3. MAX TRENCH WIDTH SHALL BE NOT GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
 4. MIN BEDDING DEPTH SHALL BE THE GREATER OF 1/8 OD OR 6 INCHES.
 5. ALTERNATIVE EMBEDMENT BACKFILL MATERIALS FOR FORCE MAINS MAY BE ALLOWED. SEE COH STANDARD SPECIFICATIONS.
 6. SELECT BACKFILL FOR RIGID PAVEMENT; FLEXIBLE BASE MATERIAL FOR ASPHALT PAVEMENT.



SANITARY SEWER
 BEDDING AND BACKFILL
 FOR DRY STABLE TRENCH

FILENAME: FM1960W_Details_08.dgn
 DRAWING DATE: 4/13/2020

Texas Department of Transportation
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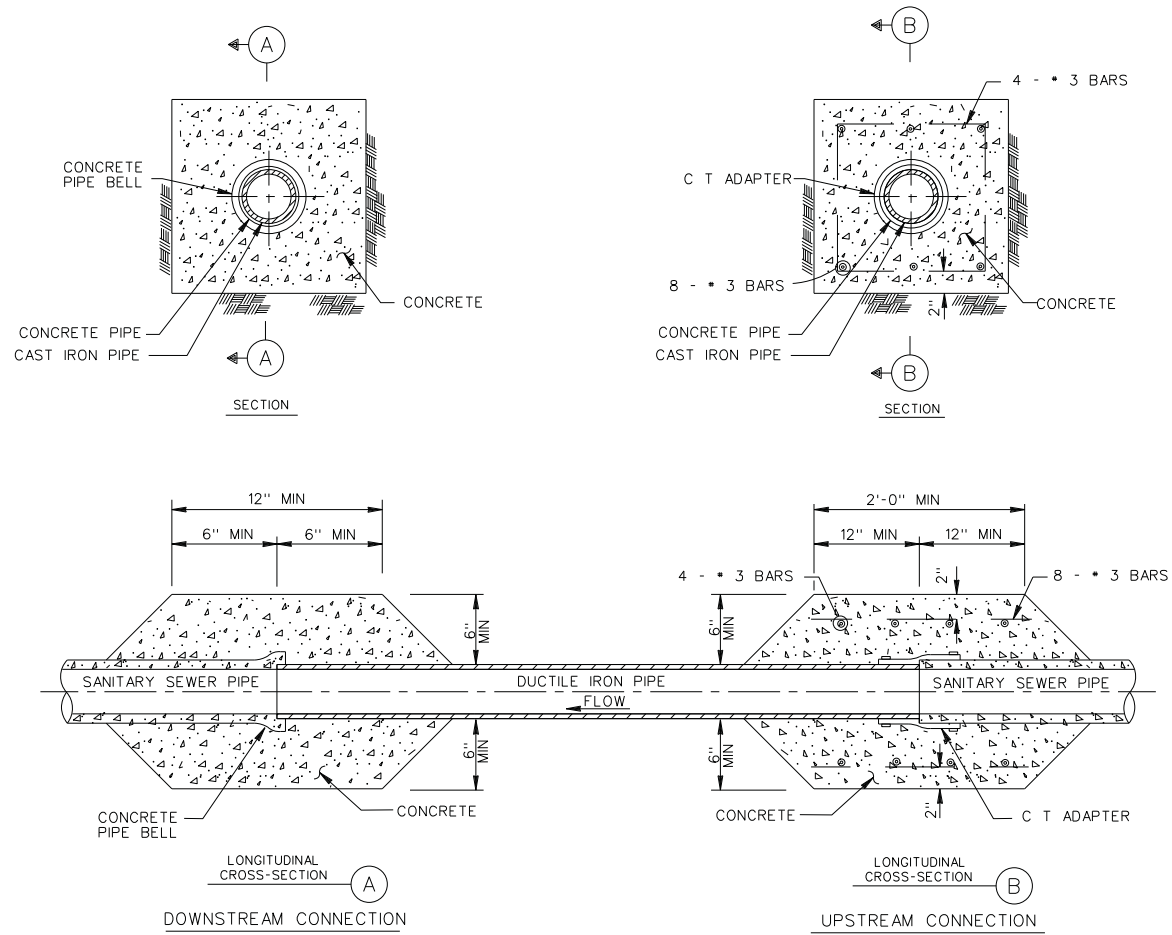
FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN

SANITARY DETAILS
 (HC MUD 109) SHEET 8 OF 11

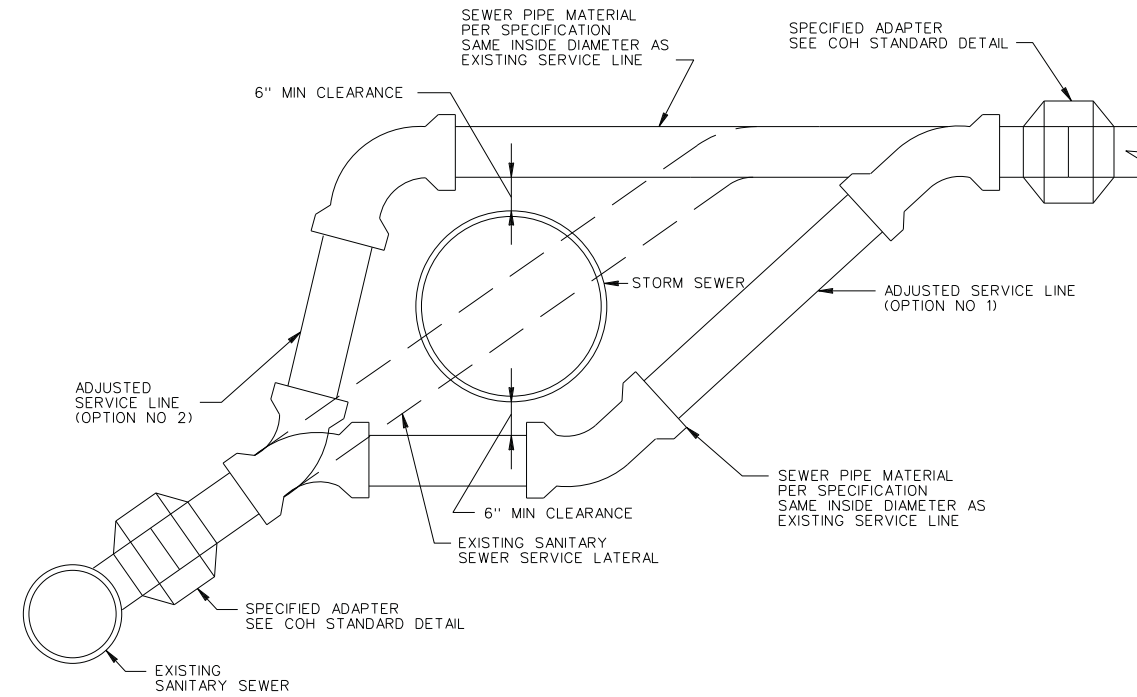
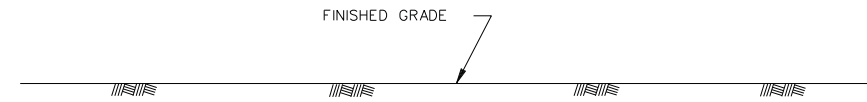
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6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	565
CONTROL	SECTION	JOB	
1685	03	058	

NOTE:

1. THE CONTRACTOR SHALL CENTER A MINIMUM OF 18 FOOT JOINT OF DUCTILE IRON PIPE OR C900 PVC PIPE ACROSS THE CENTER OF THE PROPOSED STORM SEWER.



SANITARY SEWER
DUCTILE IRON PIPE
STORM SEWER CROSSING



SANITARY SEWER
SERVICE LINE RECONNECTION
FOR STORM SEWER CONFLICTS

FILENAME: FM1960W_Details_09.dgn

DRAWING DATE: 4/13/2020



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN

SANITARY DETAILS

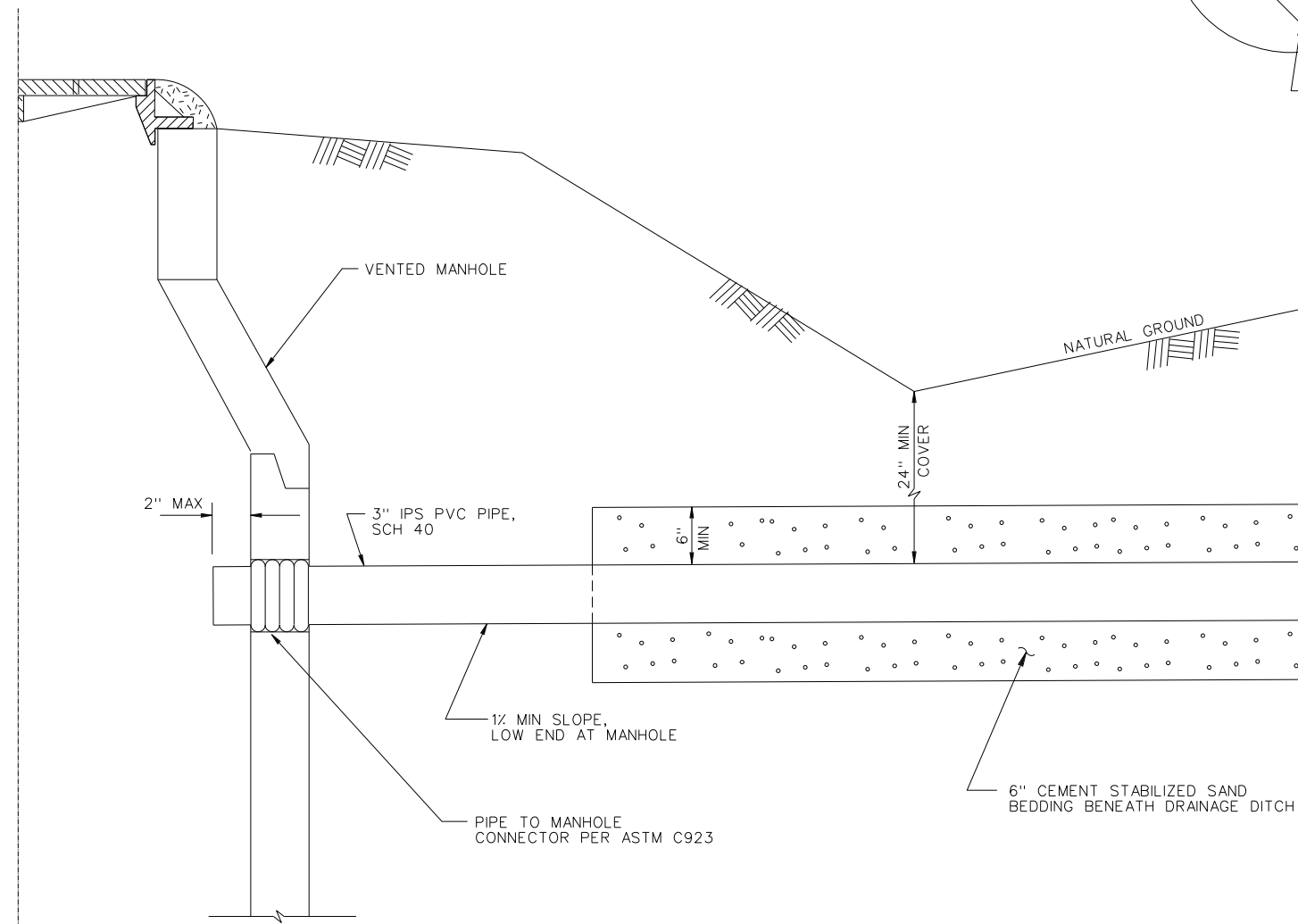
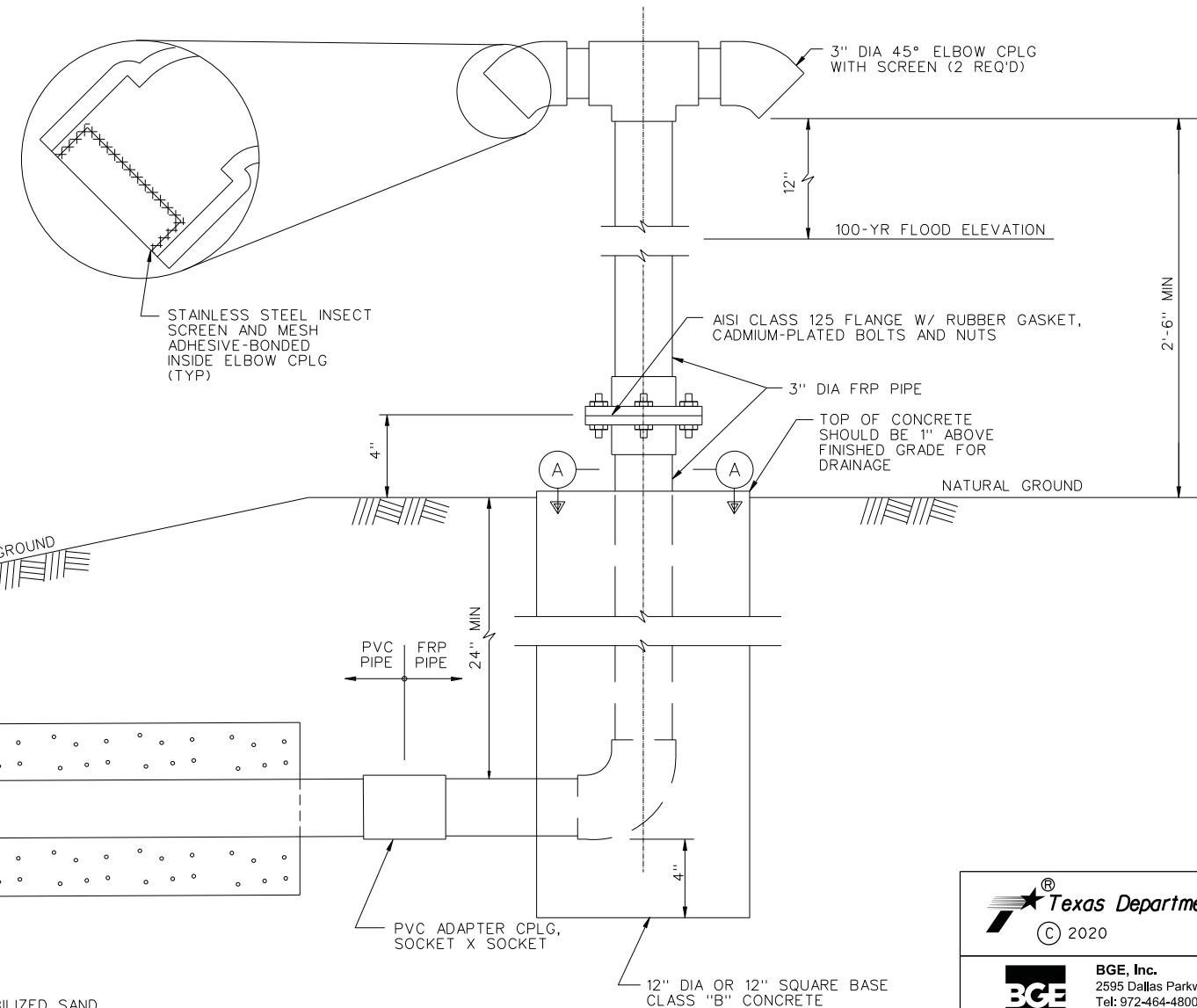
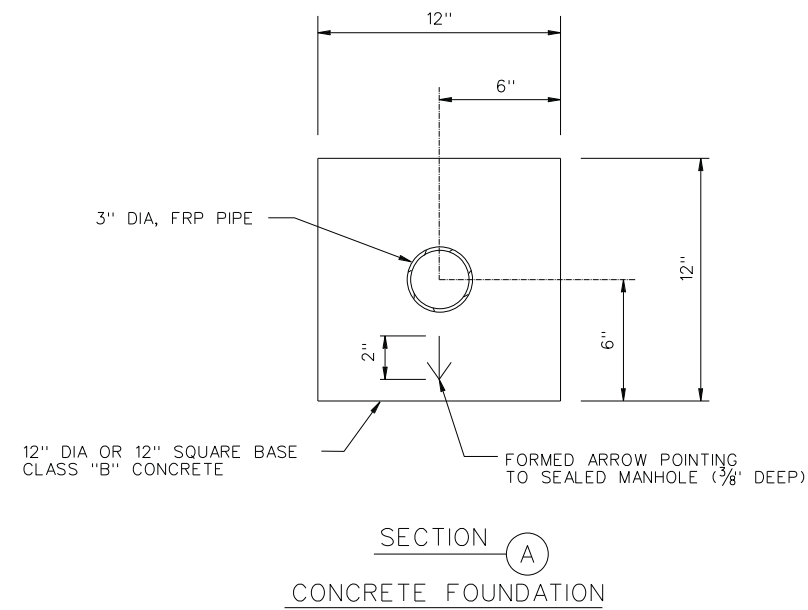
(HC MUD 109)

SHEET 9 OF 11

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6			FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	566
CONTROL	SECTION	JOB	
1685	03	058	

NOTES:

1. INSTALL AT LOCATION AND BASED ON 100-YEAR FLOOD ELEVATION SHOWN ON PLAN AND PROFILE DWGS.
2. DRAIN TO VENTED (ADJACENT) MH AT MIN 1/2" SLOPE. CONNECT TO MANHOLE WITH SPECIFIED CONNECTOR.
3. WHEN VENT CROSSES DRAINAGE DITCH, PROVIDE CEMENT STABILIZED SAND BEDDING.
4. THE VENT IS TO BE INSTALLED WITHIN THE RIGHT OF WAY.
5. SEE COH STANDARD SPECIFICATION FOR PROTECTIVE COATING REQUIREMENTS FOR EXPOSED FRP PIPE.



MANHOLE VENT FOR SEALED MANHOLE

FILENAME: FM1960W_Details_10.dgn

DRAWING DATE: 4/13/2020



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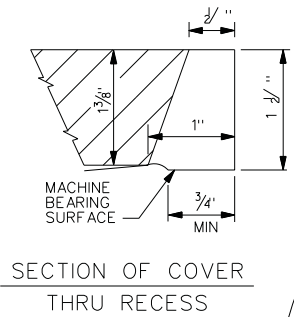
FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN

SANITARY DETAILS

(HC MUD 109)

SHEET 10 OF 11

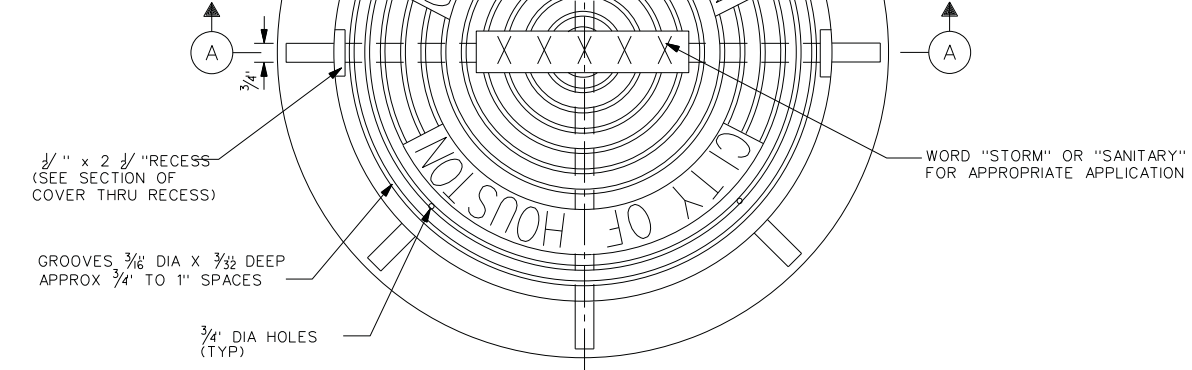
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	6		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	567
CONTROL	SECTION	JOB	
1685	03	058	



NOTE:
 23 1/2" MANHOLE COVER CAN BE USED
 ONLY FOR REPLACEMENT OF EXISTING
 MANHOLE COVER.

ALL LETTERS SHALL BE 2" HIGH AND
 SHALL BE RAISED 1/8"
 LINE WIDTH FOR LETTERS SHALL
 BE 1/4" WIDE.

SECTION OF COVER
 THRU RECESS



1/2" x 2 1/2" RECESS
 (SEE SECTION OF
 COVER THRU RECESS)

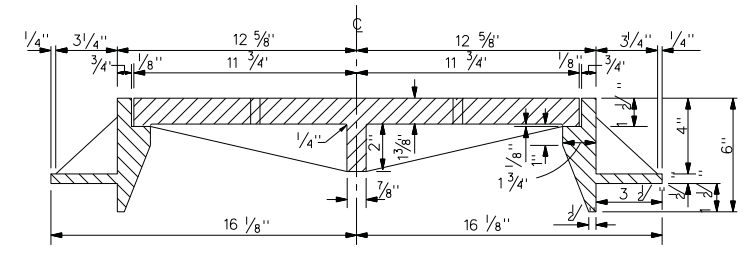
GROOVES 3/16" DIA X 3/32" DEEP
 APPROX 3/4" TO 1" SPACES

3/4" DIA HOLES
 (TYP)

WORD "STORM" OR "SANITARY"
 FOR APPROPRIATE APPLICATION

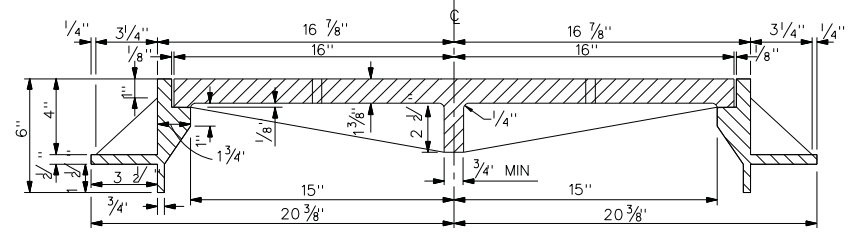
PLAN

23 1/2" AND 32" MANHOLE COVER WITH FRAME



SECTION A

23 1/2" MANHOLE COVER WITH FRAME



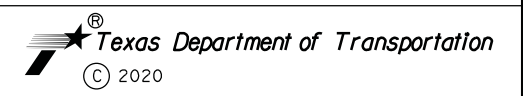
SECTION A

32" MANHOLE COVER WITH FRAME

MANHOLE
 FRAME AND COVER

FILENAME: FM1960W_Details_16.dgn

DRAWING DATE: 4/13/2020



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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN

SANITARY DETAILS

(HC MUD 109)

SHEET 11 OF 11

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	6		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	568
CONTROL	SECTION	JOB	
1685	03	058	

Attachment "B" Accounting Method

Actual Cost Method of Accounting

The utility accumulates cost under a work order accounting procedure prescribed by the Federal or State regulatory body and proposes to request reimbursement for actual direct and related indirect costs.

Lump Sum Method of Accounting

Utility proposed to request reimbursement based on an agreed lump sum amount supported by a detailed cost analysis.

Initial Date
TxDOT

Initial Date
Utility

Attachment "C" Schedule of Work

Estimated Start Date:

The utility work for this project has been incorporated into the TxDOT contract and plan set. The schedule of work and estimated completion date for utility adjustments and/or relocation will be determined by the contractor's schedule of work.

Estimated Duration (days): 240 - 365

Estimated Completion Date:

Initial Date
TxDOT

Initial Date
Utility

Attachment "D" Statement Covering Contract Work

(ROW-U-48)
(ROW-U-48-1, if applicable)

Initial Date
TxDOT

Initial Date
Utility



STATEMENT COVERING UTILITY CONSTRUCTION CONTRACT WORK
(AS APPEARING IN ESTIMATE)

Form ROW-U-48
(Rev. 3/19)
Page 1 of 1

U-Number: U15952

ROW CSJ Number: 1685-03-058 District: Houston
 County: Harris Highway No.: FM 1960
 Federal Project No.: N/A

I, Owen Parker, a duly authorized and qualified representative of Harris County MUD No. 109, hereinafter referred to as **Owner**, am fully cognizant of the facts and make the following statements in respect to work which will or may be done on a contract basis as it appears in the estimate to which this statement is attached.

It is more economical and/or expedient for **Owner** to contract this adjustment, or **Owner** is not adequately staffed or equipped to perform the necessary work on this project with its own forces to the extent as indicate on the estimate.

Procedure to be Used in Contracting Work

- A. Solicitation for bids is to be accomplished through open advertising and contract is to be awarded to the lowest qualified bidder who submits a proposal in conformity with the requirements and specifications for the work to be performed. Associated bid tabulations will be provided to the **State**.
- B. Solicitation for bids is to be accomplished by circulating to a list of pre-qualified contractors or known qualified contractors and such contract is to be awarded to the lowest qualified bidder who submits a proposal in conformity with the requirements and specifications for the work to be performed. Associated bid tabulations will be provided to the **State**. Such presently known contractors are listed below:
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.
- C. The work is to be performed under an existing continuing contract under which certain work is regularly performed for **Owner** and under which the lowest available costs are developed. The existing continuing contract will be made available to the **State** for review at a location mutually acceptable to the **Owner** and the **State**. If only part of the contract work is to be done under an existing contract, give detailed information by attachment hereto.
- D. The utility proposes to contract outside the foregoing requirements and therefore evidence in support of its proposal is attached to the estimate in order to obtain the concurrence of the State, and the Federal Highway Administration Division Engineer where applicable, prior to taking action thereon (approval of the agreement shall be considered as approval of such proposal).
- E. The utility plans and specifications, with the consent of the State, will be included in the construction contract awarded by the State. In the best interest of both the **State** and the **Owner**, the **Owner** requests the **State** to include the plans and specifications for this work in the general contract for construction of Highway FM 1960 in this area, so that the work can be coordinated with the other construction operations; and the construction contract is to be awarded by the **State** to the lowest qualified bidder who submits a proposal in conformity with the requirements and specifications for the work to be performed. If this option is chosen, attach form ROW-U-48-1, the terms of which are incorporated herein by reference.

Signature _____

Date _____

Board President _____

Title _____

**Statement Covering Utility Construction Contract Work – In the State’s
Highway Construction Contract
(As Referenced in Form ROW-U-48, Option E)**

Work Responsibilities

- A. The Utility shall provide the following services under this contract:**
- i. Responsible for engaging the services of a Texas Registered Professional Engineer to prepare drawings and technical specifications for relocations and adjustments along FM 1960.
 - ii. Provide the plans and specifications to the State to include in the current planning specifications and estimate package being prepared by representatives of the Texas Department of Transportation’s Houston Area Office.
 - iii. Secure all necessary permitting as may be required for the installation of the HCMUD 109 line.
 - iv. Arrange and coordinate with the contractor, through the State, materials and equipment testing, rejection of all work not conforming to minimum requirements of the construction contract documents, maintenance of the proposed water/wastewater pipeline during construction, and the relocation of HCMUD 109 and connection of services to customers.
 - v. Advise the State of work that Utility determines should be corrected or rejected.
 - vi. Arrange, observe, and inspect all acceptance testing and notify the State of the results of these activities.
 - vii. Provide inspection services for the construction, notify the State of defects and deficiencies in the work, and observe actions of the contractor to correct such defects and deficiencies.
 - viii. Assume all responsibility for the maintenance of the existing HCMUD 109 during and upon completion of the construction contract.
 - ix. Ensure all Texas Commission on Environmental Quality and all other regulatory rules, regulations and laws are strictly adhered to.
 - x. Prepare and submit both a certificate of substantial completion and a list of observed items requiring completion or correction for the relocations and adjustments to the Project Engineer for concurrence.
 - xi. Coordinate all construction activities performed by Utility’s staff for the relocations and adjustments through the Project Engineer.

B. The State shall provide the following services under this contract:

- i. Combine the HCMUD 109 relocation and adjustment plans with the plans being prepared for the Project.
- ii. Review and approve the final construction plans prior to any construction-related activities. In order to ensure federal and/or state funding eligibility, projects must be authorized by the State prior to advertising for construction.
- iii. Advertise for construction bids, issue bid proposals, receive and tabulate the bids, and award and administer the contract for construction of the Project.
- iv. Negotiate and administer all field changes and change orders required for the Project. All change orders increasing construction costs for Utility's Project shall be submitted to Utility for review and approval together with an evaluation. Utility agrees to review and either approve or disapprove all change orders within five (5) business days after receipt of such order unless Utility Board's approval is necessary in which case Utility shall bring the item to Utility Board as soon as reasonably possible.
- v. Provide overall project management to supervise the day-to-day activities of the construction and monitor the activities of the contractor to promote the timely and efficient completion of the Project in accordance with the approved Plans and Specifications and construction schedule.
- vi. Conduct field observations and coordinate with Utility's inspectors and the contractor to cure defects and deficiencies in the construction prior to final acceptance.
- vii. Make timely payment to the contractor for work performed in connection with the Project.
- viii. Ensure access and permit Utility's inspectors and other authorized representatives to inspect the waterline construction at all times.
- ix. Conduct and coordinate final inspection of the Project in the presence of Utility's Engineer and Inspector, transmit final list of items to be completed or repaired and observe contractor correction of same.
- x. Maintain job file.

Attachment “E”

Utility Joint Use Acknowledgment – (ROW-U-JUAA) and/or Utility Installation Request – (Form 1082)

Utility Joint Use Acknowledgment (ROW–U–JUAA)

Utility Installation Review/Permit Number:

Initial Date
TxDOT

Initial Date
Utility



UTILITY JOINT USE ACKNOWLEDGEMENT
REIMBURSABLE UTILITY ADJUSTMENT

U-Number: U15952

ROW CSJ: 1685-03-058 County: Harris
District: Houston Highway: FM 1960
Federal Project No.: N/A From: BF 1960A (STA 2585+05)
Projected Highway Letting Date: 07/31/20 To: E of Twigsworth Ln (STA 2795+00)

WHEREAS, the State of Texas, ("State"), acting by and through the Texas Department of Transportation ("TxDOT"), proposes to make certain highway improvements on that section of the above-indicated highway; and

WHEREAS, the Harris County MUD No. 109 ("Utility"), proposes to adjust or relocate certain of its facilities, if applicable, and retain title to any property rights it may have on, along or across, and within or over such limits of the highway right of way as indicated by the location map attached hereto.

NOW, THEREFORE, in consideration of the covenants and acknowledgements herein contained, the parties mutually agree as follows:

It is agreed that joint usage for both highway and utility purposes will be made of the area within the highway right of way limits as such area is defined and to the extent indicated on the aforementioned plans or sketches. Nothing in this Acknowledgement shall serve to modify or extinguish any compensable property interest vested in the Utility within the above described area. If the facilities shown in the aforementioned plans need to be altered or modified or new facilities constructed to either accommodate the proposed highway improvements or as part of Utility's future proposed changes to its own facilities, Utility agrees to notify TxDOT at least 30 days prior thereto, and to furnish necessary plans showing location and type of construction, unless an emergency situation occurs and immediate action is required. If an emergency situation occurs and immediate action is required, Utility agrees to notify TxDOT promptly. If such alteration, modification or new construction is in conflict with the current highway or planned future highway improvements, or could endanger the traveling public using said highway, TxDOT shall have the right, after receipt of such notice, to prescribe such regulations as necessary for the protection of the highway facility and the traveling public using said highway. Such regulations shall not extend, however, to requiring the placement of intended overhead lines underground or the routing of any lines outside of the area of joint usage above described.

If Utility's facilities are located along a controlled access highway, Utility agrees that ingress and egress for servicing its facilities will be limited to frontage roads where provided, nearby or adjacent public roads and streets, or trails along or near the highway right of way lines which only connect to an intersecting road. Entry may be made to the outer portion of the highway right of way from any one or all access points. Where supports, manholes or other appurtenances of the Utility's facilities are located in medians or interchange areas, access from the through-traffic roadways or ramps will be allowed by permit issued by the State to the Utility setting forth the conditions for policing and other controls to protect highway users. In an emergency situation, if the means of access or service operations as herein provided will not permit emergency repairs as required for the safety and welfare of the public, the Utility shall have a temporary right of access to and from the through-traffic roadways and ramps as necessary to accomplish the required repairs, provided TxDOT is notified immediately when such repairs are initiated and adequate provision is made by Utility for the convenience and safety of highway traffic. Except as expressly provided herein, the Utility's rights of access to the through-traffic roadways and/or ramps shall be subject to the same rules and regulations as apply to the general public.

Initial Date Initial Date
TxDOT Utility



If **Utility's** facilities are located along a non-controlled access highway, the **Utility's** rights of ingress and egress to the through-traffic roadways and/or ramps are subject to the same rules and regulations as apply to the general public.

Participation in actual costs incurred by the Utility for any future adjustment, removal or relocation of utility facilities required by highway construction shall be in accordance with applicable laws of the State of Texas.

Utility will, by written notice, advise **TxDOT** of the beginning and completion dates of the adjustment, removal, or relocation, and, thereafter, agrees to perform such work diligently, and to conclude said adjustment, removal, or relocation by the stated completion date. The completion date shall be extended for delays caused by events outside **Utility's** control, including an event of Force Majeure, which shall include a strike, war or act of war (whether an actual declaration of war is made or not), insurrection, riot, act of public enemy, accident, fire, flood or other act of God, sabotage, or other events, interference by the **State** or any other party with **Utility's** ability to proceed with the relocation, or any other event in which **Utility** has exercised all due care in the prevention thereof so that the causes or other events are beyond the control and without the fault or negligence of **Utility**.

It is expressly understood that **Utility** conducts the new installation, adjustment, removal, and/or relocation at its own risk, and that **TxDOT** makes no warranties or representations regarding the existence or location of utilities currently within its right of way.

The **Utility** and the **State**, by execution of this Acknowledgement, do not waive or relinquish any right that they may have under the law.

The signatories to this Acknowledgement warrant that each has the authority to enter into this Acknowledgement on behalf of the party represented.

IN WITNESS WHEREOF, the parties hereto have affixed their signatures.

UTILITY

Utility: Harris County MUD No. 109
Name of Utility

By: _____
Authorized Signature

Owen Parker
Print or Type Name

Title: Board President

Date: _____

EXECUTION RECOMMENDED:

Director of TP&D: District

THE STATE OF TEXAS

Executed and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies or work programs heretofore approved and authorized by the Texas Transportation Commission.

By: _____
District Engineer

Date: _____

Attachment “F” Eligibility Ratio

Eligibility Ratio established: 20.71 %

- Non-interstate Highway (Calculation attached)
- Interstate Highway

Initial Date
TxDOT

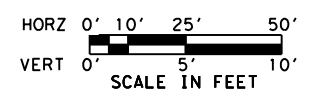
Initial Date
Utility

MUD 109 Option B

Conflict	Sheet #	Reimbursable Length (ft)	Non-Reimbursable Length (ft)	Total Length	Eligible %
1	30B	296	0		
	31B	553	0		
	32B	550	0		
	33B	407	158		
	34B	0	551		
	35B	0	549		
	36B	0	12		
		1806	1270	3076	58.71

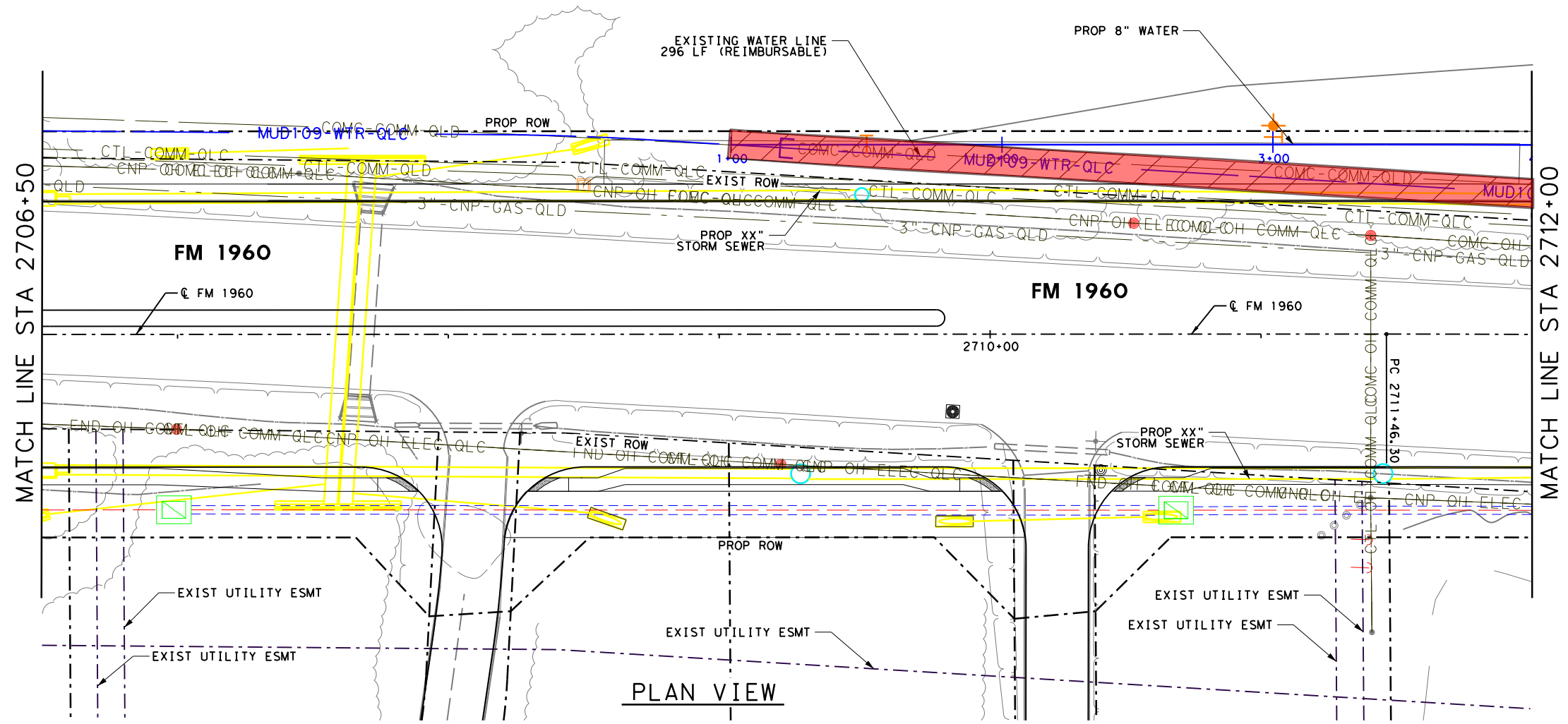
Conflict	Sheet #	Reimbursable Length (ft)	Non-Reimbursable Length (ft)	Total Length	Eligible %
2	39B	23	137		
	Total	23	137	160	14.38

Conflict	Sheet #	Reimbursable Length (ft)	Non-Reimbursable Length (ft)	Total Length	Eligible %
3	33B	0	403		
	34B	0	550		
	35B	0	551		
	36B	0	551		
	37B	0	550		
	38B	0	550		
	39B	0	196		
Total		0	3351	3351	0.00



NOTES:
1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

- WATER LINE (CONFLICT 1)
- 296 REIMBURSABLE FEET
- 0 NON-REIMBURSABLE FEET
- # PROP EASEMENT PARCEL NUMBER

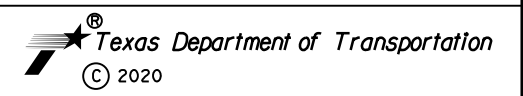


PLAN VIEW

PROFILE VIEW

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BGE, INC.
YANWAH CHONG
TEXAS REGISTRATION NO. 101026
2/26/2020



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Tel: 972-464-4800 • www.bgeinc.com
TBPE Registration No. F-1046
Copyright 2020

FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN

2706+50 TO 2712+00
MUD 109 OPTION B
HC MUD 109

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	
1685	03	058	30B

FILENAME: FM1960W_UTIL_ESMT_30B (SUA Sheets).dgn

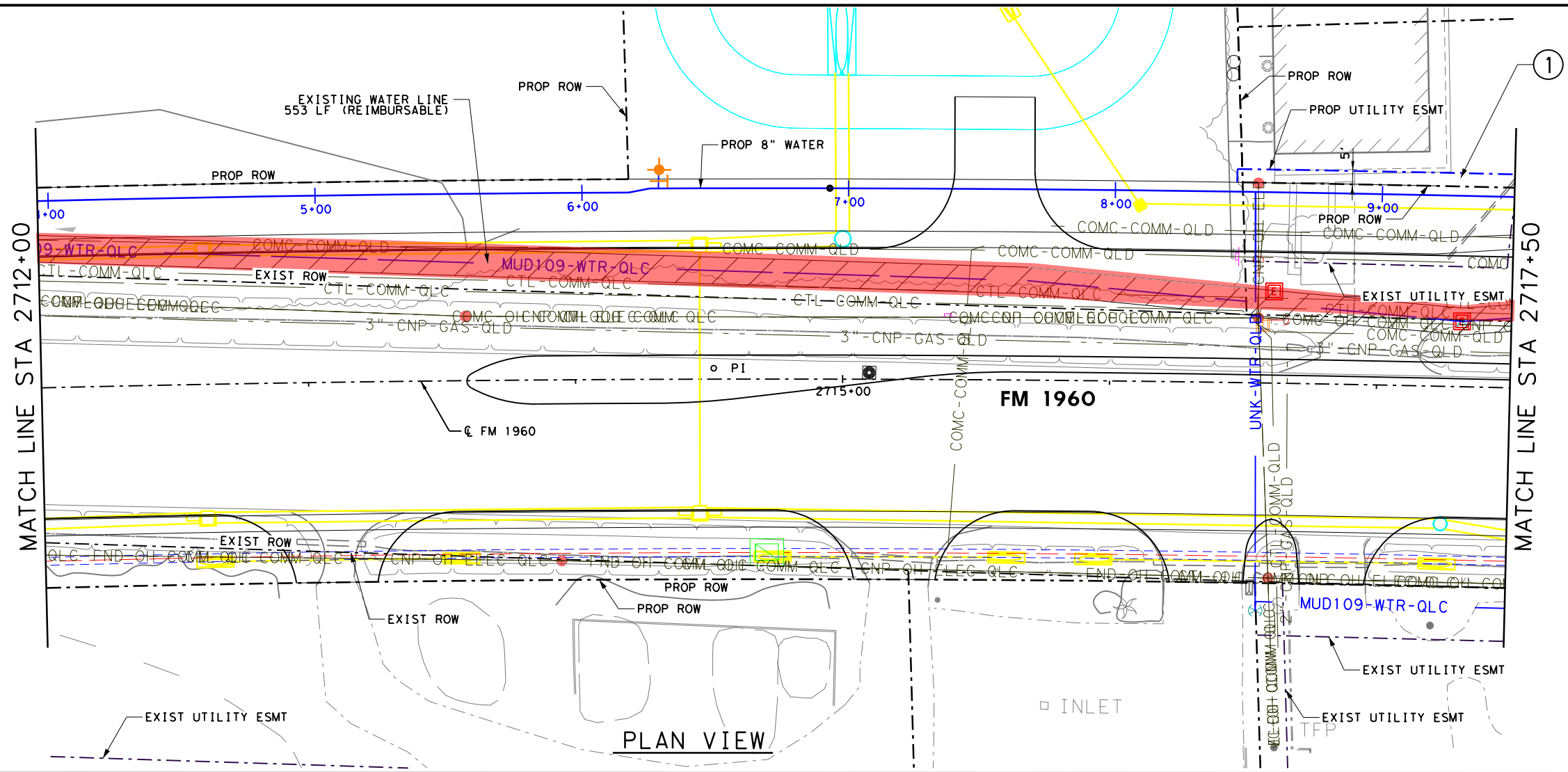
DRAWING DATE: 2/26/2020



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

NOTES:
 1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

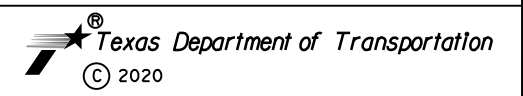
WATER LINE (CONFLICT 1)
 553 REIMBURSABLE FEET
 0 NON-REIMBURSABLE FEET
 # PROP EASEMENT PARCEL NUMBER



PLAN VIEW

PROFILE VIEW

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FM 1960
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2712+00 TO 2717+50
MUD 109 OPTION B
 HC MUD 109

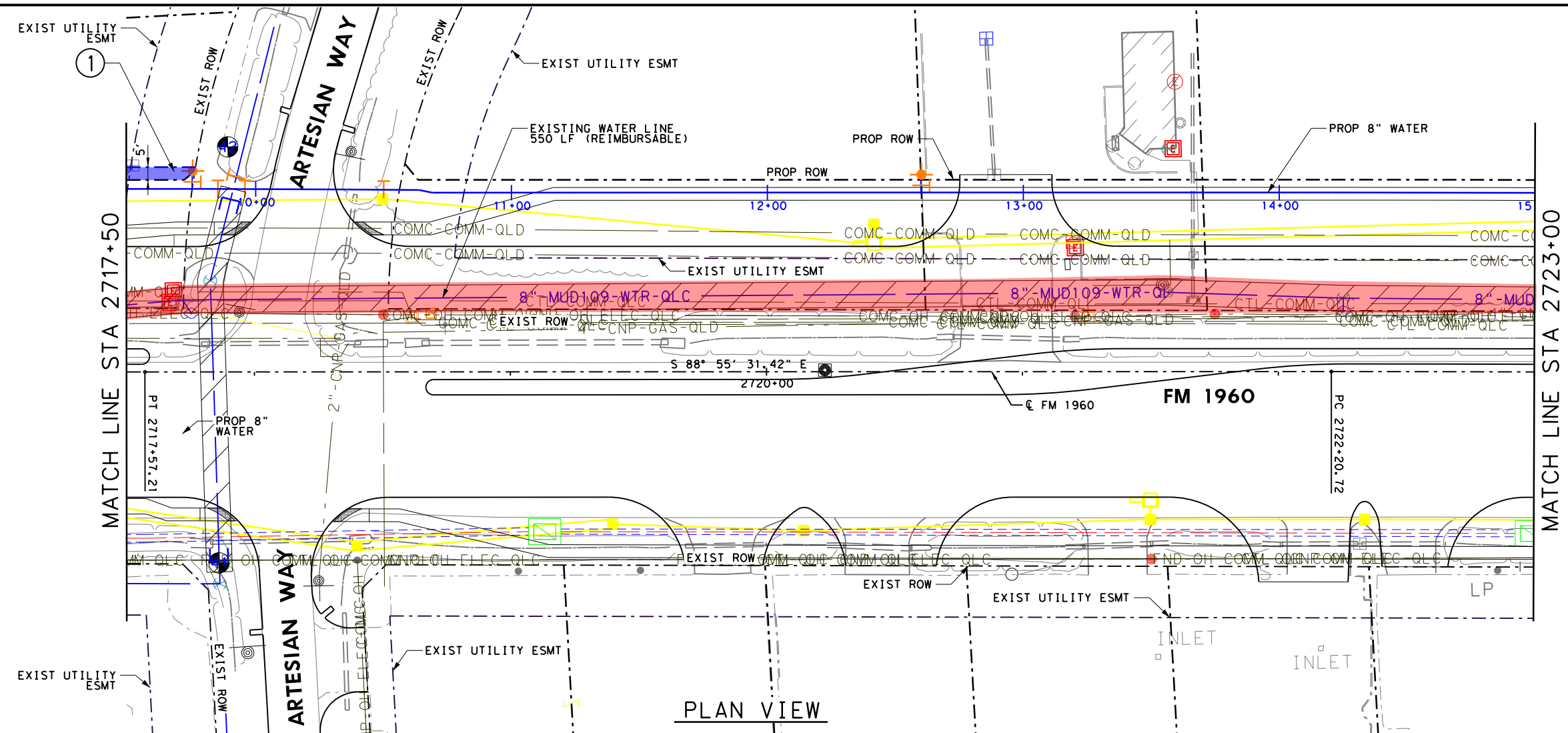
SHEET 4 OF 17

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	
1685	03	058	31B

FILENAME: FM1960W_UTIL_ESMT_31B (SUA Sheets).dgn

DRAWING DATE: 2/26/2020

FILENAME: FM1960W_UTIL_ESMT_32B (SUA Sheets).dgn
 DRAWING DATE: 2/26/2020



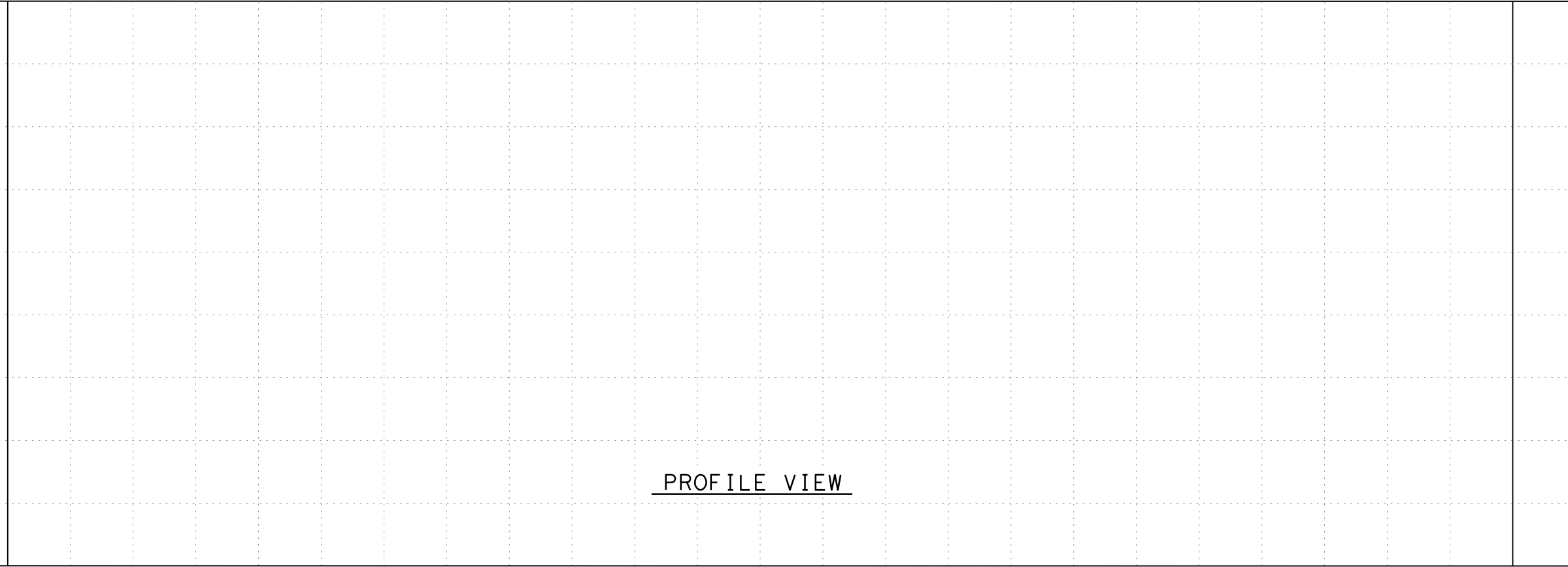
PLAN VIEW



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

NOTES:
 1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

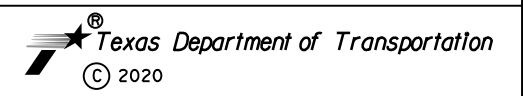
- WATER LINE (Conflict 1)
- 550 REIMBURSABLE FEET
- 0 NON-REIMBURSABLE FEET
- # PROP EASEMENT PARCEL NUMBER



PROFILE VIEW

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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN

2717+50 TO 2723+00
MUD 109 OPTION B
 HC MUD 109

SHEET 5 OF 17

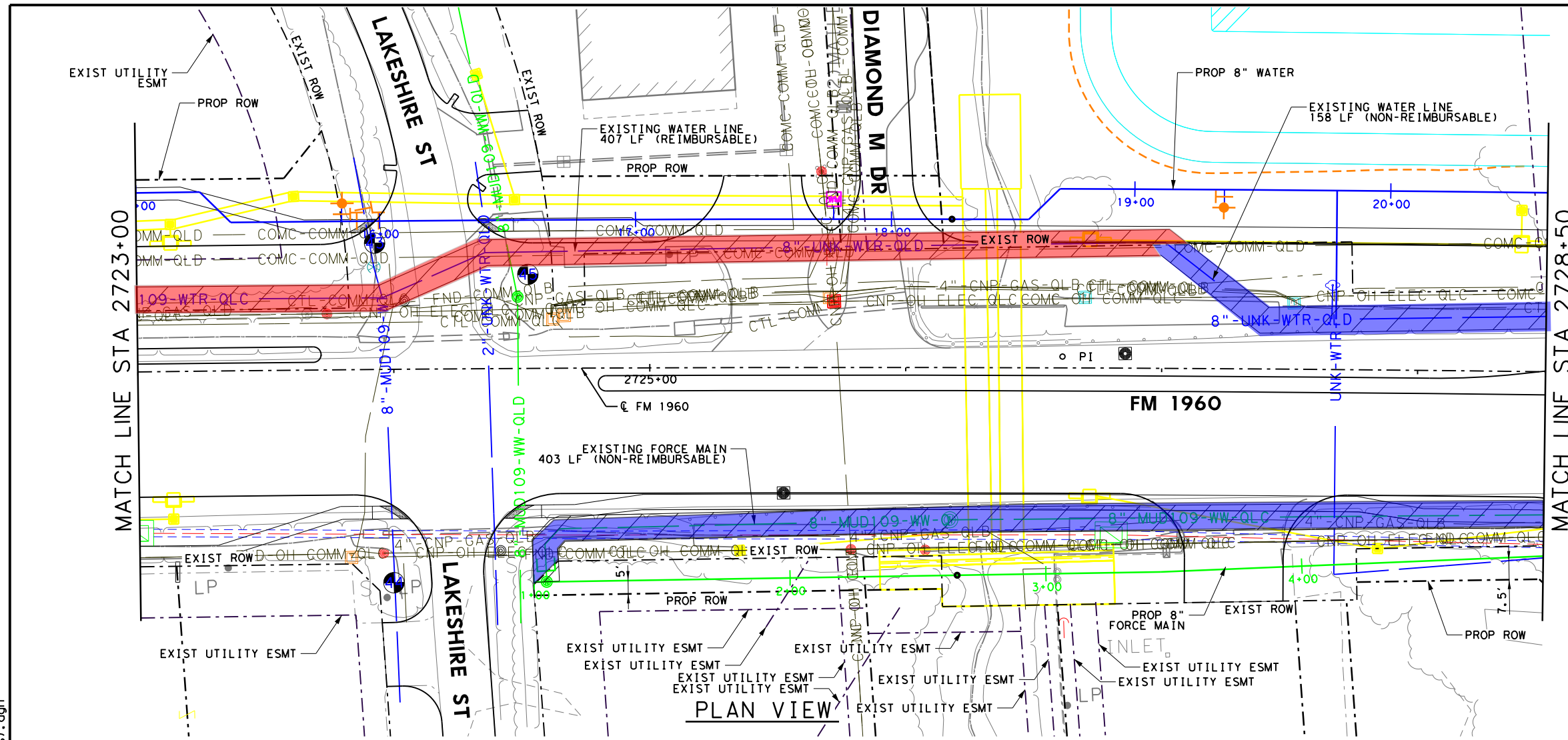
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	32B
1685	03	058	



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

NOTES:
 1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

- WATER LINE (CONFLICT 1)
- 407 REIMBURSABLE FEET
 - 158 NON-REIMBURSABLE FEET
- WASTEWATER LINE (CONFLICT 3)
- 0 REIMBURSABLE FEET
 - 403 NON-REIMBURSABLE FEET
- # PROP EASEMENT PARCEL NUMBER

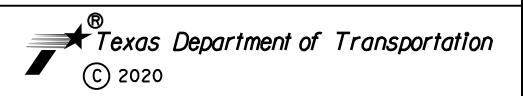


PLAN VIEW

PROFILE VIEW

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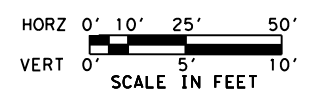
FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN

2723+00 TO 2728+50
MUD 109 OPTION B
 HC MUD 109

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	33B
1685	03	058	

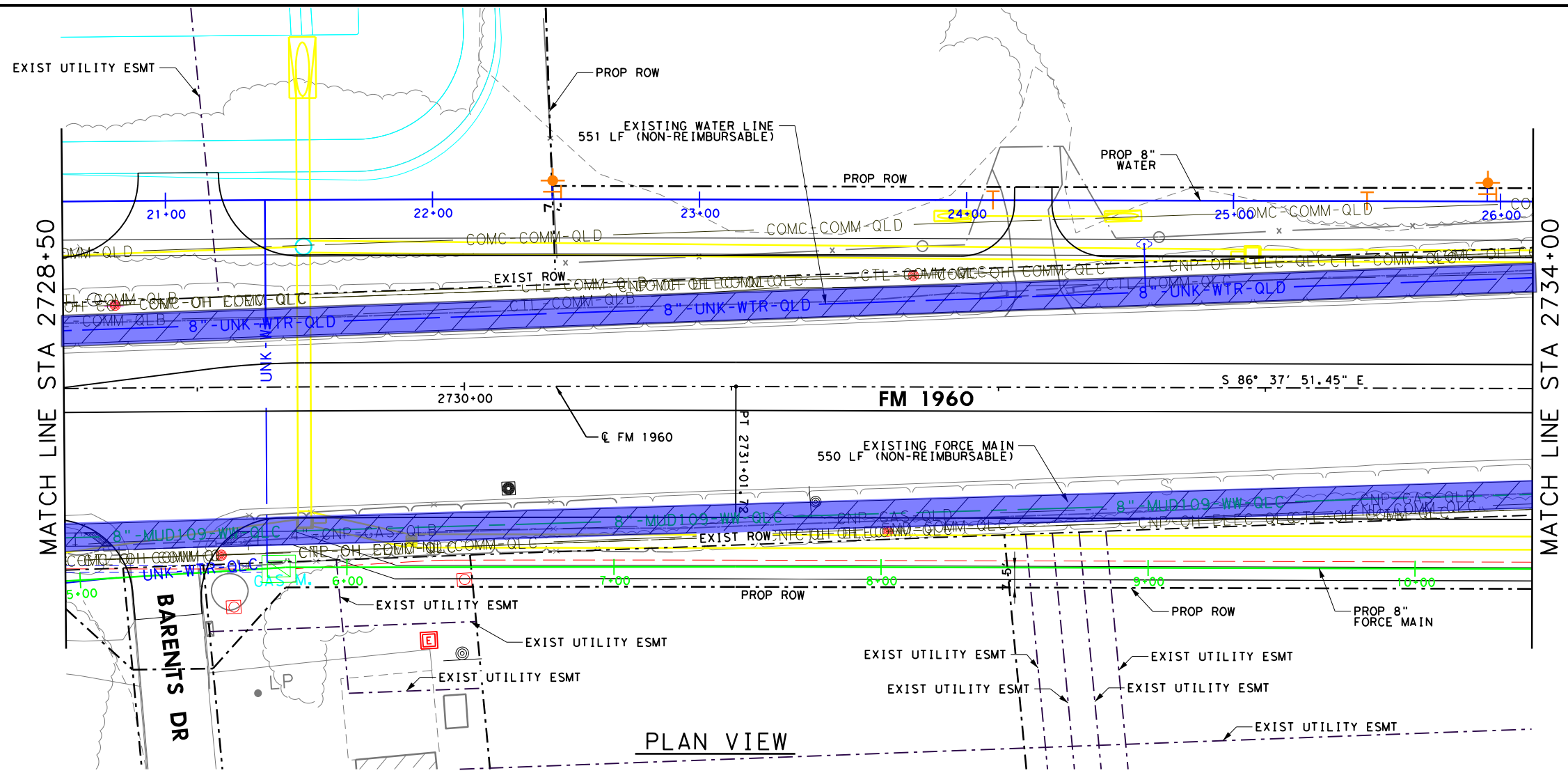
FILENAME: FM1960W_UTIL_ESMT_33B (SUA Sheets).dgn

DRAWING DATE: 2/26/2020



NOTES:
1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

- WATER LINE (CONFLICT 1)
 - 0 REIMBURSABLE FEET
 - 551 NON-REIMBURSABLE FEET
- WASTEWATER LINE (CONFLICT 3)
 - 0 REIMBURSABLE FEET
 - 550 NON-REIMBURSABLE FEET
- # PROP EASEMENT PARCEL NUMBER

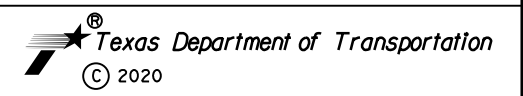


PLAN VIEW

PROFILE VIEW

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2/26/2020



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FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN

2728+50 TO 2734+00
MUD 109 OPTION B
HC MUD 109

SHEET 7 OF 17

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	34B
1685	03	058	

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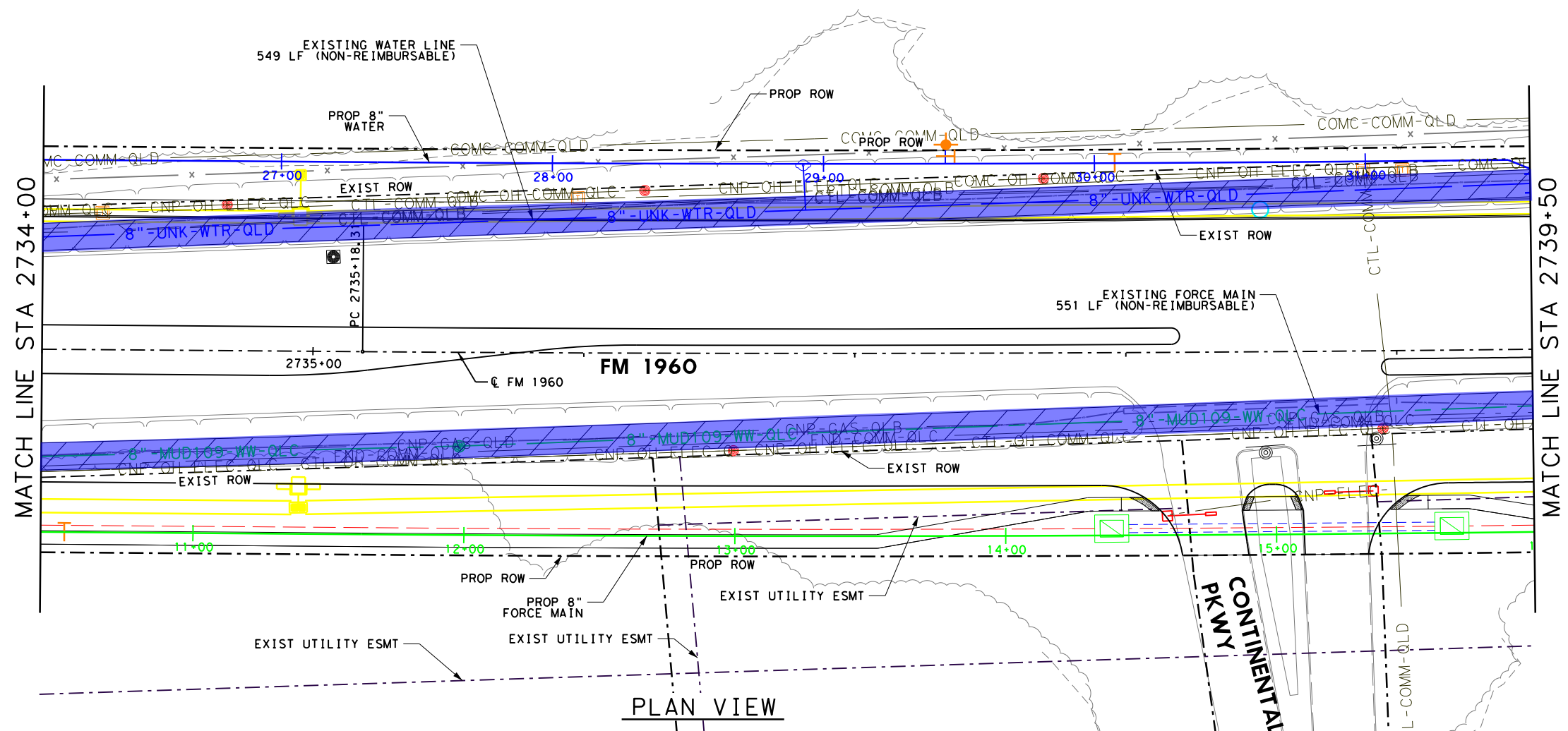
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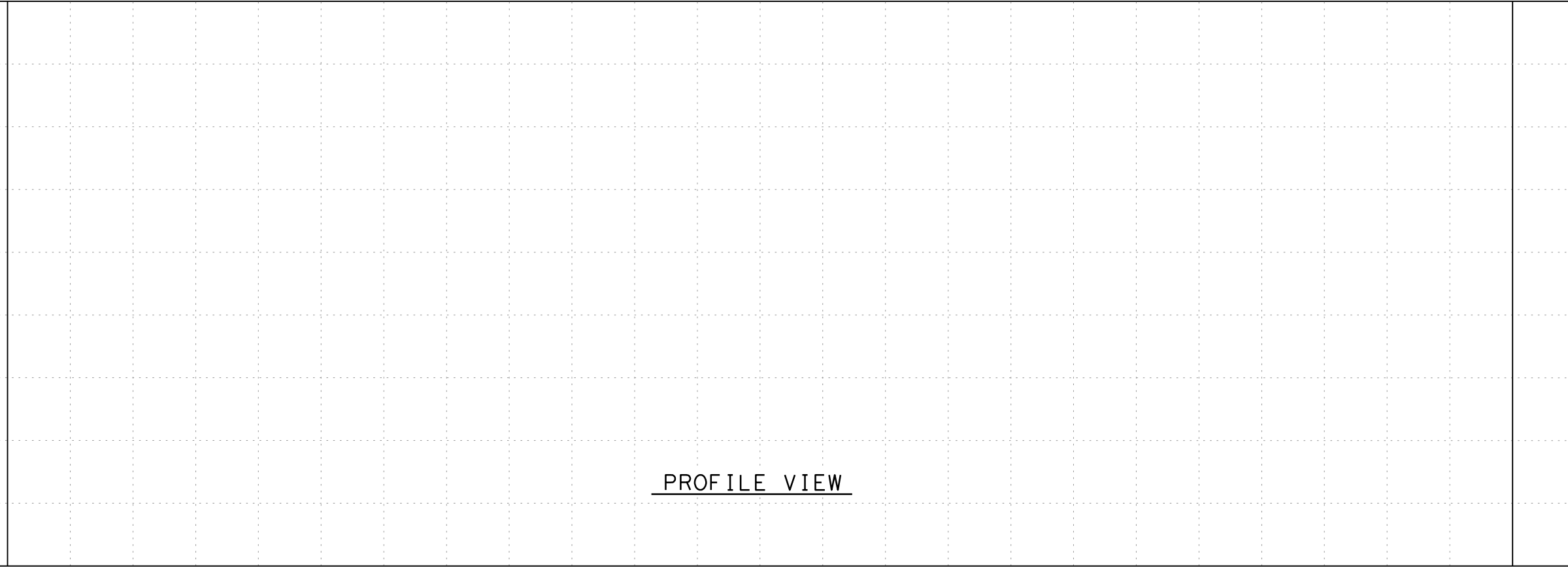
HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

NOTES:
 1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

- WATER LINE (CONFLICT 1)
- 0 REIMBURSABLE FEET
 - 549 NON-REIMBURSABLE FEET
- WASTEWATER LINE (CONFLICT 3)
- 0 REIMBURSABLE FEET
 - 551 NON-REIMBURSABLE FEET
- # PROP EASEMENT PARCEL NUMBER



PLAN VIEW



PROFILE VIEW

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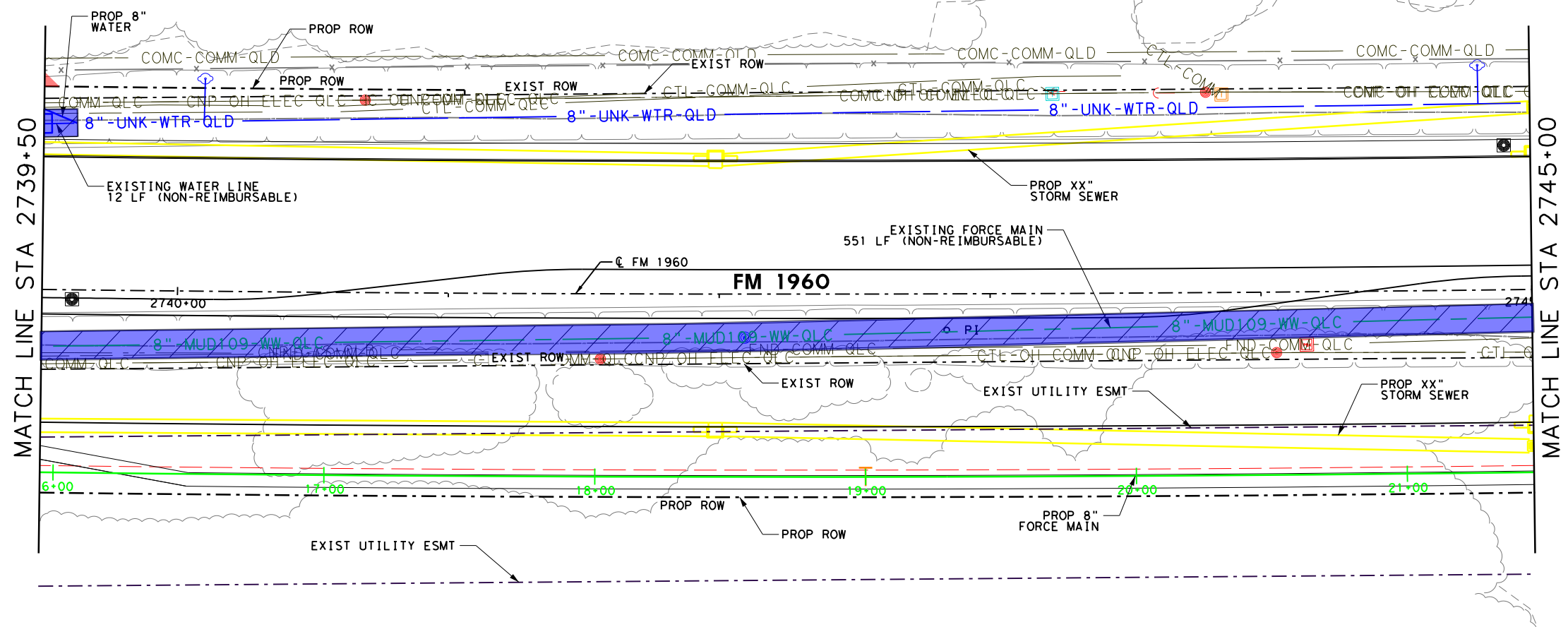
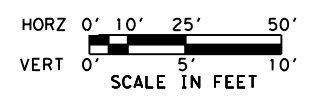
FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN

2734+00 TO 2739+50
MUD 109 OPTION B
 HC MUD 109

SHEET 8 OF 17

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	35B
1685	03	058	

FILENAME: FM1960W_UTIL_ESMT_35B (SUA Sheets).dgn
 DRAWING DATE: 2/26/2020

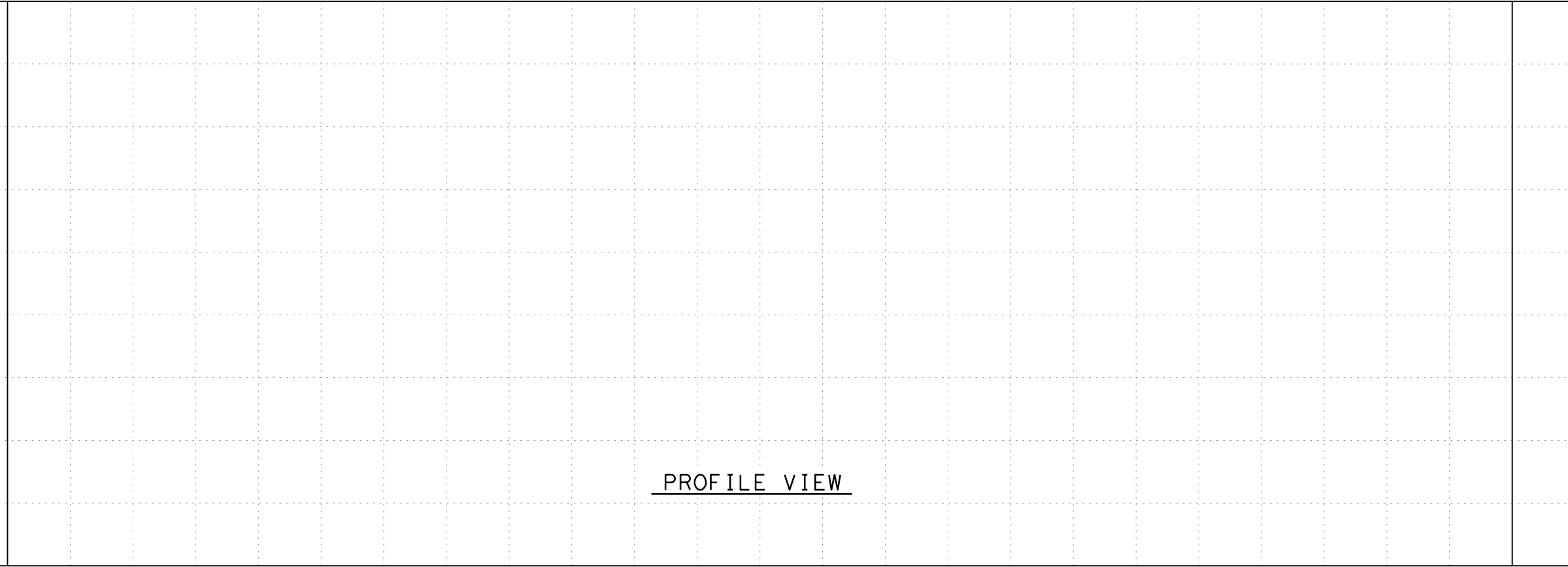


PLAN VIEW

NOTES:
1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

- WATER LINE (CONFLICT 1)
 - 0 REIMBURSABLE FEET
 - 12 NON-REIMBURSABLE FEET
- WASTEWATER LINE (CONFLICT 3)
 - 0 REIMBURSABLE FEET
 - 551 NON-REIMBURSABLE FEET
- # PROP EASEMENT PARCEL NUMBER

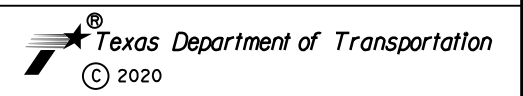
DRAWING DATE: 2/26/2020 FILENAME: FM1960W_UTIL_ESMT_36B (SUA Sheets).dgn



PROFILE VIEW

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BGE, INC.
YANWAH CHONG
TEXAS REGISTRATION NO. 101026
2/26/2020



FM 1960
FROM BF 1960A TO EAST OF TWIGSWORTH LN

2739+50 TO 2745+00
MUD 109 OPTION B
HC MUD 109

SHEET 9 OF 17

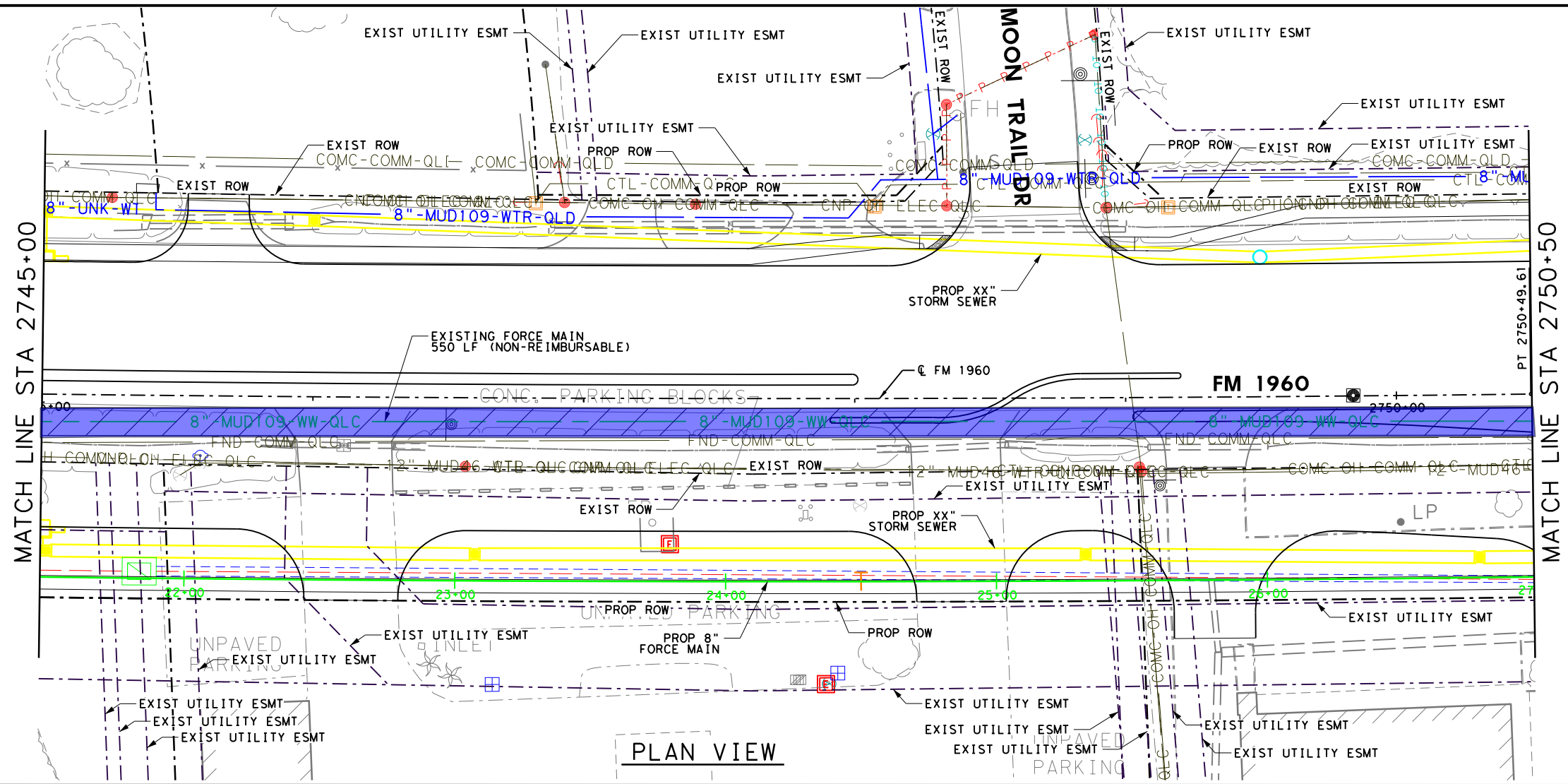
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6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	
1685	03	058	36B



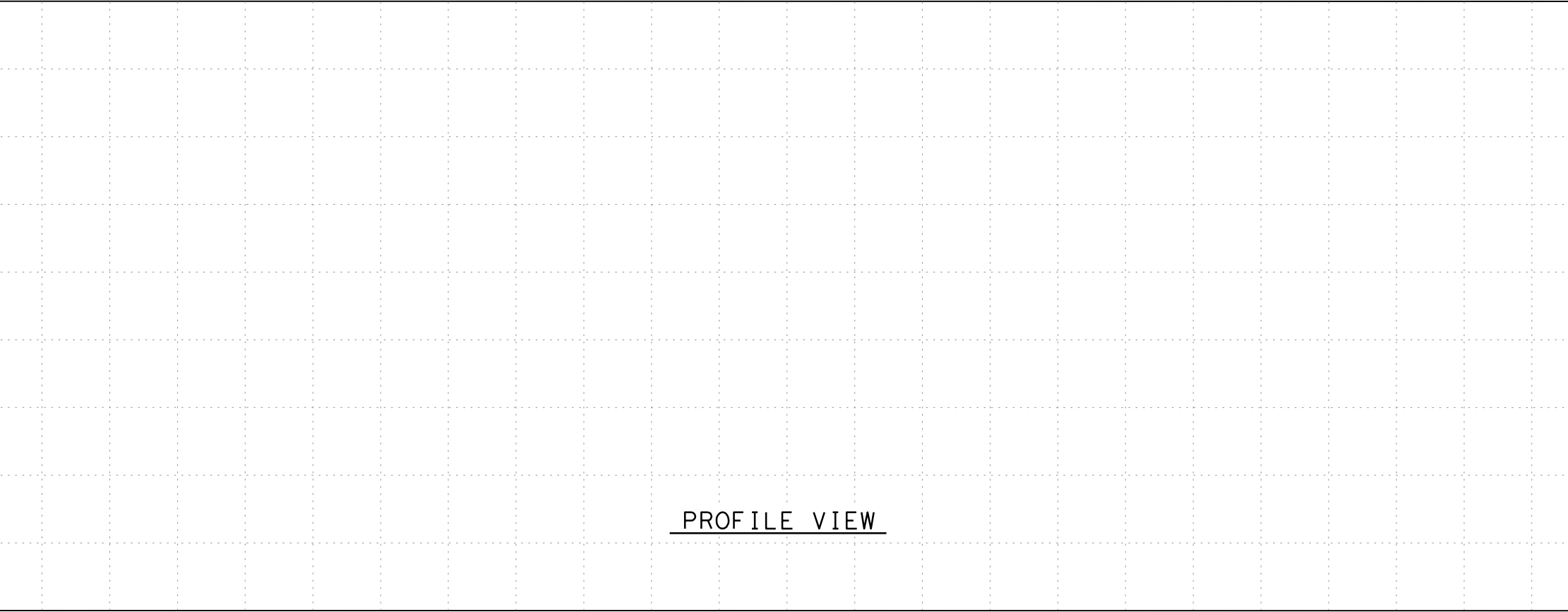
HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

NOTES:
 1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

WASTEWATER LINE (CONFLICT 3)
 0 REIMBURSABLE FEET
 550 NON-REIMBURSABLE FEET
 # PROP EASEMENT PARCEL NUMBER

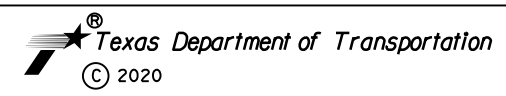


PLAN VIEW



PROFILE VIEW

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 RESPONSIBLE ENGINEER:
 BGE, INC.
 YANWAH CHONG
 TEXAS REGISTRATION NO. 101026
 2/26/2020



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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN

2745+00 TO 2750+50
MUD 109 OPTION B
 HC MUD 109

SHEET 10 OF 17

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	37B
CONTROL	SECTION	JOB	
1685	03	058	

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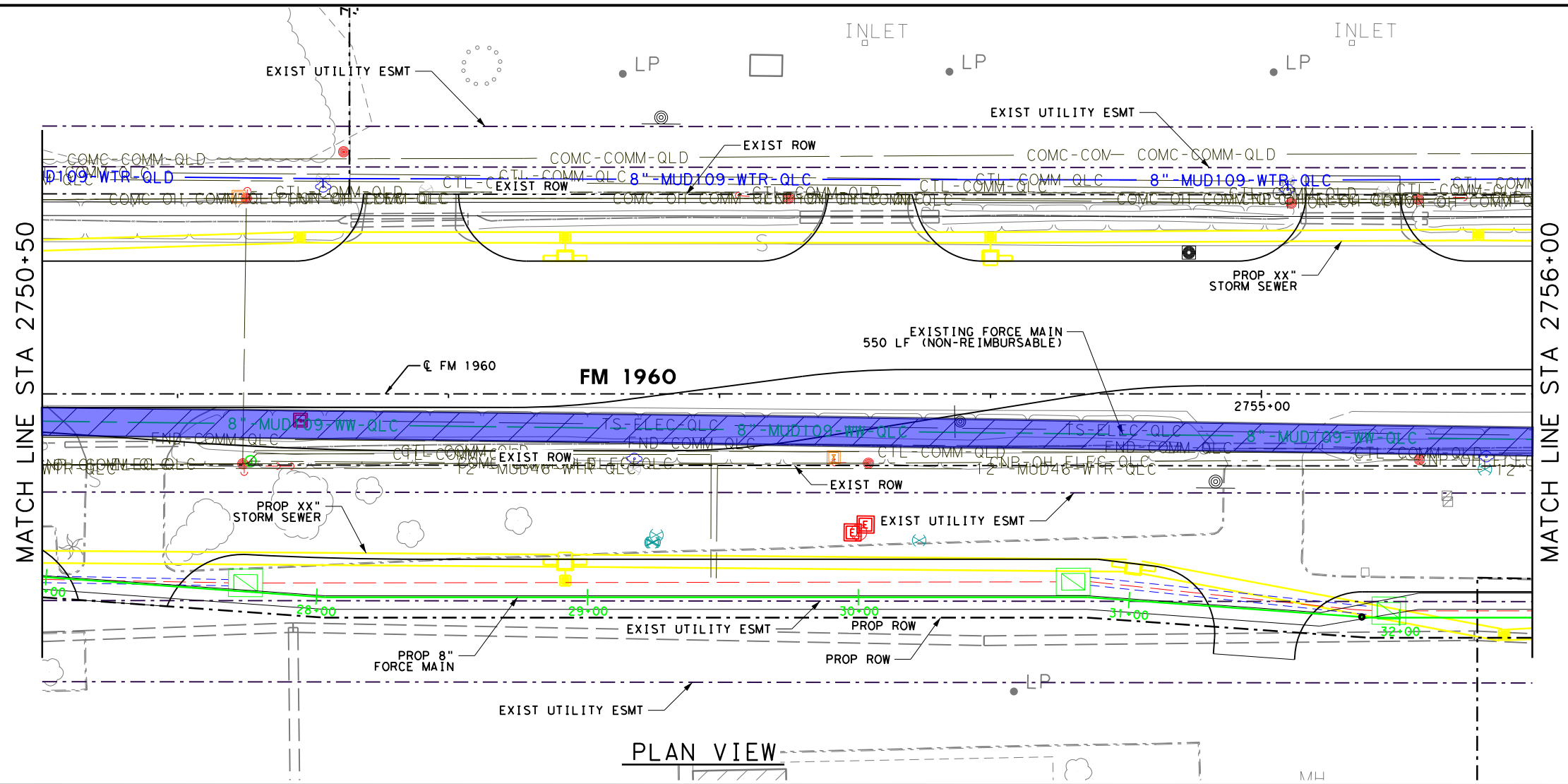
DRAWING DATE: 2/26/2020



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

NOTES:
 1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

WASTEWATER LINE (CONFLICT 3)
 0 REIMBURSABLE FEET
 550 NON-REIMBURSABLE FEET
 # PROP EASEMENT PARCEL NUMBER



PLAN VIEW

PROFILE VIEW

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 2/26/2020



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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN
2750+50 TO 2756+00
MUD 109 OPTION B
 HC MUD 109 SHEET 11 OF 17

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	
1685	03	058	38B

FILENAME: FM1960W_UTIL_ESMT_38B (SUA Sheets).dgn

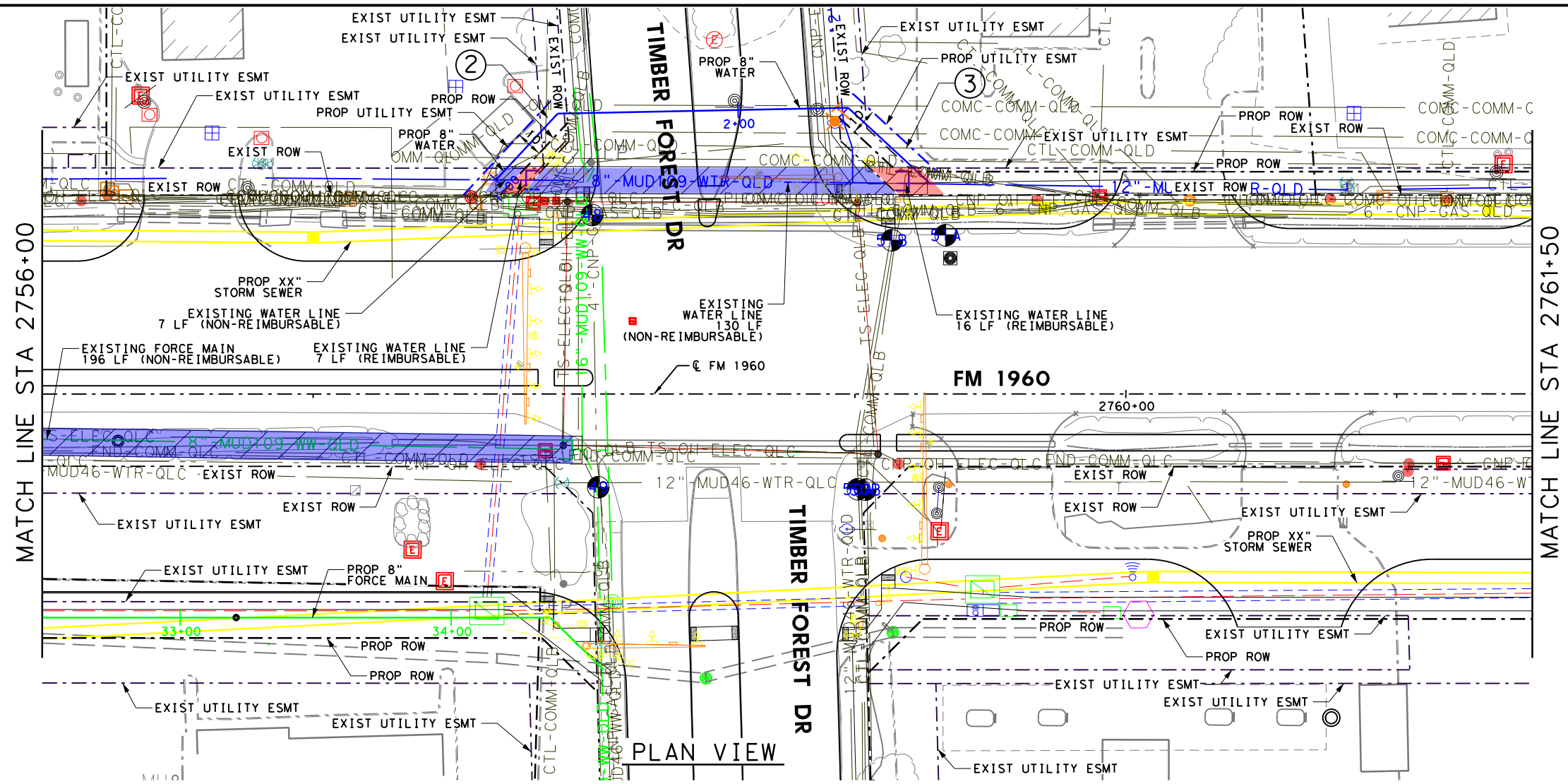
DRAWING DATE: 2/26/2020



HORZ 0' 10' 25' 50'
 VERT 0' 5' 10'
 SCALE IN FEET

NOTES:
 1. SEE GENERAL NOTE SHEET FOR ADDITIONAL UTILITY INFORMATION

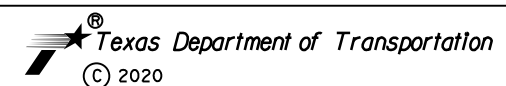
- WATER LINE (CONFLICT 2)
- 23 REIMBURSABLE FEET
- 137 NON-REIMBURSABLE FEET
- WASTEWATER LINE (CONFLICT 3)
- 0 REIMBURSABLE FEET
- 196 NON-REIMBURSABLE FEET
- # PROP EASEMENT PARCEL NUMBER



PROFILE VIEW

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 YANWAH CHONG
 TEXAS REGISTRATION NO. 101026
 2/26/2020



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FM 1960
 FROM BF 1960A TO EAST OF TWIGSWORTH LN

2756+00 TO 2761+50
MUD 109 OPTION B
 HC MUD 109

SHEET 12 OF 17

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	(SEE TITLE SHEET)		FM 1960
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	HOU	HARRIS	
CONTROL	SECTION	JOB	39B
1685	03	058	

FILENAME: FM1960W_UTIL_ESMT_39B (SUA Sheets).dgn

DRAWING DATE: 2/26/2020

Attachment "G"

Betterment Calculation and Estimate

- Elective Betterment Ratio established: %
(Calculation attached)
- Forced Betterment
(Provide supporting documentation)
- Not Applicable

Initial Date
TxDOT

Initial Date
Utility

- (2) PVC pipe with integral restrained joint system, or ductile iron restrained joints fittings, epoxy lined and coated. Use AWWA C900 DR 18 for PVC restrained joints. Use 250 psi AWWA C900 DR 14 for vertical offsets.
- (3) Use only ductile iron and PVC products listed on OCE approved products list and/or in accordance with City Standard Specifications.

D. Appurtenances

1. Do not place appurtenances under pavement.

2. Valves

a. Spacing - set at maximum distances along the line as follows:

- (1) 4-inch through 12-inch diameter - 1000 feet.
- (2) 16-inch and 20-inch diameter - 2000 feet.

b. Location:

- (1) Normally, locate valves at street intersections along the street right-of-way lines projected across the water line. Tapping sleeves and valves are excluded from this requirement. Maintain a minimum of 30 feet from the centerline of the outside rail. Do not propose valves inside ramps or at curb.
- (2) Isolate fire hydrants and flushing valves from the water line with a valve located in the fire hydrant or flushing valve branch. This valve shall not be located in the slope or flow line of roadside ditches.
- (3) Intermediate valves, not located on the projection of the right-of-way line, shall be located on lot lines or 5 feet from fire hydrants but not set in driveways.
- (4) Locate valves a minimum of 9 feet horizontally from sanitary sewer crossings and 4 feet horizontally from other utilities crossings.
- (5) Valves located near reducers shall be located on the smaller diameter pipe.
- (6) Provide flanged outlet and mount isolation valve directly on the flange on any branches to larger diameter water line.

c. Valve Type (Unless otherwise specified):

- (1) 20-inch and smaller - Gate valves.
- (2) Gate valves should be used for all meter installation.

- d. Number of Valves:
 - (1) Total number of valves at any water line intersection shall equal total number of lines leading out from the intersection point minus one, three valves for a cross, and two valves for a tee for 20-inch diameter lines and smaller.
3. Fire Hydrants and Flushing Valves

Fire hydrants should be designed to maintain sufficient water pressure for service to adequately protect public safety in residential area. The system must also be designed to provide fire fighting capability to maintain a minimum pressure of 20 psi under combined fire and drinking water flow conditions. The minimum fire flow for the residential area should be 1,500 gpm.

 - a. Spacing:
 - (1) Single-family residential development - 500-foot maximum spacing.
 - (2) All other developments - 350-foot maximum spacing.
 - b. Location in or along street right-of-way:
 - (1) Locate fire hydrants primarily at street intersections.
 - (2) Locate fire hydrants at PCS of the intersection curb radius, 3 feet behind curb or projected future curb.
 - (3) On streets with roadside ditches, set the fire hydrants within 5 feet of rights-of-way lines.
 - (4) Set intermediate fire hydrants on lot lines, as extended to pavement, when located between right-of-way intersections. These locations may be adjusted 5 feet either way to avoid driveways or obstructions. In either case, do not locate fire hydrants closer than 3 feet from curbed driveways or 5 feet from non-curbed driveways.
 - (5)
 - a. Fire hydrants may be set in the esplanade section of City streets when locations at back of curbs are not feasible. In such cases, the preferred location is 7 feet behind back of curb to provide access for parkway mower. In no instance shall the fire hydrant be closer than 3 feet from back of esplanade curb or closer than 10 feet from esplanade nose.
 - b. Fire hydrants shall not be located between parallel adjacent Rail Tracts in Railway Transit Corridor.
 - (6) For commercial building with fire service connections, place additional fire hydrant on the same side of the street as wet and dry connections. This hydrant is not counted in fire hydrant spacing.

Attachment "H"

Proof of Property Interest

Supporting documentation of compensable property interest that establishes reimbursement eligibility as referenced in Texas Transportation Code §203.092.

Property interest documented through applicable affidavits and required attachments.

ROW-U-1A **and**

ROW-U-1B

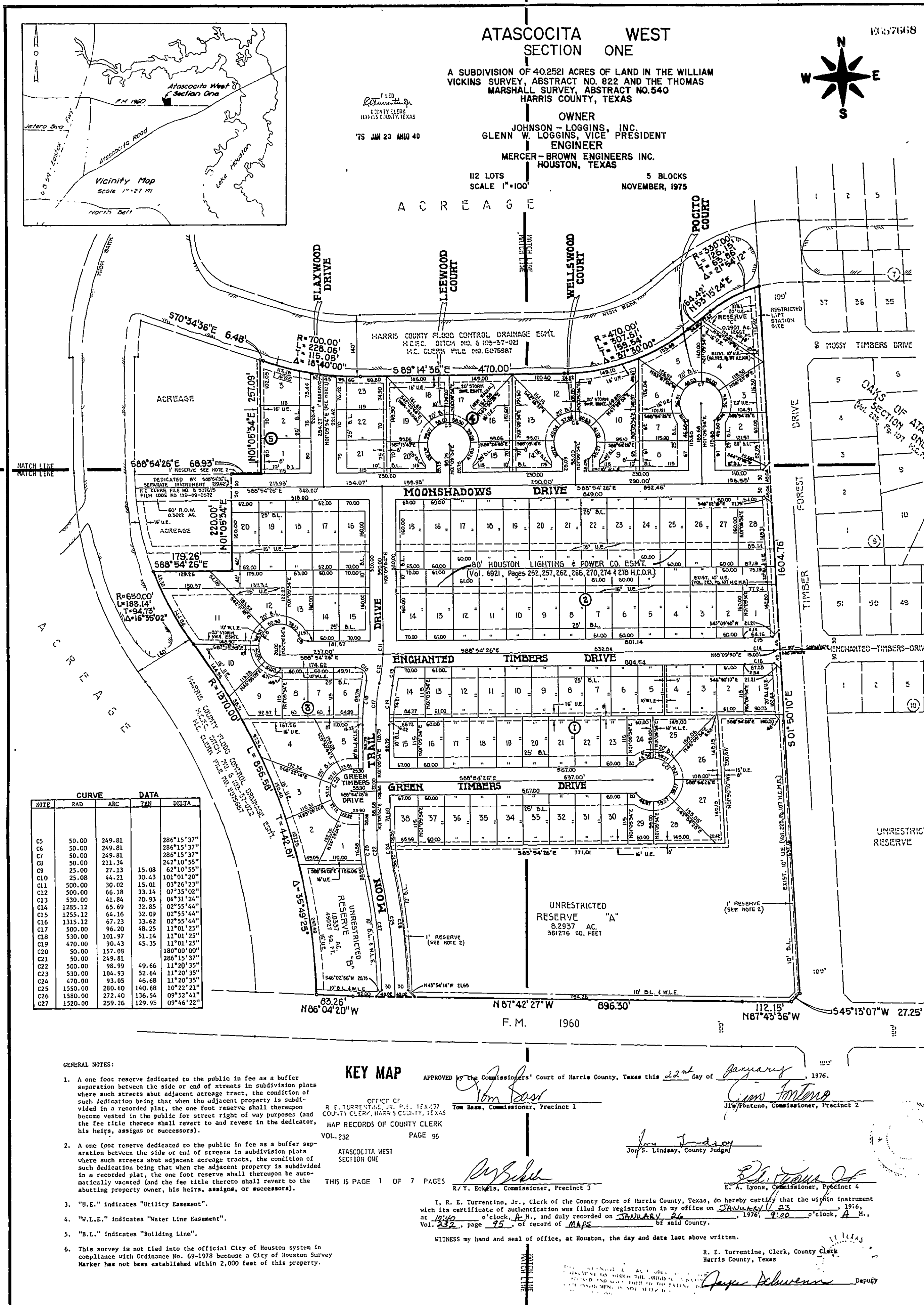
Or

ROW-U-1C

The roadway improvement project is designated as an Interstate Highway project; therefore, no supporting documentation of compensable interest is required.

Initial Date
TxDOT

Initial Date
Utility



NOTE	CURVE DATA			
	RAJ	ARC	TAN	DELTA
C5	50.00	249.81	286°15'37"	
C6	50.00	249.81	286°15'37"	
C7	50.00	249.81	286°15'37"	
C8	50.00	249.81	286°15'37"	
C9	25.00	124.91	150°07'55"	
C10	25.00	124.91	150°07'55"	
C11	500.00	30.02	15.01	0°37'23"
C12	500.00	66.18	33.14	0°37'23"
C13	500.00	66.18	33.14	0°37'23"
C14	1285.12	65.69	32.85	0°25'44"
C15	1285.12	65.69	32.85	0°25'44"
C16	1315.12	67.23	33.62	0°25'44"
C17	500.00	66.20	33.10	0°25'44"
C18	500.00	101.97	51.14	11°01'25"
C19	470.00	90.43	45.35	11°01'25"
C20	50.00	124.91	150°07'55"	
C21	50.00	249.81	286°15'37"	
C22	500.00	98.99	49.66	11°20'35"
C23	500.00	104.93	52.64	11°20'35"
C24	470.00	93.95	46.88	11°20'35"
C25	1580.00	200.40	140.68	10°22'21"
C26	1580.00	272.40	136.34	0°52'21"
C27	1520.00	259.26	129.99	0°52'21"

GENERAL NOTES:

- A one foot reserve dedicated to the public in fee as a buffer separation between the side or end of streets in subdivision plats where such streets abut adjacent acreage tracts, the condition of such dedication being that when the adjacent property is subdivided in a recorded plat, the one foot reserve shall thereupon become vested in the public for street right of way purposes. And the fee title thereto shall revert to and remain in the dedicatory, his heirs, assigns or successors).
- A one foot reserve dedicated to the public in fee as a buffer separation between the side or end of streets in subdivision plats where such streets abut adjacent acreage tracts, the condition of such dedication being that when the adjacent property is subdivided in a recorded plat, the one foot reserve shall thereupon be automatically vacated (and the fee title thereto shall revert to the abutting property owner, his heirs, assigns, or successors).
- "U.E." indicates "Utility Easement".
- "W.L.E." indicates "Water Line Easement".
- "B.L." indicates "Building Line".
- This survey is not tied into the official City of Houston system in compliance with Ordinance No. 69-1978 because a City of Houston Survey Marker has not been established within 2,000 feet of this property.

KEY MAP

APPROVED by the Commissioners' Court of Harris County, Texas this 22nd day of January, 1976.

OFFICE OF COUNTY CLERK, HARRIS COUNTY, TEXAS
 MAP RECORDS OF COUNTY CLERK
 VOL. 232 PAGE 95

ATASCOCITA WEST SECTION ONE
 THIS IS PAGE 1 OF 7 PAGES

I, R. E. Turrentino, Jr., Clerk of the County Court of Harris County, Texas, do hereby certify that the within instrument with its certificate of authentication was filed for registration in my office on January 23, 1976 at 10:00 o'clock A.M., and duly recorded on January 23, 1976 at 1:00 o'clock P.M., Vol. 232, Page 95, of record of MAPS of said County.

WITNESS my hand and seal of office, at Houston, the day and date last above written.

R. E. Turrentino, Jr., County Clerk
 Harris County, Texas

STATE OF TEXAS
 COUNTY OF HARRIS

Mr. Glenn W. Loggins and Sherrill Noble, Vice President and Assistant Secretary respectively of Johnson-Loggins, Inc., a Delaware Corporation, owners of the property subdivided in the above and foregoing map of ATASCOCITA WEST, SECTION ONE, do hereby state subdivision of said property for and on behalf of said Johnson-Loggins, Inc., according to the lines, streets, lots, alleys, parks, building lines, and easements thereon shown and designate said subdivision as ATASCOCITA WEST, SECTION ONE, located in the William Vickins Survey, Abstract Number 822 and the Thomas Marshall Survey, Abstract Number 540, Harris County, Texas and on behalf of said Johnson-Loggins, Inc. and dedicate to the public use, as such, the streets, alleys, parks, and easements shown thereon forever; and do hereby waive any claims for damages occasioned by the establishing of grades as approved for the streets and alleys dedicated, or occasioned by the alteration of the surface of any portion of streets or alleys to conform to such grades; and do hereby bind ourselves, our successors and assigns to warrant and forever defend the title to the land so dedicated.

This is to certify that Mr. Glenn W. Loggins and Sherrill Noble, Vice President and Assistant Secretary respectively of Johnson-Loggins, Inc., owners of the property subdivided in the above and foregoing map of ATASCOCITA WEST, SECTION ONE have compiled or will comply with the existing Harris County Road Law, Section 14c, Acts of 1973, 63rd Legislature, and all other regulations heretofore on file with the Harris County Engineer and adopted by the Commissioners' Court of Harris County.

Mr. Norman O. Tommen and Jack K. Leeka, Trustees, owners and holders of liens against the above described property, said liens being evidenced by instruments of record under File Numbers D76895 through D76905 and D767458 in the Official Public Records of Real Property in Harris County, Texas, do hereby in all things subordinate to said subdivision and dedication said liens and we hereby confirm that we are the present owners of said liens and have not assigned the same nor any part thereof.

Mr. Milton W. Cowden and Mira Cheaser, Vice President and Assistant Secretary respectively of Gibraltar Savings Association, owner and holder of a lien against the above described property, said lien being evidenced by instrument of record under File No. 2543509 and E68479 in the Official Public Records of Real Property in Harris County, Texas, do hereby in all things subordinate to said subdivision and dedication said lien, and we hereby confirm that we are the present owners and holders of said lien and have not assigned the same nor any part thereof.

There is also dedicated for utilities an unobstructed aerial easement five (5) feet wide from a plane twenty (20) feet above the ground upward, located adjacent to all easements shown hereon.

FURTHER, we do hereby dedicate forever to the public a strip of land fifteen (15) feet wide on each side of the center line of any and all gutters, curbs, ditches, or other natural drainage courses located in the said subdivision, as easements for drainage purposes, giving Harris County and/or any other public agency the right to enter upon said easements at any and all times for the purpose of constructing and/or maintaining drainage works and/or structures.

FURTHER, all of the property subdivided in the above and foregoing map shall be restricted in its use, which restrictions shall run with the title to the property, and shall be enforceable, at the option of Harris County, by Harris County or any citizen thereof, by injunction, as follows:

- That drainage of septic tanks into road, street, alley, or other public ditches, either directly or indirectly, is strictly prohibited.
- Drainage structures under private driveways shall have a net drainage opening area of sufficient size to permit the free flow of water without backwater, and shall be a minimum of one and three quarters (1-3/4) square feet (18" diameter pipe culvert). Culverts or bridges must be used for driveways and/or walks.

We hereby covenant and agree that all lots within the boundaries of this subdivision are for residential purposes unless otherwise noted. We hereby covenant and agree with the City of Houston and/or Harris County and/or any other party owner that the utility easement and one foot reserve shown in adjacent acreage are hereby established as hereby shown.

We hereby covenant and agree with the City of Houston and/or Harris County that lots on Timber Forest Drive shall not have direct driveway access to said road.

IN TESTIMONY WHEREOF, Johnson-Loggins, Inc., a Delaware Corporation, has caused these presents to be signed by Glenn Loggins, its Vice President, thereunto authorized, attested, by its Assistant Secretary, Sherrill Noble, and its common seal hereunto affirmed this 21st day of November, 1975.

JOHNSON-LOGGINS INC. NORMAN O. TOMMEN, TRUSTEE JACK K. LEKA, TRUSTEE GIBRALTAR SAVINGS ASSOC.

By: Glenn W. Loggins, Vice President Attest: Sherrill Noble, Assistant Secretary

STATE OF TEXAS
 COUNTY OF HARRIS

BEFORE ME, the undersigned authority, on this day personally appeared Glenn W. Loggins, Vice President and Sherrill Noble, Assistant Secretary of Johnson-Loggins, Inc., a Delaware Corporation, known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same for the purposes and considerations therein expressed, and in the capacity therein and herein set out, and as the act and deed of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 21st day of November, 1975.

My Comm. expires 6-1-77

Franklin C. Spill
 Notary Public in and for Harris County, Texas.

STATE OF TEXAS
 COUNTY OF HARRIS

BEFORE ME, the undersigned authority on this day personally appeared Norman O. Tommen and Jack K. Leeka, Trustees, known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and considerations therein set forth.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 4th day of December, 1975.

Margaret E. Hann
 Notary Public in and for Harris County, Texas. COMMISSION EXPIRES JUNE 1, 1977

STATE OF TEXAS
 COUNTY OF HARRIS

BEFORE ME, the undersigned authority on this day personally appeared Milton W. Cowden Vice President and Mira Cheaser, Assistant Secretary of the Gibraltar Savings Association, known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and considerations therein expressed and in the capacity therein and herein set out and as the act and deed of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 23rd day of November, 1975.

Heleen H. Brown
 Notary Public in and for Harris County, Texas. Commission expires 7-31-76

This is to certify that I, Richard F. Day, a registered engineer of the State of Texas, have plotted the above subdivision from an actual survey on the ground; and that all block corners, angle points, and points of curve are properly marked with iron pins (5/8" in diameter and 3" long), that the plat boundary or corners thereof have not been tied to an official City of Houston surveyor marker in compliance with Ordinance No. 69-1978, and that this plat correctly represents that survey made by me.

Richard F. Day
 Richard F. Day, Engineer Reg. No. 37653

This is to certify that the City Planning Commission of the City of Houston, Texas, has approved this plat and subdivision of ATASCOCITA WEST, SECTION ONE as shown hereon.

IN TESTIMONY WHEREOF, witness the official signature of the Chairman and Secretary of City Planning Commission of the City of Houston, Texas this 1st day of December, 1975.

Roscoe H. Jones, Secretary

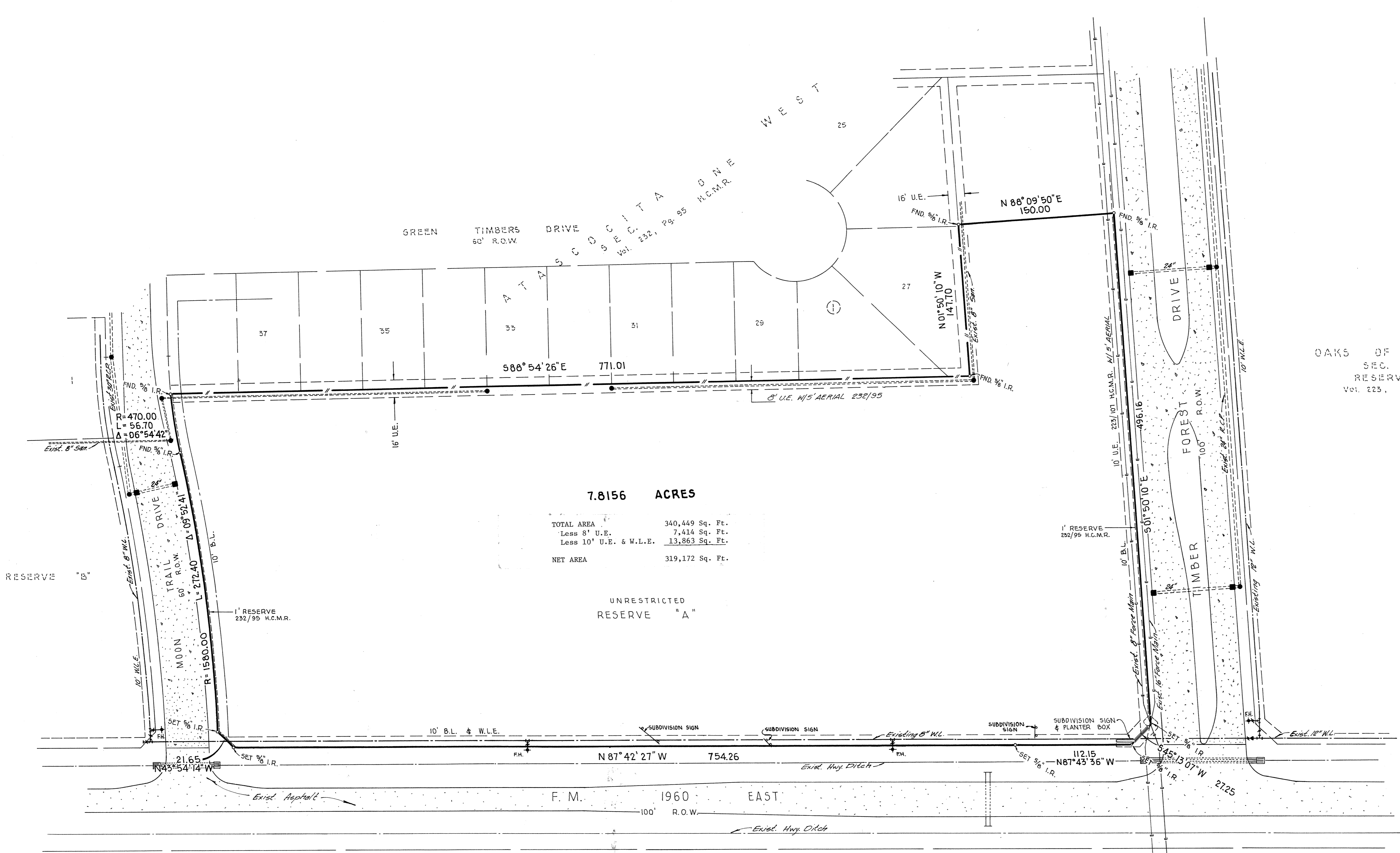
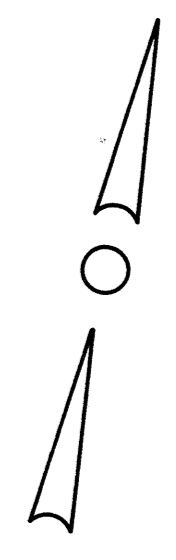
Bobby Kiland
 Bobby H. Kiland, Vice Chairman

I, Richard P. Doss, County Engineer of Harris County, do hereby certify that the plat of this subdivision complies with all of the existing rules and regulations of this office as adopted by the Harris County Commissioners' Court; and further, that it complies or will comply with all of the laws included in the Harris County Road Law, also including Section 31-C as amended by Chapter 61c, Acts of 1973, 63rd Legislature.

Richard P. Doss
 Richard P. Doss, County Engineer

I, G. H. Smith, Flood Control Director of Harris County Flood Control District, Harris County, Texas, do hereby certify that the plat of this subdivision complies for internal subdivision drainage as adopted by Commissioners' Court; however, no notification is hereby given as to the effect of drainage from this subdivision on the intercepting drainage artery or parent stream, or on any other area or subdivision within the watershed.

G. H. Smith
 G. H. Smith, Flood Control Director



7.8156 ACRES

TOTAL AREA	340,449 Sq. Ft.
Less 8' U.E.	7,414 Sq. Ft.
Less 10' U.E. & W.L.E.	13,863 Sq. Ft.
NET AREA	319,172 Sq. Ft.

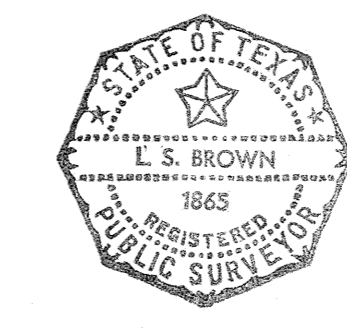
UNRESTRICTED RESERVE "A"

OAKS OF ATASCOCITA
SEC. ONE
RESERVE "E"
Vol. 223, Pg. 107 H.C.M.R.

NOTE:
All Utilities And Pavement Shown Were Added To This Drawing On October 16, 1978.

I, L. S. BROWN, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, CERTIFY THAT THE 7.8156 ACRE SURVEY IS A TRUE REPRESENTATION OF A SURVEY COMPLETED ON THE GROUND MAY 13, 1978 UNDER MY SUPERVISION AND SHOWS THE ACTUAL SURVEY CONDITIONS THAT EXISTED AT THE TIME OF THE SURVEY.

L.S. Brown
L. S. BROWN



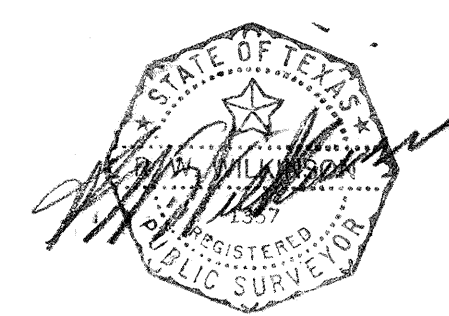
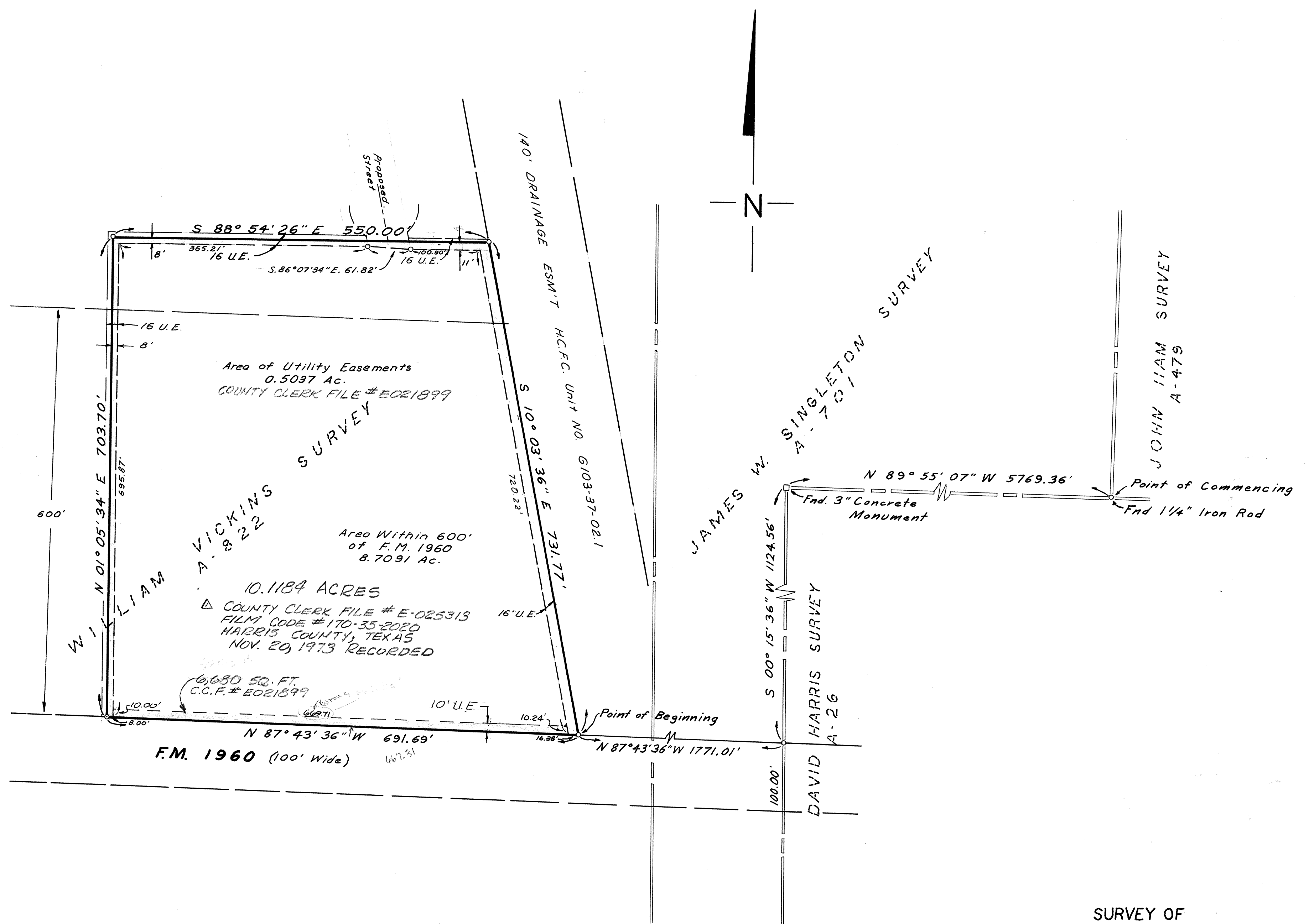
SURVEY BASED ON INFORMATION CONTAINED IN A TITLE REPORT TO HOUSTON TITLE COMPANY DATED 5/10/78 & UPDATED 9/24/78. GF# 78-05-439.

7.8156 Ac. or 340,449 SQ. FT.

MERCER-BROWN ENGINEERS, INC.
HOUSTON, TEXAS

SURVEY OF 7.8156 ACRES OF LAND OUT OF RESERVE "A", ATASCOCITA WEST, SECTION ONE IN THE THOMAS MARSHALL SURVEY, ABSTRACT 540 AND THE WILLIAM VICKINS SURVEY, ABSTRACT 822 HARRIS COUNTY, TEXAS

DRAWN: J.P. MAY 15, 1978
CHECKED: R. HELMUTH
JOB NO. JL-109-44

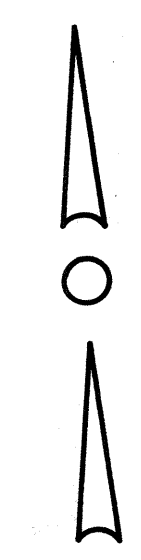
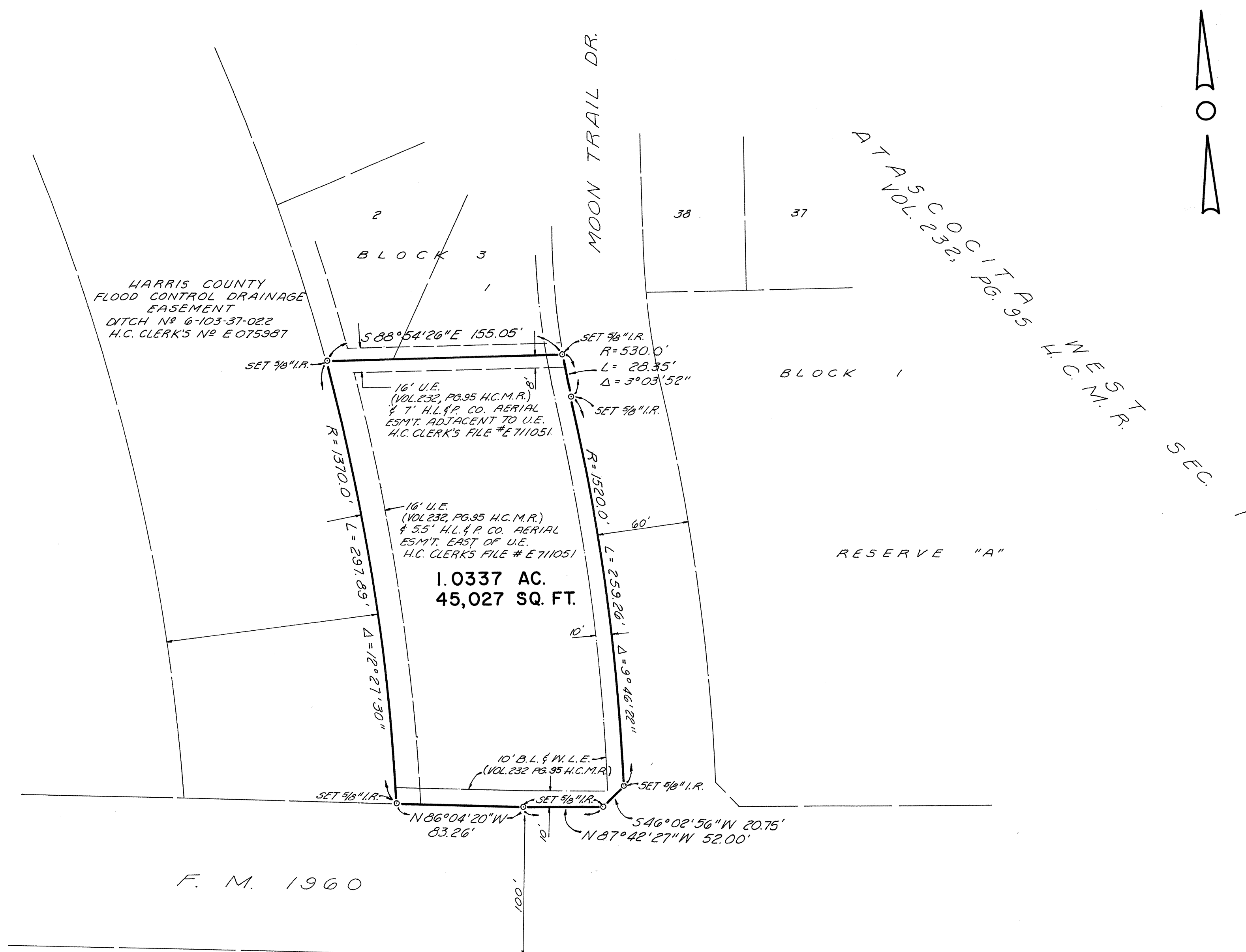


SURVEY OF
 10.1184 ACRES OF LAND
 IN THE WILLIAM VICKINS SURVEY, A-822,
 HARRIS COUNTY, TEXAS.
 SCALE: 1"=100'
 JULY 11, 1973
 Rev. August 22, 1973
 WILKINSON & ASSOCIATES,
 ENGINEERS, INC.
 1302 FIRST CITY EAST BLDG.
 HOUSTON, TEXAS 228-8721

12/11/73

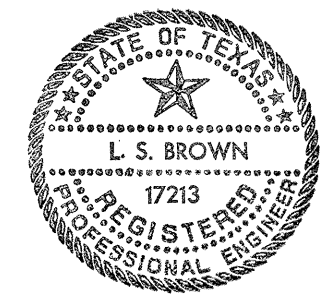
W.G.A.

109

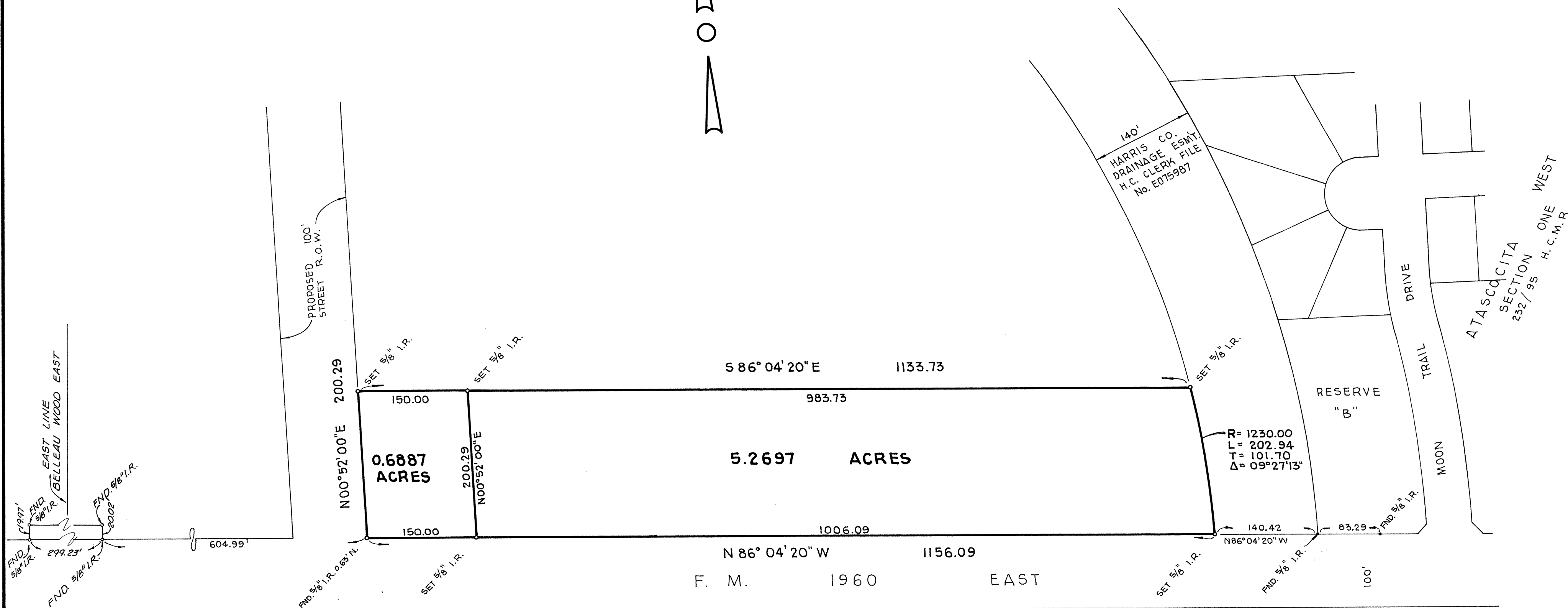


I, L. S. BROWN, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, HEREBY CERTIFY THAT THE 1.0337 ACRE SURVEY IS A CORRECT REPRESENTATION OF A SURVEY MADE ON THE GROUND FEBRUARY 16, 1977, UNDER MY SUPERVISION AND THAT THERE ARE NO DISCREPANCIES, CONFLICTS OR SHORTAGES IN AREA OR BOUNDARY LINES, ANY ENCROACHMENTS, OR ANY OVERLAPPING OF IMPROVEMENTS, EASEMENTS, OR RIGHTS-OF-WAY ACROSS SAID PROPERTY (BASED ON OWNER'S POLICY OF TITLE INSURANCE COMMITMENT ISSUED BY TRANSAMERICA TITLE INSURANCE COMPANY DATED JANUARY 20, 1977, GF NO. 90228), EXCEPT AS SHOWN THEREON.

L.S. Brown
 L. S. BROWN



MERCER-BROWN ENGINEERS, INC.	
3803 WEBSTER, HOUSTON, TEXAS 77027	
SURVEY OF 1.0337 ACRES OF LAND BEING RESERVE "B", BLOCK 3, ATASCOCITA WEST, SEC. 1 IN VOL. 232, PG. 95 OF THE H.C.M.R. IN THE THOMAS MARSHALL SUR. A-540 H.C., TEX.	
DRAWN: B.S.	DATE: 2-13-77
CHECKED: R.H.	SCALE: 1" = 50'
BOOK: JL 109 4A	SHEET: 1 OF 1

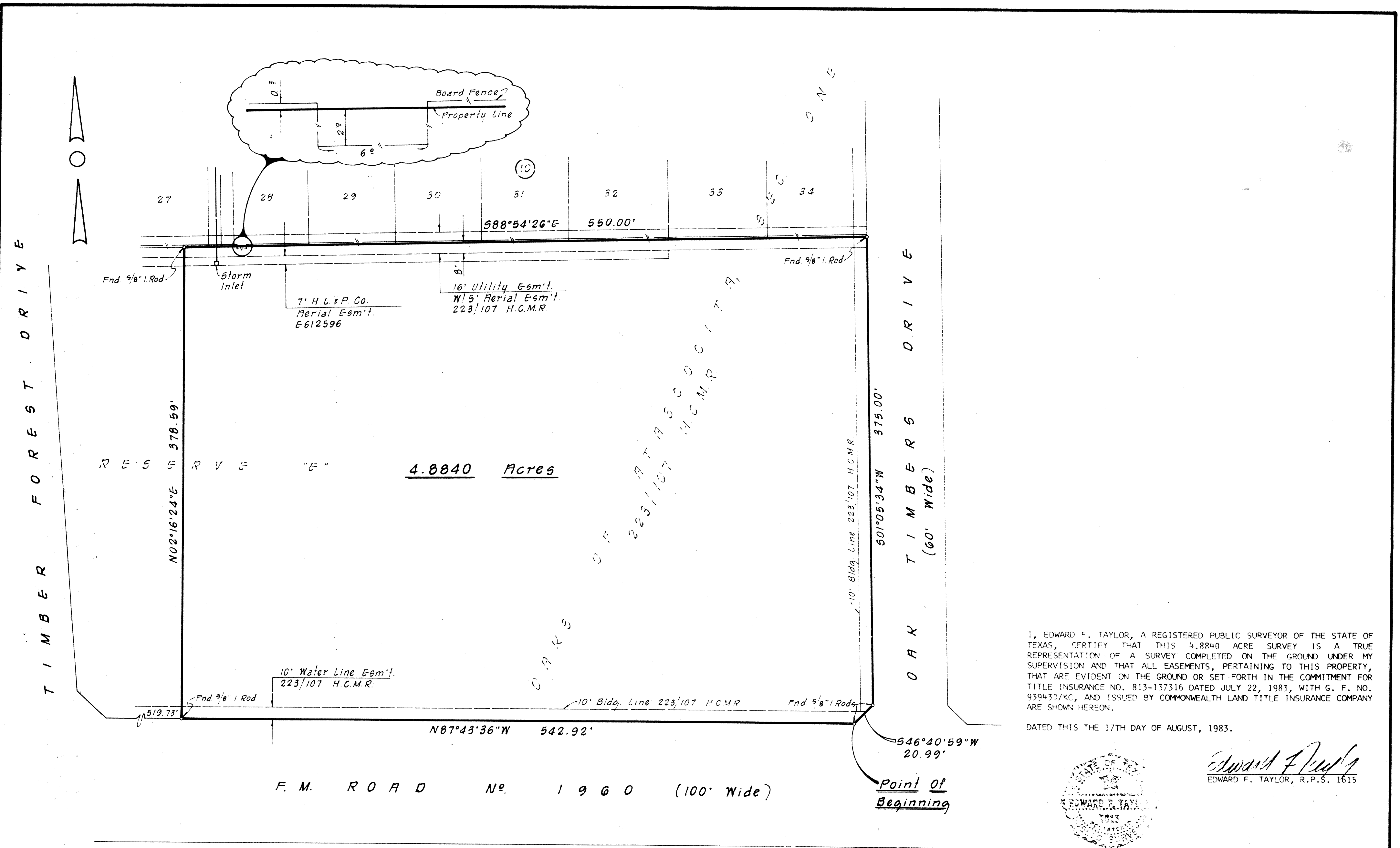


MERCER-BROWN ENGINEERS, INC.

PRELIMINARY

SURVEY OF TWO TRACTS OF
LAND OUT OF THE THOMAS
MARSHALL SURVEY, A-540
HARRIS COUNTY, TEXAS

DRAWN: G. P.	DATE: SEPTEMBER 24, 1979
CHECKED: R.H.	SCALE: 1" = 100'
JOB NO: JL-109-03	SHEET: 1 OF 1



I, EDWARD F. TAYLOR, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, CERTIFY THAT THIS 4.8840 ACRE SURVEY IS A TRUE REPRESENTATION OF A SURVEY COMPLETED ON THE GROUND UNDER MY SUPERVISION AND THAT ALL EASEMENTS, PERTAINING TO THIS PROPERTY, THAT ARE EVIDENT ON THE GROUND OR SET FORTH IN THE COMMITMENT FOR TITLE INSURANCE NO. 813-137316 DATED JULY 22, 1983, WITH G. F. NO. 939430/KC, AND ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY ARE SHOWN HEREON.

DATED THIS THE 17TH DAY OF AUGUST, 1983.

Edward F. Taylor
 EDWARD F. TAYLOR, R.P.S. 1615

THIS PROPERTY IS SUBJECT TO THE FOLLOWING INSTRUMENTS:

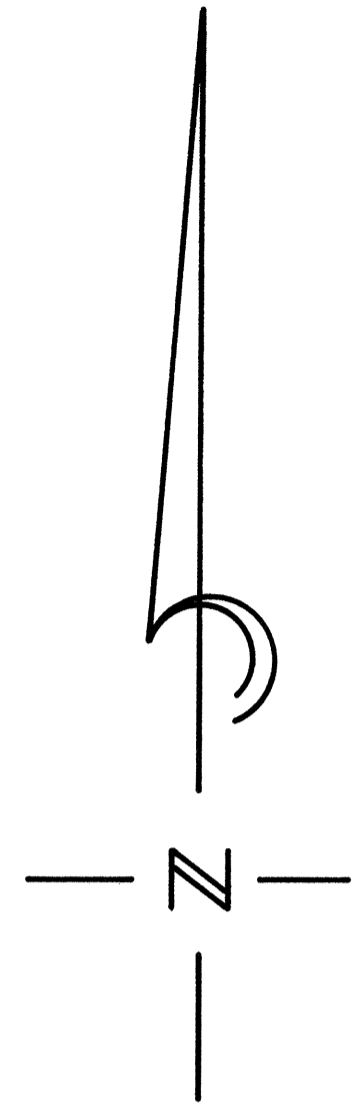
1. AGREEMENT WITH HL & P CO.; H.C.C. FILE NO. E628599
2. ORDINANCE OF THE CITY OF HOUSTON; V. 4897, P. 67 AND V. 5448, P. 421, H.C.D.R.
3. AGREEMENT FOR CABLE TELEVISION; H.C.C. FILE NO. H083790

BROWN, GAY & ASSOCIATES, INC.
 HOUSTON, TEXAS

SURVEY OF 4.8840 ACRES OF LAND
 IN RESERVE "E" OF OAKS OF
 ATASCOCITA, SECTION ONE
 HARRIS COUNTY, TEXAS

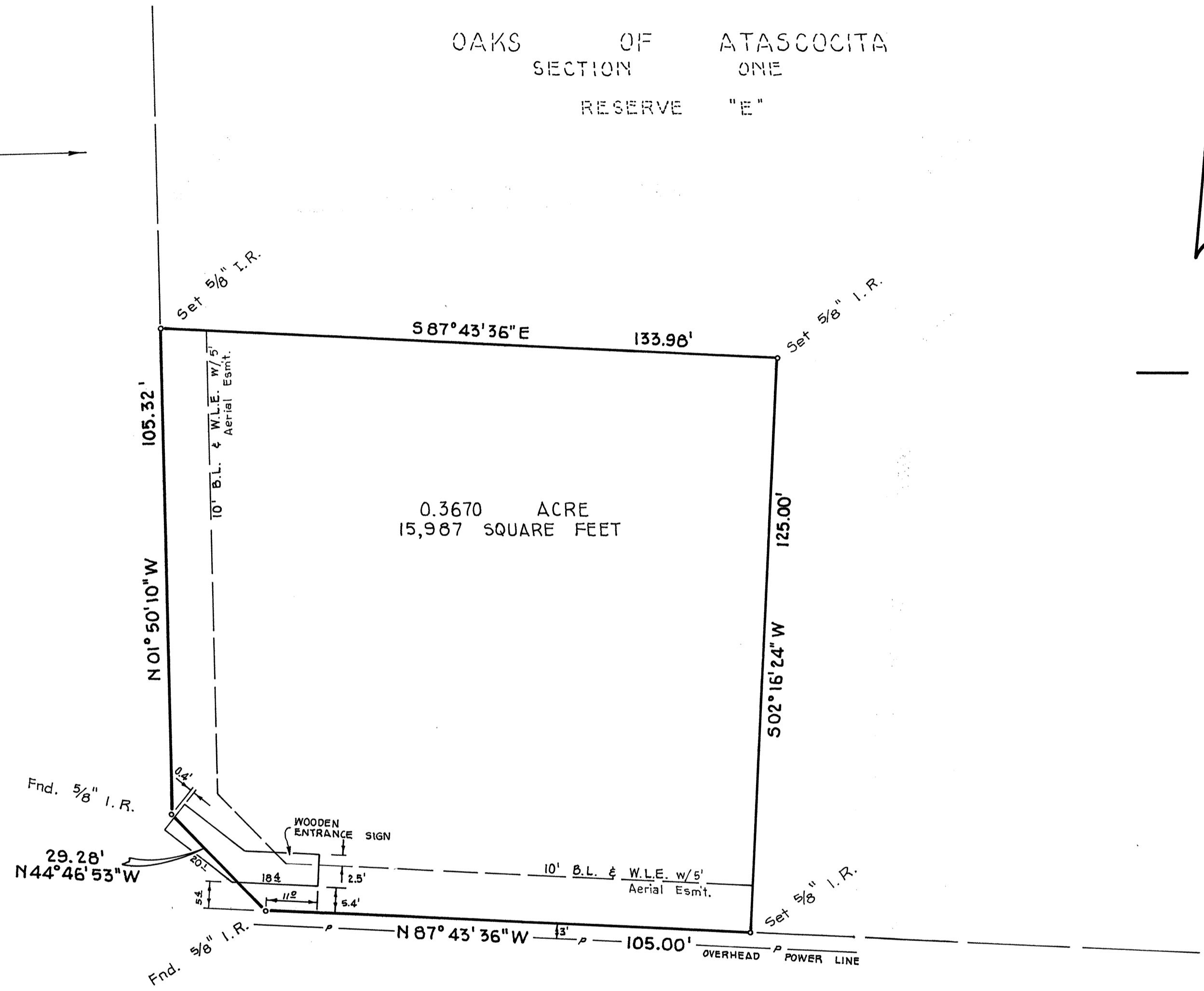
DRAWN: M. B.	DATE: August, 1983
CHECKED: T. G.	SCALE: 1" = 50'
JOB NO. X8341	SHEET OF

OAKS OF ATASCOCITA
SECTION ONE
RESERVE "E"



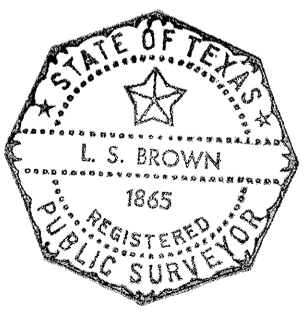
100' R.O.W.

TIMBER FOREST DRIVE



F. M. 1960 (100' R.O.W.)

I, L.S. Brown, a registered public surveyor of the state of Texas, certify that the 0.3670 acre survey is a true representation of a survey made on the ground March 26, 1976 under my supervision and shows the actual survey conditions that existed at the time of the survey.



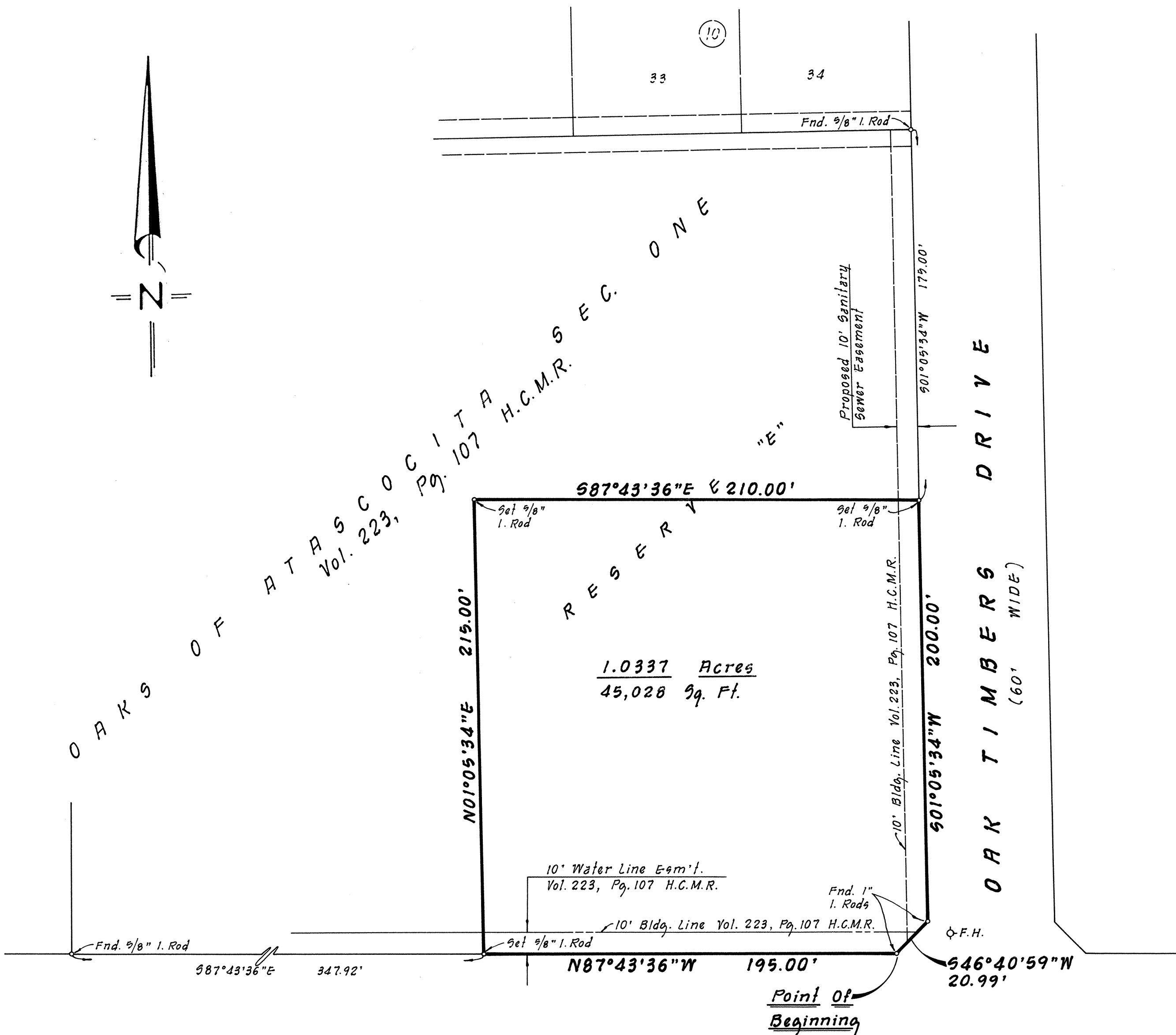
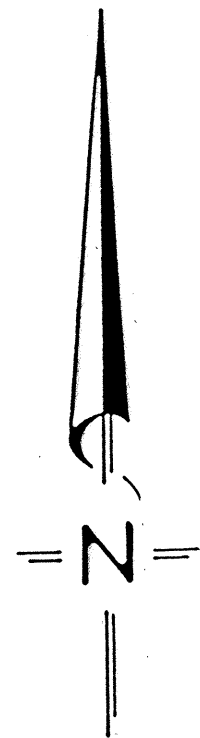
L.S. Brown
L. S. Brown

MERCER-BROWN ENGINEERS, INC.
3233 WESLAYAN, HOUSTON, TEXAS 77027

SURVEY OF 0.3670
ACRE OF LAND OUT OF
RESERVE "E" IN THE OAKS
OF ATASCOCITA, SECTION I
HARRIS COUNTY, TEXAS

Guardian Title Company of Houston, Inc.
G.F. No. 16801-05
May 4, 1976
William Vickins Survey, Abstract-822
Plat Ref. (Vol. 223, Pg. 107 H.C.M.R.)

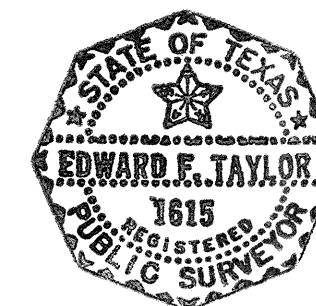
DRAWN: G.P.	DATE: MARCH , 1976
CHECKED: B.S.	SCALE: 1" = 20'
JOB NO. 76-MSC-15	SHEET 1 OF 1



I, EDWARD F. TAYLOR, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, CERTIFY THAT THIS MAP IS A TRUE REPRESENTATION OF A SURVEY COMPLETED ON THE GROUND UNDER MY SUPERVISION AND THAT ALL EASEMENTS, PERTAINING TO THIS PROPERTY, THAT ARE EVIDENT ON THE GROUND OR SET FORTH IN THE OWNER'S TITLE POLICY NO. 0 5801-194515A DATED APRIL 27, 1984, WITH G.F. NO. 84-101975, AND ISSUED BY STEWART TITLE GUARANTY COMPANY ARE SHOWN HEREON.

DATED THIS THE 25TH DAY OF JANUARY, 1985.

Edward F. Taylor
EDWARD F. TAYLOR, R.P.S. NO. 1615



BROWN, GAY & ASSOCIATES, INC.
Houston, Texas

**SURVEY OF 1.0337 ACRES OF LAND
IN RESERVE "E" IN OAKS OF
ATASCOCITA, SECTION ONE
HARRIS COUNTY, TEXAS**

Design By E.T.	Date January, 1985	Sheet
Drawn By M.B.	Scale 1" = 40'	
Checked By G.G.	Job No X 502	of



E. TIMBER FOREST DRIVE

EAST LINE OF
OAKS OF ATASCOCITA SECTION ONE
VOL. 223, PG. 107, H.C.M.R.

2297.88'

100.29'

S. 87°43'36" E. 2260.50'

N. 87°43'36" W. 4758.38'

F. M. 1960 (100' WIDE)

0.5981 AC.

0.2087 AC.

N. 02°16'24" E. 175.11'

30' WIDE VEGETATION EASEMENT

SIGN

N. 87°43'36" W. 140.00'

S. 46°19'12" W. 13.91'

S. 89°38'01" E. 50.00'

50'

S. 00°21'59" W. 170.00'

S. 00°21'59" W. 1224.32'

181.66'

1101.32'

FUTURE 100' WIDE ATASCA OAKS DRIVE

FND. 5/8" I.R. @ N.W. CORNER DAVID HARRIS SURVEY
23°
FND. 5/8" I.R.

FND. 5/8" I.R.

2.38'
FND. 5/8" I.R.'s

EAST LINE OF A 400.9 AC. TRACT

VOID

I, L.S. BROWN, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, CERTIFY THAT THE 0.5981 AC. & 0.2087 AC. SURVEY IS A TRUE REPRESENTATION OF A SURVEY MADE ON THE GROUND NOVEMBER 21, 1977 UNDER MY SUPERVISION AND SHOWS THE ACTUAL SURVEY CONDITIONS THAT EXISTED AT THE TIME OF THE SURVEY.

L.S. Brown
L. S. BROWN



MERCER-BROWN ENGINEERS, INC.

SURVEY OF 2 TRACTS OF LAND IN THE JAMES W. SINGLETON SURVEY, A-701 HARRIS COUNTY, TEXAS

NOVEMBER 16, 1977
1" = 50'
JOB NO. JL-109-0 SHEET 1 OF 1

OAK TIMBERS DRIVE
(60' WIDE)
223/107 H.C.M.R.

RESERVE "F"
OAKS OF ATRASCOCITH, SECTION ONE
223/107 H.C.M.R.

Point Of Commencing

S 87° 43' 36" E 1910.07'

Point Of Beginning

Set 5/8" I. Rod

N 87° 43' 36" W 100.00'

F.M. ROAD No. 1960
(100' WIDE)

140' H.C.F.C.D. DRAINAGE DITCH
223/107 H.C.M.R.
N 10° 03' 36" W 186.00'

0.5000 ACRE

S 87° 43' 36" E 139.73'

Set 5/8" I. Rod

Set 5/8" I. Rod

S 02° 16' 24" W 181.71'

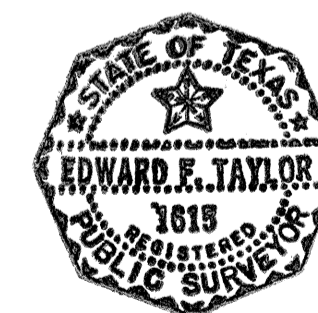
Set 5/8" I. Rod



I, EDWARD F. TAYLOR, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, CERTIFY THAT THIS 0.5000 ACRE SURVEY IS A TRUE REPRESENTATION OF A SURVEY COMPLETED ON THE GROUND UNDER MY SUPERVISION AND THAT ALL EASEMENTS, PERTAINING TO THIS PROPERTY, THAT ARE EVIDENT ON THE GROUND OR SET FORTH IN THE TITLE REPORT TO TEXAS WESTERN TITLE, DATED JUNE 24, 1983 ARE SHOWN HEREON.

DATED THIS THE 12TH DAY OF JULY, 1983.

Edward F. Taylor
EDWARD F. TAYLOR R.P.S. NO. 1615

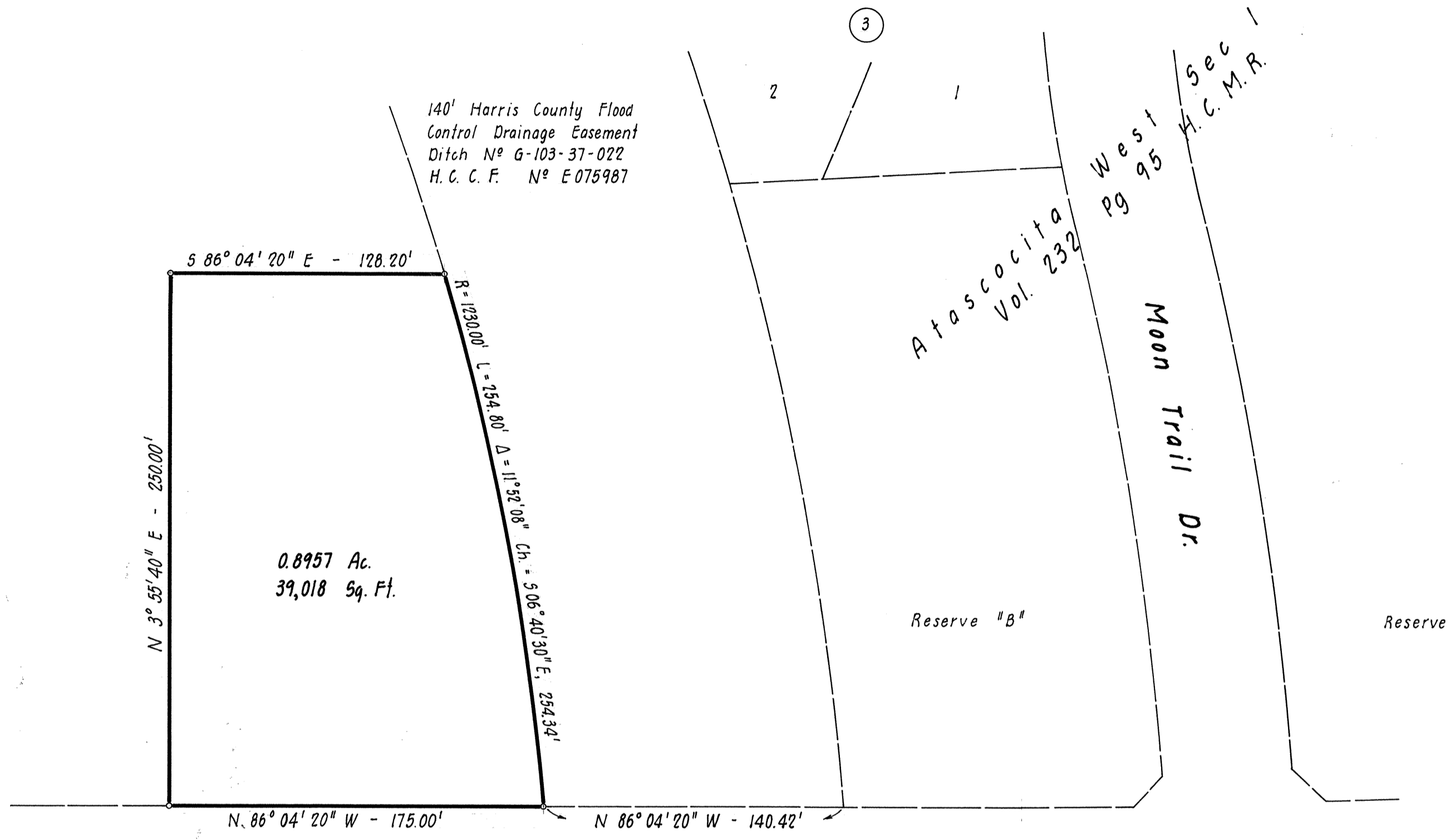


MERCER-BROWN ENGINEERS, INC.

HOUSTON, TEXAS

**SURVEY OF 0.5000 ACRE OF LAND IN
THE WILLIAM VICKINS SURVEY, A-822
HARRIS COUNTY, TEXAS**

DRAWN: K.N.	DATE: May, 1983
CHECKED:	SCALE: 1" = 20'
JOB NO. 09-501	SHEET 1 OF 1



140' Harris County Flood Control Drainage Easement
Ditch N^o G-103-37-022
H.C.C.F. N^o E 075987

0.8957 Ac.
39,018 Sq. Ft.

Atascocita
Vol. 232

West Sec 1
Pg 95
H.C.M.R.

Moon Trail Dr.

Reserve "B"

Reserve

F.M. 1960

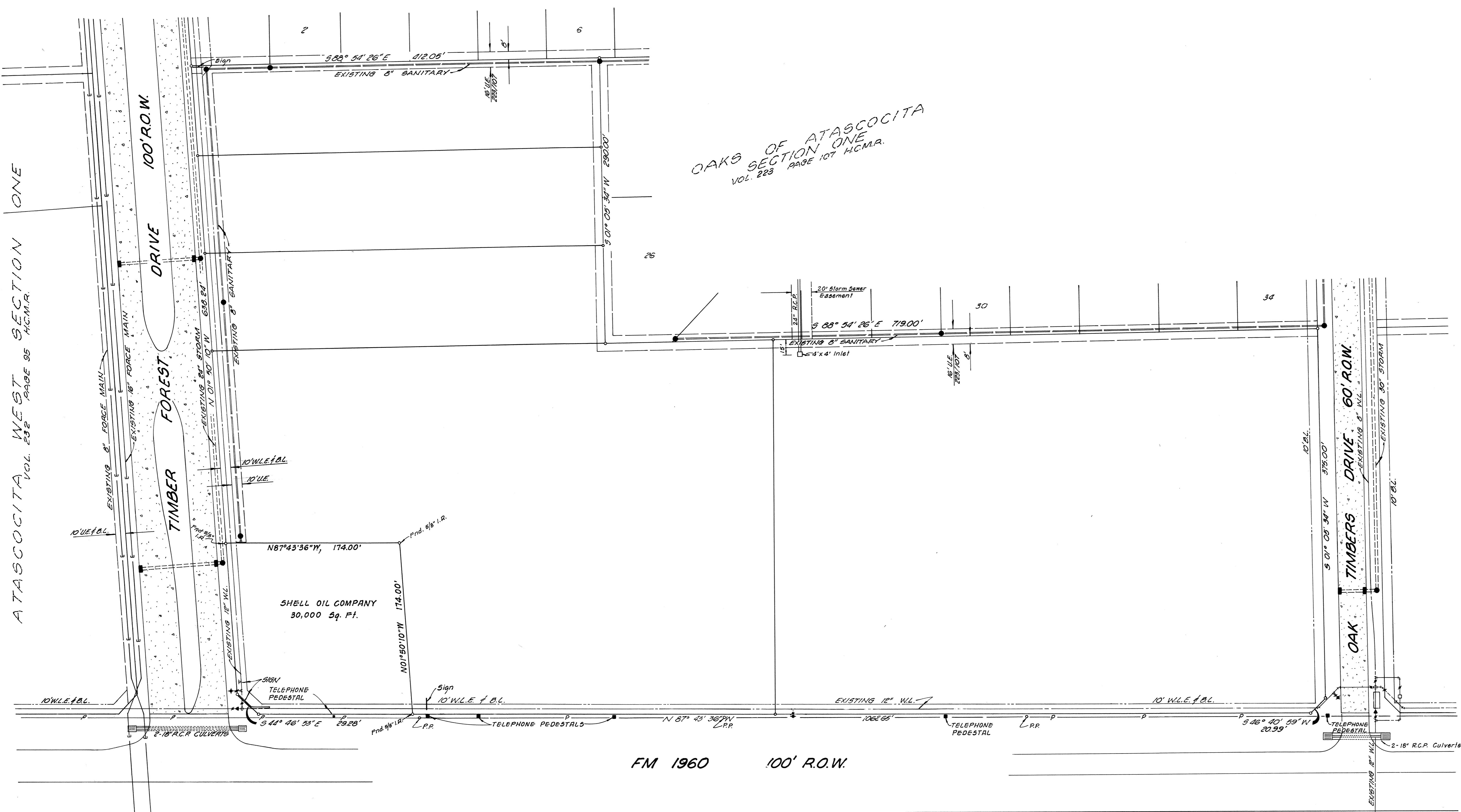
BROWN, GAY & ASSOCIATES, INC.
Houston, Texas

DRAWING OF 0.8957 ACRES OF LAND
IN THE THOMAS MARSHALL SURVEY
ABSTRACT NO. 540
HARRIS COUNTY, TEXAS

Design By E.T.	Date February, 1985	Sheet 1
Drawn By M.D.	Scale 1" = 50'	
Checked By E.T.	Job No 09-60	of 1

ATASCOCITA WEST SECTION ONE

VOL. 232 PAGE 95 H.C.M.R.



OAKS OF ATASCOCITA
SECTION ONE
VOL. 223 PAGE 107 H.C.M.R.

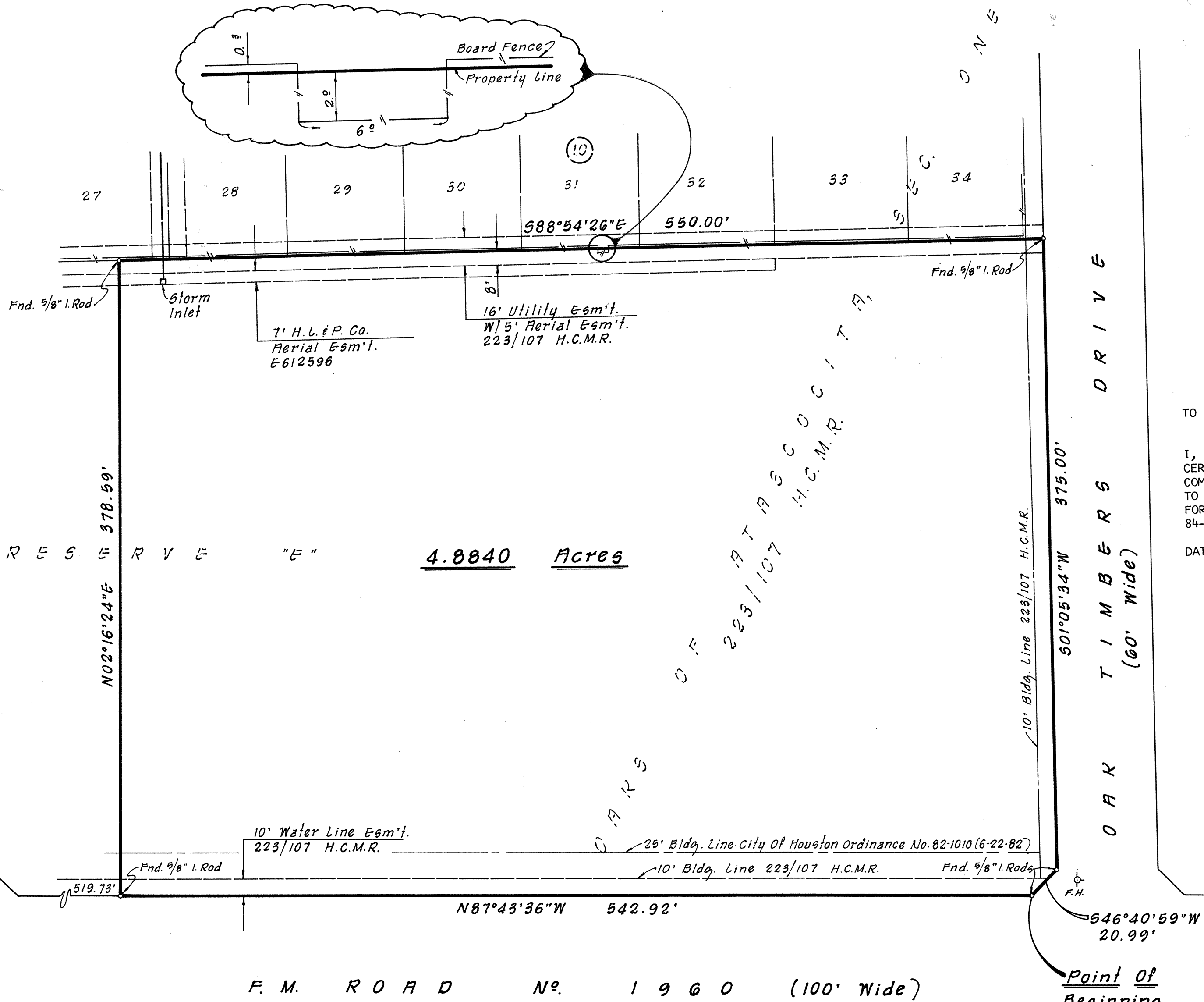
SHELL OIL COMPANY
30,000 Sq. Ft.

FM 1960 100' R.O.W.

MERCER-BROWN ENGINEERS, INC.	
HOUSTON, TEXAS	
SURVEY OF ACRES OF LAND OUT OF RESERVE "E" OAKS OF ATASCOCITA SECTION ONE VOL. 223 PG. 107 H.C.M.R. IN THE WILLIAM VICKENS SURVEY, A-822 HARRIS COUNTY, TEXAS	
DRAWN: JM	DATE: MARCH, 1979
CHECKED:	SCALE: 1" = 50'
JOB NO. D-109-4A	SHEET 1 OF 1

T I M B E R F O R E S T D R I V E

O A K T I M B E R S D R I V E (60' Wide)



4.8840 Acres

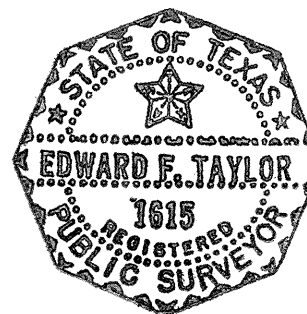
F. M. R O A D N o. 1 9 6 0 (100' Wide)

TO STEWART TITLE GUARANTY COMPANY

I, EDWARD F. TAYLOR, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, CERTIFY THAT THIS 4.8840 ACRE SURVEY IS A TRUE REPRESENTATION OF A SURVEY COMPLETED ON THE GROUND UNDER MY SUPERVISION AND THAT ALL EASEMENTS, PERTAINING TO THIS PROPERTY, THAT ARE EVIDENT ON THE GROUND OR SET FORTH IN THE COMMITMENT FOR TITLE INSURANCE NO. C-5804-064718 DATED MARCH 19, 1984 WITH G.F. NO. 84-101975, AND ISSUED BY STEWART TITLE GUARANTY COMPANY, ARE SHOWN HEREON.

DATED THIS THE 6TH DAY OF APRIL, 1984.

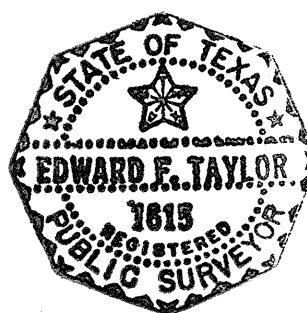
Edward F. Taylor
 EDWARD F. TAYLOR R.P.S. NO. 1615



I, EDWARD F. TAYLOR, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, CERTIFY THAT THIS 4.8840 ACRE SURVEY IS A TRUE REPRESENTATION OF A SURVEY COMPLETED ON THE GROUND UNDER MY SUPERVISION AND THAT ALL EASEMENTS, PERTAINING TO THIS PROPERTY, THAT ARE EVIDENT ON THE GROUND OR SET FORTH IN THE COMMITMENT FOR TITLE INSURANCE NO. 813-137316 DATED JULY 22, 1983, WITH G. F. NO. 939430/KC, AND ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY ARE SHOWN HEREON.

DATED THIS THE 17TH DAY OF AUGUST, 1983.

Edward F. Taylor
 EDWARD F. TAYLOR, R.P.S. 1615



THIS PROPERTY IS SUBJECT TO THE FOLLOWING INSTRUMENTS:

1. AGREEMENT WITH HL & P CO.; H.C.C. FILE NO. E628599
2. ORDINANCE OF THE CITY OF HOUSTON; V. 4897, P. 67 AND V. 5448, P. 421, H.C.D.R.
3. AGREEMENT FOR CABLE TELEVISION; H.C.C. FILE NO. H083790

BROWN, GAY & ASSOCIATES, INC.
 HOUSTON, TEXAS

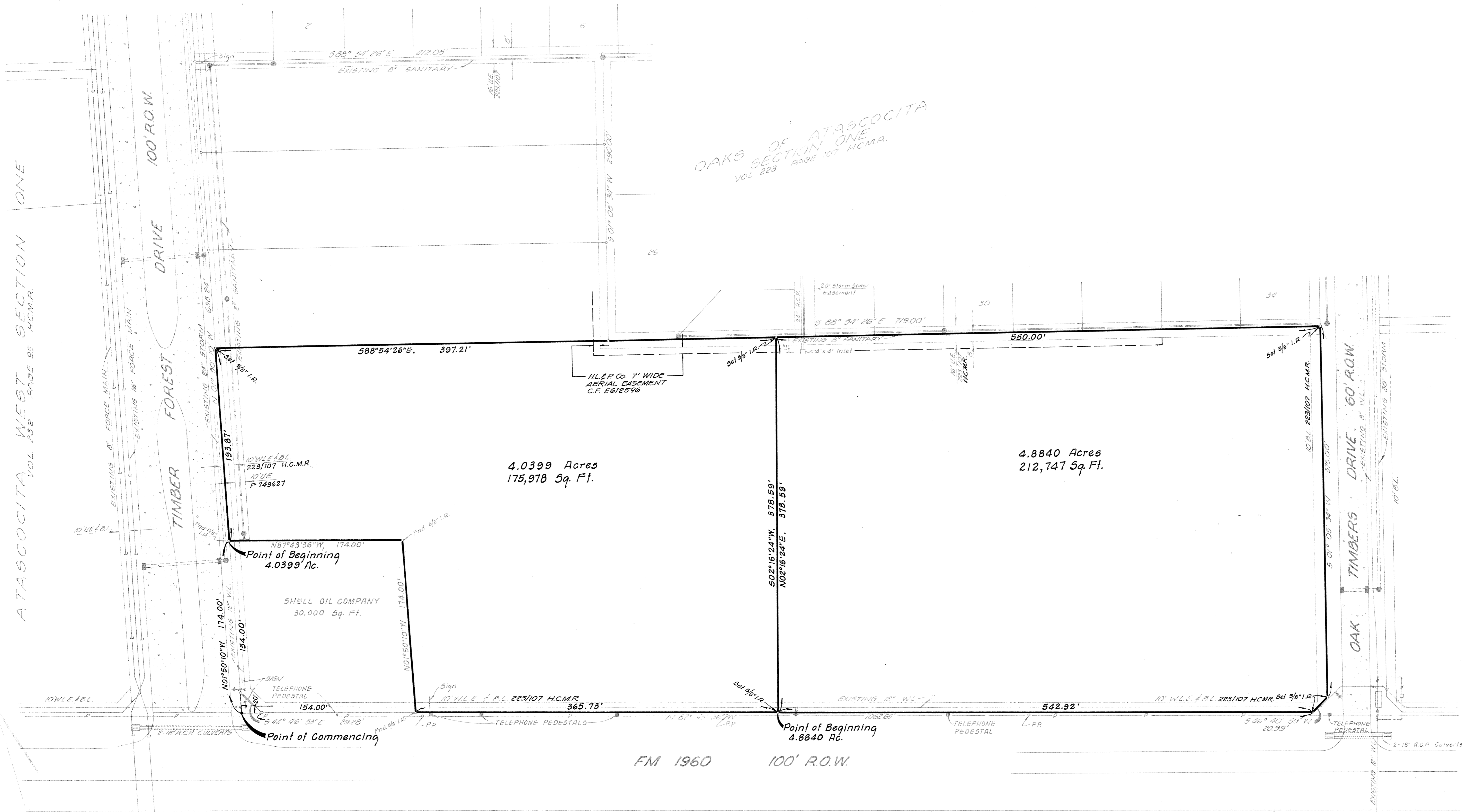
**SURVEY OF 4.8840 ACRES OF LAND
 IN RESERVE "E" OF OAKS OF
 ATASCOCITA, SECTION ONE
 HARRIS COUNTY, TEXAS**

DRAWN: M. B.	DATE: August, 1983
CHECKED: T. S.	SCALE: 1" = 50'
JOB NO. X341	SHEET OF

ATASCOCITA WEST SECTION ONE

VOL. 223 PAGE 95 H.C.M.R.

OAKS OF ATASCOCITA
SECTION ONE
VOL. 223 PAGE 107 H.C.M.R.



4.0399 Acres
175,978 Sq. Ft.

4.8840 Acres
212,747 Sq. Ft.

Point of Beginning
4.0399 Ac.

Point of Beginning
4.8840 Ac.

FM 1960 100' R.O.W.

MERCER-BROWN ENGINEERS, INC.
HOUSTON, TEXAS

I, L. S. BROWN, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, CERTIFY THAT THE SURVEY OF THE 4.0399 ACRE AND 4.8840 ACRE TRACTS IS A TRUE REPRESENTATION OF A SURVEY COMPLETED ON THE GROUND MARCH 15, 1979 UNDER MY SUPERVISION AND SHOWS THE ACTUAL SURVEY CONDITIONS THAT EXISTED AT THE TIME OF THE SURVEY.

L.S. Brown
L. S. BROWN



SURVEY BASED ON TITLE REPORT FROM LAWYERS TITLE COMPANY DATED MAY 7, 1979
GF#5563-79 PGE AND 5564-79 PGE ON 180,000 SQUARE FEET AND 210,000 SQUARE FEET.

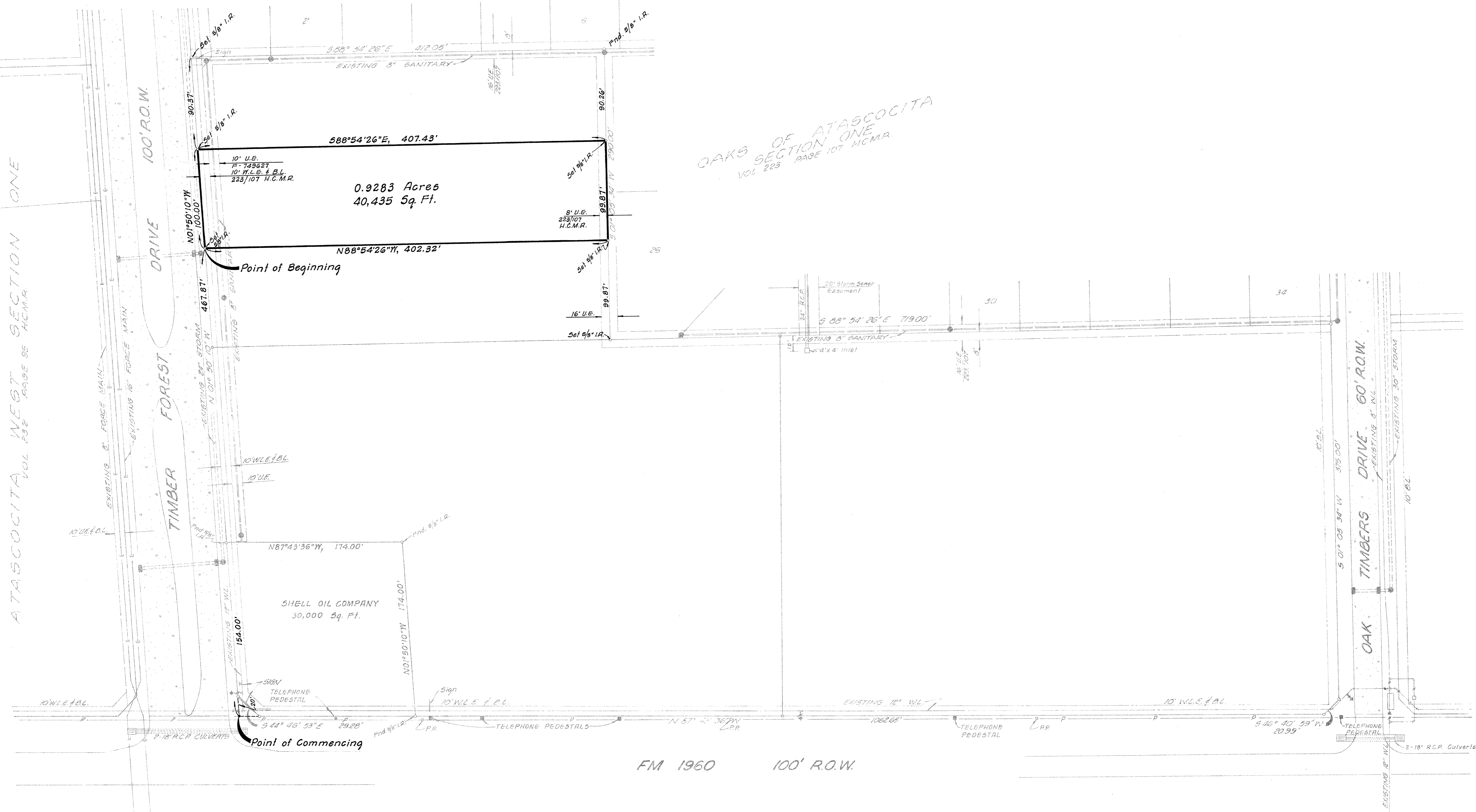
SURVEY OF TWO TRACTS OF
LAND OUT OF RESERVE "E" OAKS
OF ATASCOCITA SECTION ONE
VOL. 223 PG. 107 H.C.M.R. IN THE
WILLIAM VICKENS SURVEY, A-822
HARRIS COUNTY, TEXAS

DRAWN: J.M. M.D. DATE: MARCH 15, 1979
CHECKED: R.H. SCALE: 1" = 50'
JOB NO.: JL-109-10 SHEET 1 OF 1

ATASCOCITA WEST SECTION ONE

VOL. 223 PAGE 95 H.C.M.R.

OAKS OF ATASCOCITA
SECTION ONE
VOL. 223 PAGE 107 H.C.M.R.

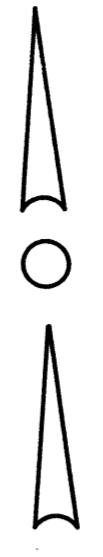
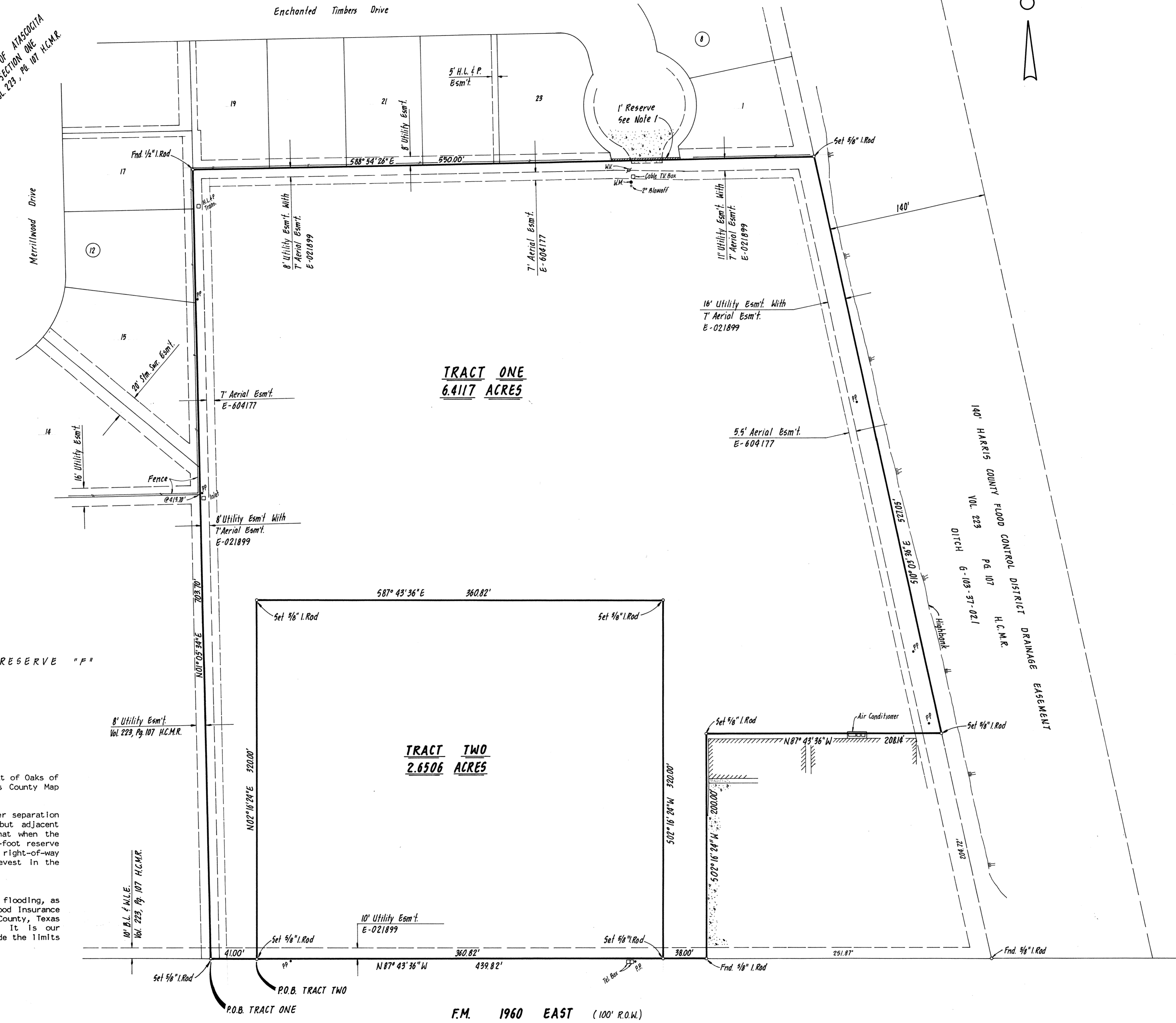


MERCER-BROWN ENGINEERS, INC.
HOUSTON, TEXAS

SURVEY OF 0.9283 ACRES OF LAND OUT OF RESERVE "E" OAKS OF ATASCOCITA SECTION ONE VOL. 223 PG. 107 H.C.M.R. IN THE WILLIAM VICKENS SURVEY, A-822 HARRIS COUNTY, TEXAS

DRAWN: JM E.M.D.	DATE: MARCH 19, 1979
CHECKED: R.H.	SCALE: 1" = 50'
JOB NO. D-109-4A	SHEET 1 OF 1

OAKS OF ATASCOCITA
SECTION ONE
Vol. 223, Pg. 107 H.C.M.R.



TRACT ONE
6.417 ACRES

TRACT TWO
2.6506 ACRES

Notes:

1. The following is a direct quote of General Note 9 on the plat of Oaks of Atascocita recorded in Volume 223, Page 107 of the Harris County Map Records.

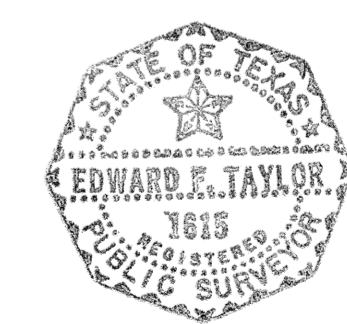
"One-foot reserve dedicated to the public in fee as a buffer separation between the side or end of streets where such streets abut adjacent acreage tracts, the condition of such dedication being that when the adjacent property is subdivided in a recorded plat, the one-foot reserve shall thereupon become vested in the public for street right-of-way purposes and the fee title thereto shall revert to and revest in the dedicator, his heirs, assigns, or successors".

2. The property shown hereon is in Zone "C", an area of minimal flooding, as defined by the National Flood Insurance Program on FIRM Flood Insurance Rate Map with Community Panel Number 480287 0210 E, Harris County, Texas (unincorporated areas), preliminary date July 20, 1984. It is our interpretation of the above map that this property is outside the limits of the 100 year flood plain as defined by FIRM.

I, EDWARD F. TAYLOR, A REGISTERED PUBLIC SURVEYOR OF THE STATE OF TEXAS, CERTIFY THAT THIS MAP IS A TRUE REPRESENTATION OF A SURVEY COMPLETED ON THE GROUND UNDER MY SUPERVISION AND THAT ALL EASEMENTS, PERTAINING TO THIS PROPERTY, THAT ARE EVIDENT ON THE GROUND OR SET FORTH IN THE COMMITMENT FOR TITLE INSURANCE NO. C945-25005, DATED FEBRUARY 1, 1985, WITH G.F. NO. 1-5102, ISSUED BY TICOR TITLE INSURANCE COMPANY AND COUNTERSIGNED BY NATIONAL TITLE COMPANY ARE SHOWN HEREON.

DATED THIS THE 10TH DAY OF APRIL, 1985

Edward F. Taylor
EDWARD F. TAYLOR, R.P.S. NO. 1618



H.C.M.U.D. 109

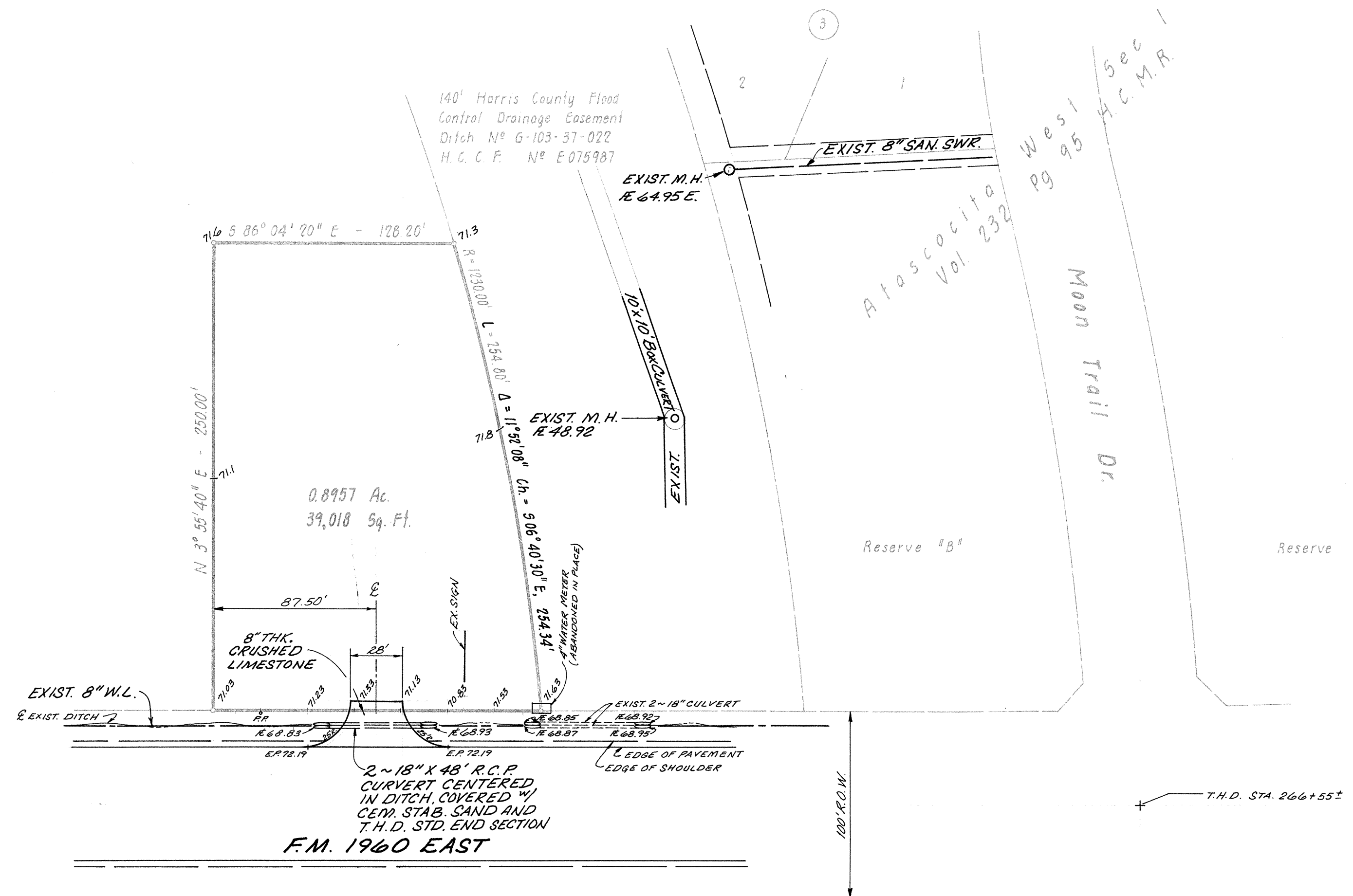
BROWN, GAY & ASSOCIATES, INC.
Houston, Texas

**SURVEY OF TWO TRACTS OF LAND IN THE
WILLIAM VICKENS SURVEY, ABSTRACT NO. 822
HARRIS COUNTY, TEXAS**

Design By	B.S.	Date	April, 1985	Sheet	1
Drawn By	R.M.	Scale	1"=50'		
Checked By	E.I.	Job No	1566	of	1

Revised 4-18-85: Added Note 2

F.M. 1960 EAST (100' R.O.W.)



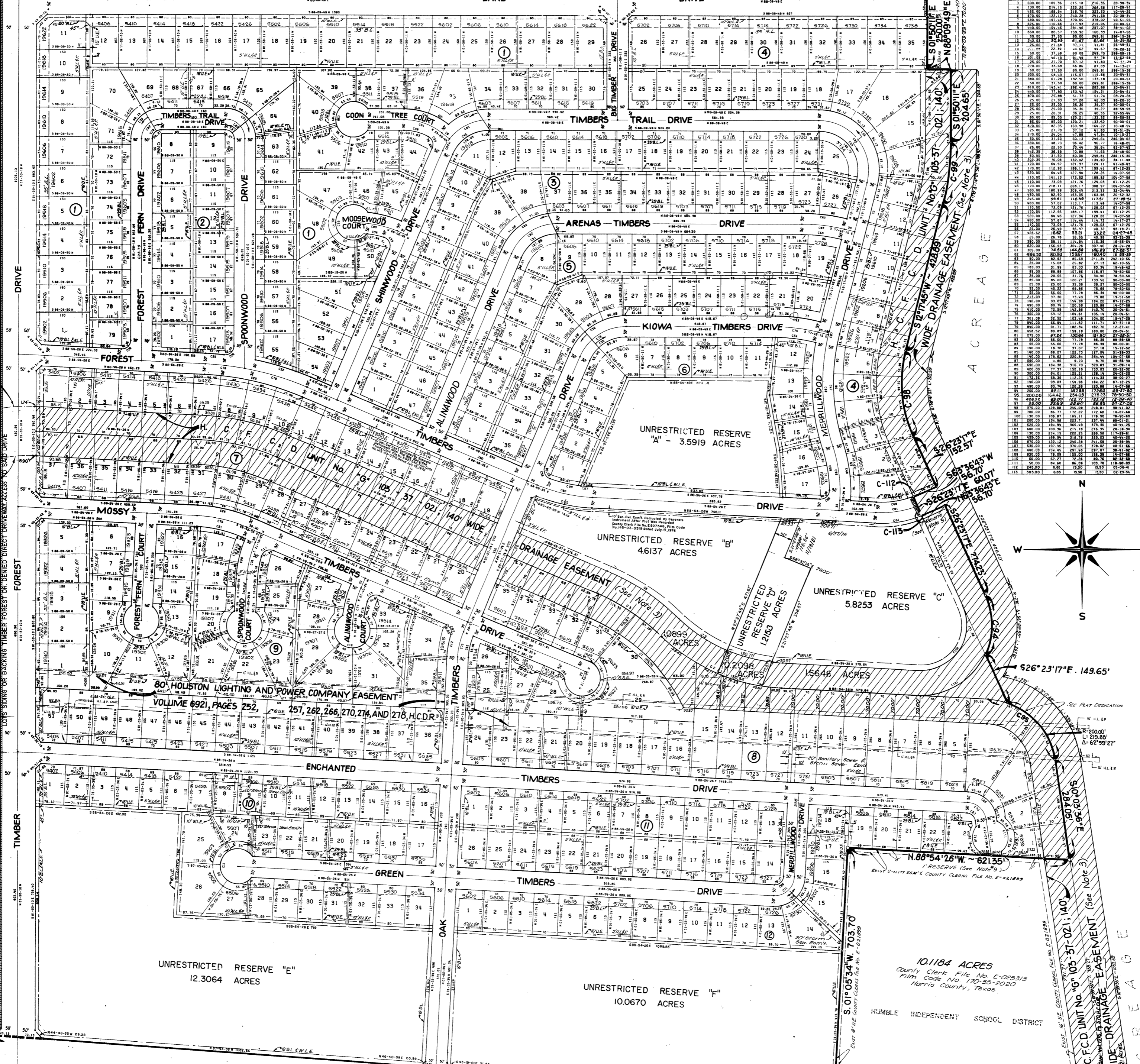
BROWN, GAY & ASSOCIATES, INC.
Houston, Texas

DRAWING OF 0.8957 ACRES OF LAND PROPOSED DRIVEWAY AND EXISTING UTILITIES

Design By K.L.C.	Date MARCH, 1985	Sheet 1
Drawn By K.L.C.	Scale 1" = 50'	of 1
Checked By K.L.C.	Job No 0960	

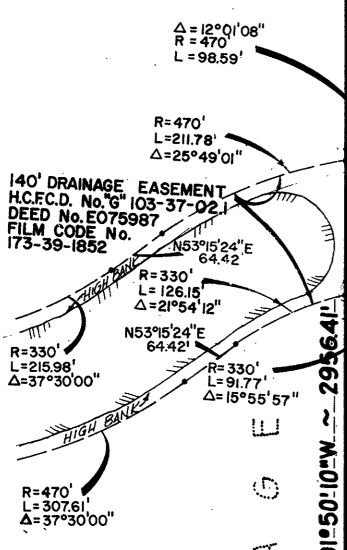
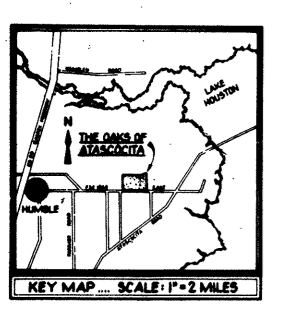
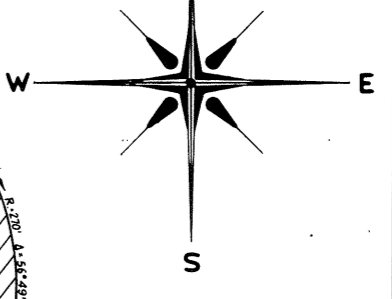
N88°09'49"E ~ 2597.00'

UPPER LAKE DRIVE
DRIVE



CURVE DATA table with columns for stationing, curve type, radius, length, and other technical specifications.

LOT AREAS table listing lot numbers and their corresponding areas in square feet and acres.



North West Corner of Caled 423,504 Acre
Tract No 1 of Atascocita Realty Tract
(Harris County Clerks File No. D795089)

F.M. 1960 EAST (100' R.O.W.)
N87°43'36"W 2368.01'

OAKS OF ATASCOCITA
SECTION ONE

A SUBDIVISION OF 184,7087 ACRES OF LAND
OUT OF THE WILLIAM VICKINS SURVEY
ABSTRACT NUMBER 822
HARRIS COUNTY TEXAS
436 LOTS 6 RESERVES 12 BLOCKS
SCALE 1"=100' NOVEMBER 6, 1974

OWNER
JOHNSON-LOGGINS, INC. (E265948)
GLENN LOGGINS, VICE PRESIDENT
WILKINSON & ASSOCIATES ENGINEERS, INC.
1111 FANNIN STREET HOUSTON, TEXAS
PLANNING CONSULTANT
CARROLL & BROWN

NOTE: ° ADDRESSES ADDED AFTER PLAT RECORDING
©ADDED H.A.L.P. ESM'S 9-21-77
©EXISTING H.A.L.P. AERIAL ESM'S NOT SHOWN

Legal descriptions, signatures, and official stamps. Includes signatures of David Edwards, Margaret Harris, and others. Contains various official seals and notations.