

ATTACHMENT NO. 1

STANDARD UTILITY AGREEMENT

U-Number: **U14647**

District: Houston

County: Galveston

Federal Project No.: n/a

Highway: IH 45

ROW CSJ: 0500-04-123

From: 0.452 Miles South of FM 518

Highway Project Letting Date: Oct. 2016

To: North of FM 517

This Agreement by and between the State of Texas, acting by and through the Texas Transportation Commission, ("**State**"), and City of League City, ("**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 **Utility** as indicated in the following statement of work: Installation of a 12" Force Main highway crossing at Sta 1072+74, a 24" Water Line crossing at Sta 1075+90, and several longitudinal utility adjustments between Sta 996+25 and Sta 1104+00 to avoid conflict with proposed highway and drainage construction ; and more specifically shown in **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/or 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 **Utility's** interest in certain lands and/or 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 **Utility** the costs incurred in adjustment, removal, and/or relocation of **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, the Utility Relocations, Adjustments, and Reimbursements provisions of 23 CFR 645, Subpart A, and with the Utility Accommodation provisions of 23 CFR 645, Subpart B. **Utility** shall supply, upon request by the **State**, proof of compliance with the aforementioned laws, rules and regulations prior to the commencement of construction.

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 **State**, or may, with the **State's** approval, accumulate actual direct and related indirect costs in accordance with an established accounting procedure developed by **Utility**. Bills for work hereunder will be submitted to **State** not later than 90 days after completion of the work.

When requested, the **State** will make intermediate payments at not less than monthly intervals to **Utility** when properly billed and such payments will not exceed 90 percent (90%) of the eligible cost as shown in each such

Initial Date
TxDOT

Initial Date
Utility

billing. Intermediate payments shall not be construed as final payment for any items included in the intermediate payment.

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

The **State** will, upon satisfactory completion of the relocation or adjustment and upon receipt of final billing prepared in an approved form and manner, 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.

This agreement in its entirety consists of the following elements:

1. Standard Utility Agreement;
2. Plans, Specifications, and Estimated Costs (Attachment "A");
3. Utility's Accounting Method (Attachment "B");
4. Utility's Schedule of Work and Estimated Date of Completion (Attachment "C");
5. Statement Covering Contract Work – ROW-U-48 (Attachment "D");
6. Eligibility Ratio (Attachment "F");
7. Betterment Calculation and Estimates (Attachment "G");
8. Proof of Property Interest – ROW-U-1A, ROW-U-1B, or ROW-U-1C (Attachment "H");
9. Inclusion in Highway Construction Contract (if applicable) (Attachment "I"); and
10. ~~Utility Joint Use Acknowledgment – ROW-U-JUA and/or~~ Utility Installation Request - Form 1082 (Attachment "E").

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 costs covered by a modification or amendment of this agreement or a written change or extra work order approved by the **State and 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 that 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 which **Utility** may have within the limits of the law.

Initial Date
TxDOT

Initial Date
Utility

It is expressly understood that the **Utility** conducts the adjustment, removal, 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 signatories to this agreement warrant that each has the authority to enter into this agreement on behalf of the party represented.

UTILITY

Utility: City of League City
Name of Utility

By: _____
Authorized Signature

John Baumgartner
Print or Type Name

Title: Deputy City Manager

Date: _____

Attested: _____
Diana M. Stapp
City Secretary

EXECUTION RECOMMENDED:

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

Date: _____

Initial Date
TxDOT

Initial Date
Utility

Attachment "A"

Plans, Specifications, and Estimate

Please see attached Plan & Specification Sheets, and Itemized Estimates

CSJ: 0500-04-096, RCSJ: 0500-04-123 U14647 –City of League City
Project Limits: IH 45 From 0.452 Miles South of FM 518 to North of FM 517

Statement of Work:

The work includes the installation of a 456 LF of 12" PVC Force Main highway crossing at Sta 1072+74 with 320 LF of 36" steel casing to replace a 12" force main in conflict with proposed storm sewers.

The work includes the installation of 403 LF of 24" PVC Water Line highway crossing at Sta 1075+90 with 310 LF of 36" steel casing to replace a 24" water line in conflict with proposed storm sewers.

The work includes the installation of 1601 LF of 24" PVC longitudinal Water Line and associated valves, connections and fire hydrants between Sta 1046+00 and Sta 1062+00 in a 20' dedicated easement to avoid conflict with the proposed frontage road right turn lane and storm sewers.

The work includes the installation of 531 LF of 12" PVC longitudinal Water Line and associated valves, connections and fire hydrants between Sta 1098+75 and Sta 1104+00 to avoid conflict with the proposed frontage road right turn lane and storm sewers.

The work includes eight Water Line adjustments to lower in place the existing water lines to avoid conflict with proposed storm culverts between Sta 966+25 and Sta 1042+10, and as further shown in the plans.

Design Plans:

Sheets 4-8 of 24 – Water Line lower in place adjustments

Sheets 9-11 of 24 – 24" Water Line between Sta 1098+75 and Sta 1104+00

Sheet 12 of 24 – 12" Force Main highway crossing at Sta. 1072+74

Sheet 13 of 24 – 24" Water Line highway crossing at Sta. 1075+90

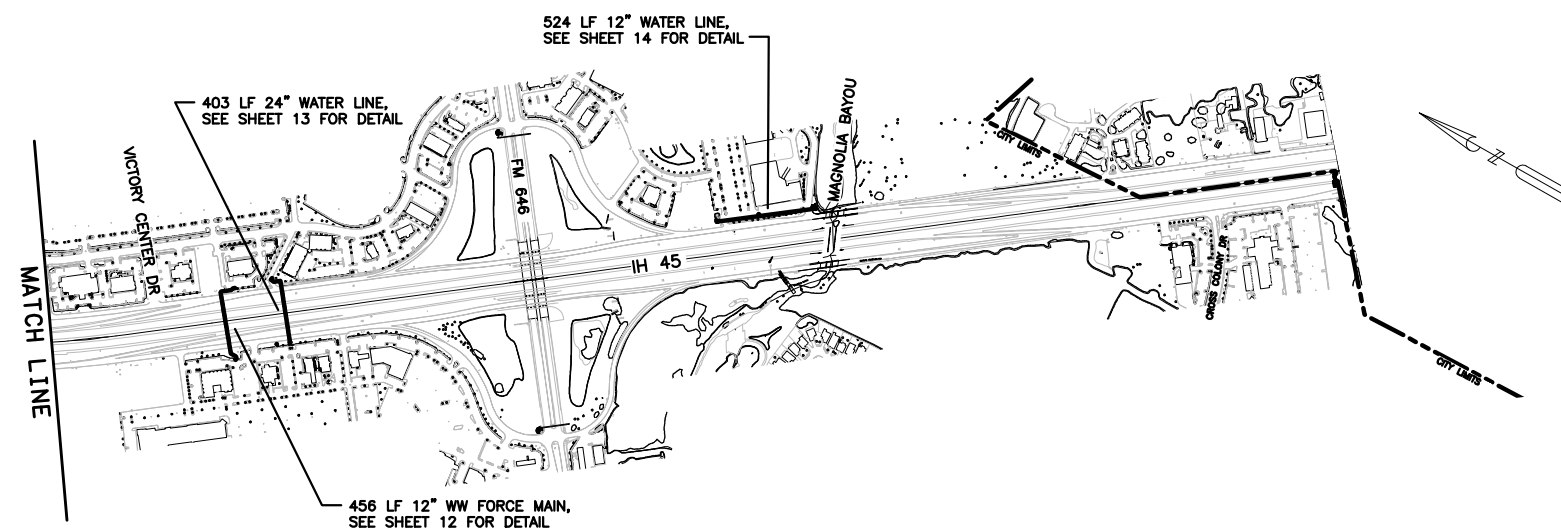
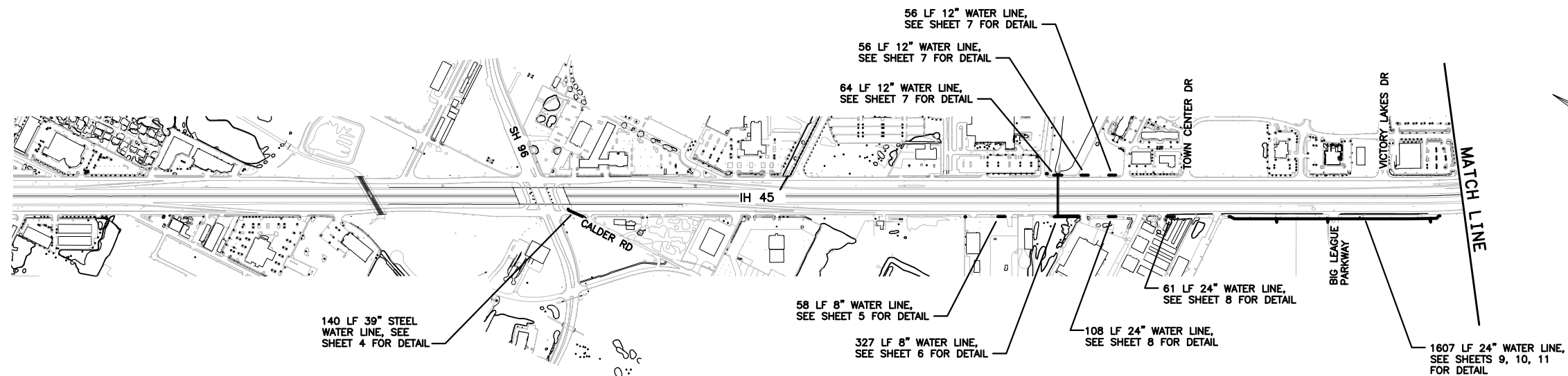
Sheet 14 of 24 – 24" Water Line between Sta 966+25 and Sta 1042+10

LEAGUE CITY, TEXAS

CSJ: 0500-04-096

RCSJ: 0500-04-123

U: 14647



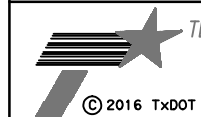
Kerry Lackey

September 21, 2016



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Registration No. F-754



TEXAS DEPARTMENT OF TRANSPORTATION

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LEAGUE CITY
TEXAS

IH 45
UTILITY ADJUSTMENTS

SCALE: N.T.S.

SHEET 1 OF 27

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			3000
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

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GENERAL NOTES: 1–2015

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AND THE CITY OF LEAGUE CITY STANDARD DETAILS AS CURRENTLY AMENDED. CONTRACTOR SHALL OBTAIN (AND USE) COPY FROM THE CITY OF LEAGUE CITY.
2. THERE WILL BE NO SEPARATE PAYMENT FOR WORK SHOWN ON THESE PLANS, UNLESS SPECIFICALLY ESTABLISHED IN THE BID PROPOSAL SECTION OF THE CONTRACT DOCUMENTS. INCLUDE COST OF THIS WORK IN THE CONTRACT UNIT PRICE FOR ITEMS OF WHICH THIS WORK IS A COMPONENT OR INCIDENTAL.
3. EXISTING UTILITY INFORMATION SHOWN IS NOT GUARANTEED TO BE ACCURATE AND ALL INCLUSIVE. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR IN ADVANCE OF HIS CONSTRUCTION. ANY CONFLICT OR DISCREPANCY DISCOVERED MUST IMMEDIATELY BE BROUGHT TO THE ENGINEER’S ATTENTION.
4. ANY DAMAGE TO EXISTING PUBLIC UTILITIES MUST BE REPAIRED IMMEDIATELY. THE CONTRACTOR MUST NOTIFY THE APPROPRIATE UTILITY OWNER, WHO WILL MAKE THE REPAIRS AT THE CONTRACTOR’S EXPENSE.
5. THE CONTRACTOR ON BEHALF OF THE OWNER, SHALL OBTAIN ALL CONSTRUCTION PERMITS PRIOR TO THE COMMENCEMENT OF WORK.
6. THE WORK AREA SHALL BE BARRICADED AND ILLUMINATED DURING DARKNESS AND PERIODS OF INACTIVITY, WHEN IN AN AREA OF DIRECT PUBLIC ACCESS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF MATERIAL AND EQUIPMENT IN A SAFE AND WORKMAN LIKE MANNER TO PREVENT INJURIES, DURING AND AFTER WORKING HOURS UNTIL PROJECT COMPLETION. THERE SHALL BE NO PAYMENT MADE TO THE CONTRACTOR FOR STORED MATERIAL.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING OF ALL MATERIALS. THE LOADING AND UNLOADING OF ALL PIPE, VALVES, HYDRANTS, MANHOLES AND OTHER ACCESSORIES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER’S RECOMMENDED PRACTICES AND SHALL AT ALL TIMES BE PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE MATERIAL. IT SHALL BE THE CONTRACTOR’S RESPONSIBILITY TO EXAMINE SUCH MATERIAL AT THE POINT OF DELIVERY AND TO REJECT ALL DEFECTIVE MATERIAL. THE DEFECTIVE MATERIAL MUST BE REPLACED WITH SOUND MATERIAL.
9. ALL PIPE AND REINFORCEMENT STEEL SHALL BE KEPT FREE OF DIRT AND OTHER DEBRIS. ANY DAMAGE TO THE COATING OF THE VARIOUS MATERIALS MUST BE REPAIRED.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE AND POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION OF PROPOSED FACILITIES. NATURAL GROUND ADJACENT TO UTILITY TRENCH EXCAVATION TO BE GRUBBED PRIOR TO PLACEMENT OF EXCESS TRENCH MATERIAL. (NO SEPARATE PAY).
11. ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
12. THE CONTRACTOR IS REQUIRED TO FOLLOW ALL APPLICABLE OSHA RULES AND REGULATIONS. TRENCH SAFETY SHALL BE DONE IN ACCORDANCE WITH OSHA 29 CFR PART 1926, AS PUBLISHED IN THE FEDERAL REGISTER OCTOBER 31, 1989, AND EFFECTIVE JANUARY 2, 1990, AND AMENDMENTS THERETO.
13. NO CONNECTIONS SHALL BE MADE TO THE EXISTING WATER LINES OR SANITARY SEWERS UNTIL ALL PROPOSED LINES OR SEWERS HAVE BEEN THOROUGHLY CLEANED, TESTED, AND APPROVED BY THE ENGINEER.
14. ALL GEOTECHNICAL REPORTS (IF ANY) FOR THIS PROJECT ARE AVAILABLE AT THE OFFICE OF THE ENGINEER.
15. SURFACE RESTORATION: AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES, I.E., THE PROPERTY, INCLUDING DITCH, EQUAL TO OR BETTER THAN EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. ALL DISTURBED AREA SHALL BE SEEDED PROPERLY.
16. FINAL ACCEPTANCE OF THE UTILITIES WILL NOT BE GIVEN TO THE CONTRACTOR UNTIL THEY ARE INSPECTED AND APPROVED BY THE CITY OF LEAGUE CITY.
17. ALL MANHOLES ARE TO BE CONSTRUCTED TO ALLOW FOR A MINIMUM OF 1 FOOT OF VERTICAL ADJUSTMENT.
18. ALL TRENCH EXCAVATION, BEDDING AND BACKFILL SHALL BE IN CONFORMANCE WITH THE CITY OF LEAGUE CITY STANDARD DETAILS – EXCAVATION AND BACKFILL FOR UTILITIES AND UTILITY BACKFILL MATERIAL SPECS.
19. ALL UTILITY TRENCHES UNDER OR WITHIN THREE FEET OF EXISTING, PROPOSED, AND/OR FUTURE PAVEMENT OR CURB SHALL BE BACKFILLED WITH NO LESS THAN 1–1/2 SACKS OF CEMENT PER TON OF CEMENT–STABILIZED SAND TO A POINT ONE FOOT BELOW PAVEMENT SUBGRADE. THE REMAINING BACKFILL SHALL BE MADE WITH COMPACTED SUITABLE MATERIAL.
20. THE USE OF WELL POINT SYSTEMS, WHEN REQUIRED BY TRENCH CONDITIONS, SHALL BE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

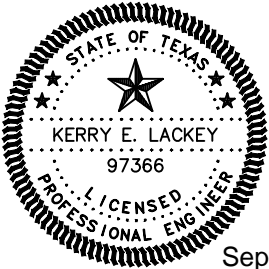
21. CONTRACTOR SHALL PROTECT ALL TREES ADJACENT TO WORK AREA. NO TREES SHALL BE REMOVED WITHOUT PERMISSION OF OWNER.
22. CONTRACTOR SHALL PROVIDE MINIMUM CLEARANCES AT STORM SEWER, SANITARY SEWER AND WATER LINE CROSSINGS AS DESIGNED PER THE PLANS AND ACCORDING TO THE BEDDING AND BACKFILL DETAILS.
23. ALL AREAS DISTURBED ALONG SIDE AND BACK–OF–LOT EASEMENTS OR OTHER UNNECESSARY DISTURBANCES AS A RESULT OF CONSTRUCTION WORK SHALL BE SEEDED AND FERTILIZED IN ACCORDANCE WITH SEEDING SPECIFICATIONS (NO SEPARATE PAY).
24. EXCAVATE MUCK, ORGANIC MATERIAL AND UNSUITABLE SOIL PRIOR TO PLACING FILL. PLACE SUITABLE MATERIAL IN 8” MAXIMUM LOOSE LIFT AND COMPACT TO 95% STANDARD PROCTOR DENSITY.
25. ALL BACKFILL SHALL BE PLACED 8” LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY AND BE TESTED BY AN APPROVED TESTING LAB.
26. ALL TRENCH BACKFILL SHALL HAVE AT LEAST ONE DENSITY TESTING ON EACH LIFT. ONLY STANDARD BACKFILL PROCEDURES ARE ALLOWED. ANY DEVIATION TO THIS STANDARD MUST BE APPROVED BY THE CITY OF LEAGUE CITY.
27. EXCEPT FOR WATER AND SANITARY SEWER FACILITIES, ALL PROPOSED FACILITIES MUST BE INSTALLED WITH A MINIMUM SEPARATION OF 4 FEET OUTSIDE TO OUTSIDE FROM ALL OTHER EXISTING OR PROPOSED FACILITIES.
28. ALL TESTING PROCEDURES USED ON THIS PROJECT SHALL CONFORM TO THE CITY OF LEAGUE CITY STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTS REQUIRED. IF ANY TEST RESULTS DO NOT MEET THE TESTING STANDARDS, SUCH MATERIAL SHALL BE REMOVED AND REPLACED SO THAT THE TESTING STANDARDS CAN BE MET. COST OF TEST AND LABORATORY SERVICES SHALL BE INCIDENTAL AND INCLUDED IN UNIT PRICE OF BID ITEM. A COPY OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER AND THE CITY OF LEAGUE CITY.
29. ALL UNSATISFACTORY AND OR WASTE MATERIALS INCLUDING VEGETATION, ROOTS, CONCRETE AND DEBRIS SHALL BE DISPOSED OF OFFSITE BY THE CONTRACTOR, NO DIRECT PAYMENT WILL BE MADE, BUT SHALL BE CONSIDERED AS INCIDENTAL TO THE VARIOUS BID PROPOSAL ITEMS.
30. UTILITY CONTRACTOR SHALL ADJUST RIM ELEVATIONS TO 0.3 FEET ABOVE THE FINISHED GRADE AT EACH MANHOLE LOCATION AFTER PAVEMENT CONTRACTOR HAS COMPLETED FINAL GRADING (NO SEPARATE PAY). SLOPED FILL SHALL BE ADDED FOR STORM WATER DRAINAGE AWAY FROM THE MANHOLE RIM.
31. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION BOTH DAY AND NIGHT IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
32. UTILITY CONTRACTOR SHALL AT COMPLETION OF HIS WORK FILL AND GRADE ALL UTILITY EASEMENTS (WET AND DRY) FOR POSITIVE DRAINAGE, AS DIRECTED BY THE OWNER. (NOT SEPARATE PAY)
33. CITY OF LEAGUE CITY SIGNATURES ARE VALID FOR 1 (ONE) YEARS ONLY AFTER DATE & SIGNING OF PLANS.
34. UTILITY CONTRACTOR SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON–CURB INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.
35. CONTRACTOR SHALL CONTACT THE FOLLOWING A MINIMUM OF 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
- A) CITY OF LEAGUE CITY PROJECT MANAGEMENT (281)–554–1439
B) CITY OF LEAGUE CITY FIRE MARSHALL (281)–554–1290
C) TEXAS ONE CALL SYSTEM 1–800–245–4545
D) LONE STAR NOTIFICATION CENTER 1–800–669–8344
E) TEXAS EXCAVATION SAFETY SYSTEM INC. 1–800–344–8377
F) EL PASO PIPELINE : MR. J.R. LOGAN (281)–331–4693
G) BP PIPELINE : MR. DARREL BARBO (409)–938–6995 (MOBIL) (281)–636–6747
36. CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND PAVEMENT BEFORE CONSTRUCTION. ANY VERIFICATIONS THAT ARE INCONSISTENT WITH THE PLANS NEED TO BE REPORTED TO THE ENGINEER BEFORE CONSTRUCTION BEGINS.
37. WITH CITY ENGINEERS APPROVAL, W. S. & D. SPOIL MAY BE SPREAD EVENLY IN THE STREET RIGHT–OF–WAY AFTER UTILITIES ARE IN PLACE.
38. THERE WILL BE NO ADDITIONAL COST FOR INSTALLING WATER LINES AND SEWERS UNDER EXISTING UTILITIES AND PIPELINE. INCLUDE COST OF THIS WORK IN THE CONTRACT UNIT PRICE FOR ITEMS OF WHICH THIS WORK IS A COMPONENT OR INCIDENTAL.
39. LAWS TO BE OBSERVED, THE DEVELOPER/CONTRACTOR SHALL MAKE HIMSELF FAMILIAR WITH AND AT ALL TIMES SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL

LAWS, ORDINANCES, AND REGULATIONS WHICH IN ANY MANNER AFFECT THE CONDUCT OF THE WORK AND SHALL INDEMNIFY AND SAVE HARMLESS THE CITY AND ITS REPRESENTATIVES AGAINST ANY CLAIM ARISING FROM THE VIOLATION OF ANY SUCH LAW, ORDINANCE, OR REGULATIONS, WHETHER BY HIMSELF OR BY HIS EMPLOYEES.

40. CONTRACTOR SHALL REMOVE ALL MUD, DIRT, AND DEBRIS DEPOSITED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY DAILY.

41. CONTRACTOR SHALL CONTACT THE WATER UTILITY DEPARTMENT AT 281–554–1390 TO COORDINATE VALVE OPERATIONS FOR PROPOSED TIE–INS.

42. DISPOSAL OF EXCESS EXCAVATION MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DISPOSAL OF EXCESS EXCAVATION MATERIAL WITHIN LEAGUE CITY SHALL COMPLY WITH ORDINANCE 2009–25 ARTICLE 2.



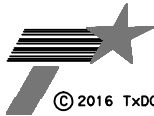
Kerry Lackey

September 21, 2016



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TEXAS DEPARTMENT OF TRANSPORTATION

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LEAGUE CITY
TEXAS

IH 45
UTILITY ADJUSTMENTS
GENERAL NOTES

SCALE: NONE SHEET 2 OF 27

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			3001
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

DATE: \$DATE\$
FILE: \$FILE\$

WATER CONSTRUCTION NOTES: 1-2015

1. WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AND THE CITY OF LEAGUE CITY STANDARD DETAILS AS CURRENTLY AMENDED.
2. ALL WATERLINES ARE TO BE HYDROSTATICALLY TESTED BY THE CONTRACTOR IN ACCORDANCE WITH CITY OF LEAGUE CITY CRITERIA.
3. PIPE MATERIAL SHALL BE PVC WATER PIPE AWWA C900 (DR 18) FOR SIZES 6" THROUGH 12" OR C905 (DR 18) FOR SIZES 14" THRU 24", DUCTILE IRON PIPE FOR SIZES 6" THROUGH 36", 'STEEL CYLINDER CONCRETE PIPE (CLASS 150) FOR SIZES OVER 18" IN CONFORMANCE WITH MATERIAL SPECIFICATION OF THE CITY OF LEAGUE CITY. (ANY OTHER MATERIAL OR SIZES TO BE SUBMITTED FOR APPROVAL).
4. ALL WATER VALVES SHALL OPEN COUNTER CLOCKWISE. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.
5. ALL FLANGES BELOW GRADE SHALL BE INSULATED.
6. ALL WATERLINES SHALL BE ENCASED IN BANK SAND TO AT LEAST 12" ABOVE THE PIPE. COST OF BANK SAND TO BE INCLUDED IN UNIT PRICE OF WATERLINE.
7. WATERLINE TRENCHES UNDER PAVEMENT OR WITHIN THREE (3) FOOT OF PROPOSED CURBS SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND (NO LESS THAN 1-1/2 SACK/PER TON) UP TO WITHIN ONE FOOT OF PAVEMENT. COST OF BACKFILL SHALL NOT BE PAID DIRECTLY BUT SHALL BE INCLUDED IN THE UNIT PRICE OF WATERLINE.
8. ALL FLUSHING VALVES SHALL BE LOCATED A MIN. OF 3' BACK OF CURB, ON CURB AND GUTTER STREETS. ON STREETS HAVING NO CURB, THE FLUSHING VALVE SHALL BE LOCATED INSIDE THE RIGHT-OF-WAY OR ADJACENT EASEMENT.
9. WATERLINE SHALL BE CONSTRUCTED SUCH THAT ALL CROSSES AND TEES WILL NOT BE LOCATED UNDER PROPOSED OR FUTURE PAVING.
10. UTILITY CONTRACTOR TO TURN FLUSHING VALVES AND ALL FINAL ADJUSTMENTS AFTER COMPLETION OF PAVING. NO SEPARATE PAY.
11. SANITARY PRECAUTIONS MUST BE TAKEN DURING WATERLINE CONSTRUCTION, AS CALLED FOR BY AWWA STANDARDS. PRECAUTIONS INCLUDE KEEPING PIPE CLEAN AND CAPPING OR OTHERWISE EFFECTIVELY COVERING OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
12. ALL NEWLY INSTALLED PIPES, COATINGS AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARDS AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.
13. ALL DUCTILE IRON PIPE WATERLINE SHALL HAVE BEDDING AND BACKFILL EMBEDMENT IN ACCORDANCE WITH THE CITY OF LEAGUE CITY DETAILS AND DESIGN AND SPECIFICATIONS AS CURRENTLY AMENDED.
14. WATER MAINS SHALL HAVE MINIMUM OF 4' COVER FROM TOP OF CURB. EXCEPT 16" AND LARGER WATER LINES SHALL HAVE MINIMUM OF 5' COVER FROM TOP OF CURB.
15. FLUSHING VALVE UNIT CONSISTS OF: MAIN LINE SIZE X 6" TEE, 6" PVC PIPE LEAD, 6" GATE VALVE WITH BOX, AND ONE FLUSHING VALVE WITH 4' MIN. BURY. ANY OTHER PIPE MATERIAL SHALL BE IN ACCORDANCE WITH THE CITY'S DESIGN AND CONSTRUCTION STANDARDS MANUAL.
16. WATER & SANITARY SEWER THAT ARE PARALLEL MUST BE INSTALLED IN SEPARATE TRENCHES WITH NO LESS THAN 9' (NINE FEET) MIN. HORIZONTAL CLEARANCE. SEE LEAGUE CITY DETAIL SANITARY SEWER INSTALLATION CROSSING OR PARALLEL TO WATER LINE.
17. UNLESS MANHOLES CAN BE MADE WATERTIGHT AND TESTED FOR NO LEAKAGE THEY MUST BE INSTALLED SO AS TO PROVIDE A MINIMUM OF NINE FEET OF HORIZONTAL CLEARANCE FROM AN EXISTING OR PROPOSED WATER LINE. IF THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE WATERLINE MUST BE ENCASED IN A JOINT OF 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE WATERLINE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT 5 FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEAL."
18. COMPLETED WATERLINES MUST BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651, "DISINFECTING WATER MAINS."
19. IF CLEARANCE IS BETWEEN SIX (6) INCHES TO TWO (2) FEET ONE 20 FOOT JOINT OF C-900 PVC, 150 PSI WATERLINE SHALL BE CENTERED AT SANITARY CROSSING.
20. ALL STUB OUTS AND THEIR FITTINGS FOR FUTURE WATER MAIN AND LATERAL EXTENSIONS SHALL BE MECHANICALLY RESTRAINED WITH MEGA-LUG, UNI-FLANGE OR APPROVED EQUAL RESTRAINT DEVICES.
21. ALL WATER LINES ON PRIVATE PROPERTY AND/OR UNDER PAVEMENT SHALL BE RESTRAINED.

SANITARY SEWER CONSTRUCTION NOTES:

1. ALL SANITARY SEWER BEDDING SHALL BE AS PER THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AND THE CITY OF LEAGUE CITY STANDARD DETAILS AS CURRENTLY AMENDED UNLESS OTHERWISE INDICATED.
2. ALLOWABLE SANITARY SEWER PIPE MATERIAL FOR GRAVITY LINES SHALL BE POLYVINYL CHLORIDE (PVC) OR AS APPROVED BY CITY ENGINEER: 6-INCH TO 15-INCH: ASTM D-3034, SDR 26 (ALSO SEE SECTION 507.2 OF THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS MANUAL.)
8. ALL AUGURED CONSTRUCTION UNDER PAVEMENT SHALL BE CASED PER DETAIL AND ITEM 407.13.2 OF THE GENERAL DESIGN AND CONSTRUCTION STANDARDS MANUAL.
3. IN WET OR DRY STABLE TRENCH CONSTRUCTION FOR SANITARY SEWER, BEDDING AND BACKFILL SHALL BE PER CITY OF LEAGUE CITY STANDARD DETAILS AS CURRENTLY AMENDED.
4. DEFLECTION TESTING OF THE GRAVITY SEWER LINE SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5.0%. THE DEFLECTION TEST SHALL BE CONDUCTED USING A RIGID MANDREL HAVING AN OUTSIDE DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. I. & E. TEST FOR SANITARY SEWER SYSTEM WILL BE IN ACCORDANCE WITH CITY OF LEAGUE CITY REQUIREMENTS, FOR LOW PRESSURE AIR TEST AS PER TAC 317.2
5. CHEMICALLY WELDED SANITARY SEWER JOINTS ARE NOT ACCEPTABLE. USE RUBBER GASKETED BELL & SPIGOT SANITARY SEWER JOINTS.
6. ALL SANITARY SEWER ADAPTERS REQUIRED TO CONNECT TO EXISTING SANITARY SEWERS ARE INCIDENTAL TO THE BID ITEM FOR SANITARY SEWER PIPE.
7. MANHOLES (AS DESIGNATED ON PLAN & PROFILE) SHALL INCLUDE INFLOW PROTECTORS WHICH SHALL BE INCIDENTAL TO CONSTRUCTION OF MANHOLES. (NO SEPARATE PAY)
8. UNLESS APPROVED NO CAST IN PLACE MANHOLES SHALL BE USED. ALL SANITARY MANHOLES SHALL BE PRECAST REINFORCED CONCRETE 4' TO 8' DIAMETER MOOR-TEX MANHOLE OR EQUAL IN ACCORDANCE WITH CITY OF LEAGUE CITY STANDARDS.
9. UNIT PRICE FOR AUGER SECTION AND AUGER PIT INCLUDE DRY OR WET CONDITION. (NO EXTRA PAY)
10. THE TOTAL FOOTAGE OF LINE 36" AND SMALLER SHALL BE INSPECTED WITH TELEVISION EQUIPMENT IN ACCORDANCE WITH THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AS CURRENTLY AMENDED.
11. CONTRACTOR SHALL TEST ALL SANITARY SEWER SYSTEMS IN ACCORDANCE WITH THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AS CURRENTLY AMENDED.
12. CONTRACTOR SHALL AIR TEST ALL GRAVITY SANITARY SEWER LINES. FORCE MAIN LINES SHALL BE HYDROSTATICALLY TESTED AT 125 PSI.
13. WATER & SANITARY SEWER THAT ARE PARALLEL MUST BE INSTALLED IN SEPARATE TRENCHES WITH NO LESS THAN 9' (NINE FEET) MIN. HORIZONTAL CLEARANCE. SEE LEAGUE CITY DETAIL SANITARY SEWER INSTALLATION CROSSING OR PARALLEL TO WATER LINE.

LEGEND:

- PROPOSED WATER
----- PROPOSED WASTEWATER
----- UTILITY CASING
[] PROPOSED ROADWAY
[] PROPOSED SIDEWALK
[] PROPOSED STORM DRAIN

- | | | | |
|-----|------------------------------|---|---------------------------------------|
| ⊙ | EXISTING STORM DRAIN MANHOLE | ⊠ | EXISTING COMMUNICATIONS BOX |
| [] | PROPOSED STORM DRAIN MANHOLE | ⊕ | EXISTING FIRE HYDRANT |
| — | PROPOSED STORM DRAIN INLET | ⊗ | EXISTING WATER VALVE |
| ● | EXISTING POWER POLE | ⊗ | EXISTING WATER METER |
| ○ | PROPOSED POWER POLE | ⊗ | EXISTING WASTEWATER MANHOLE |
| ☆ | LIGHT POLE | ⊗ | EXISTING WASTEWATER CLEAN OUT |
| ⊠ | ELECTRIC BOX | ⊗ | EXISTING GAS MARKER |
| ● | EXISTING TELEPHONE/COMM POLE | ⊗ | PROPOSED WATER VALVE |
| ⊠ | TELEPHONE BOX | ⊕ | PROPOSED FIRE HYDRANT |
| ⊗ | TELEPHONE MANHOLE | ⊕ | PROPOSED COMBINATION AIR/VACUUM VALVE |
| ○ | PROPOSED TELEPHONE/COMM POLE | ○ | PROPOSED SANITARY SEWER MANHOLE |

ABBREVIATIONS

- | | |
|------------|------------------------|
| CL | CENTER LINE |
| EXIST | EXISTING |
| GB/G.B. | GRADE BREAK |
| GV | GATE VALVE |
| GV&B | GATE VALVE AND BOX |
| IE: /I.E. | INVERT ELEVATION |
| LT | LEFT |
| MIN/MIN. | MINIMUM |
| MH | MANHOLE |
| OFF | OFF SET |
| PROP | PROPOSED |
| RED | REDUCER |
| RT | RIGHT |
| STA: /STA. | STATION |
| TYP/TYP. | TYPICAL |
| WL | WATER LINE / WATERLINE |



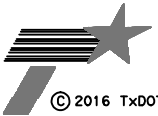
Kerry Lackey

September 21, 2016



Texas P.E. Firm
Registration No. F-754

4828 LOOP CENTRAL DRIVE,
SUITE 800
HOUSTON, TEXAS 77081
(713) 622-9264
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TEXAS DEPARTMENT OF TRANSPORTATION

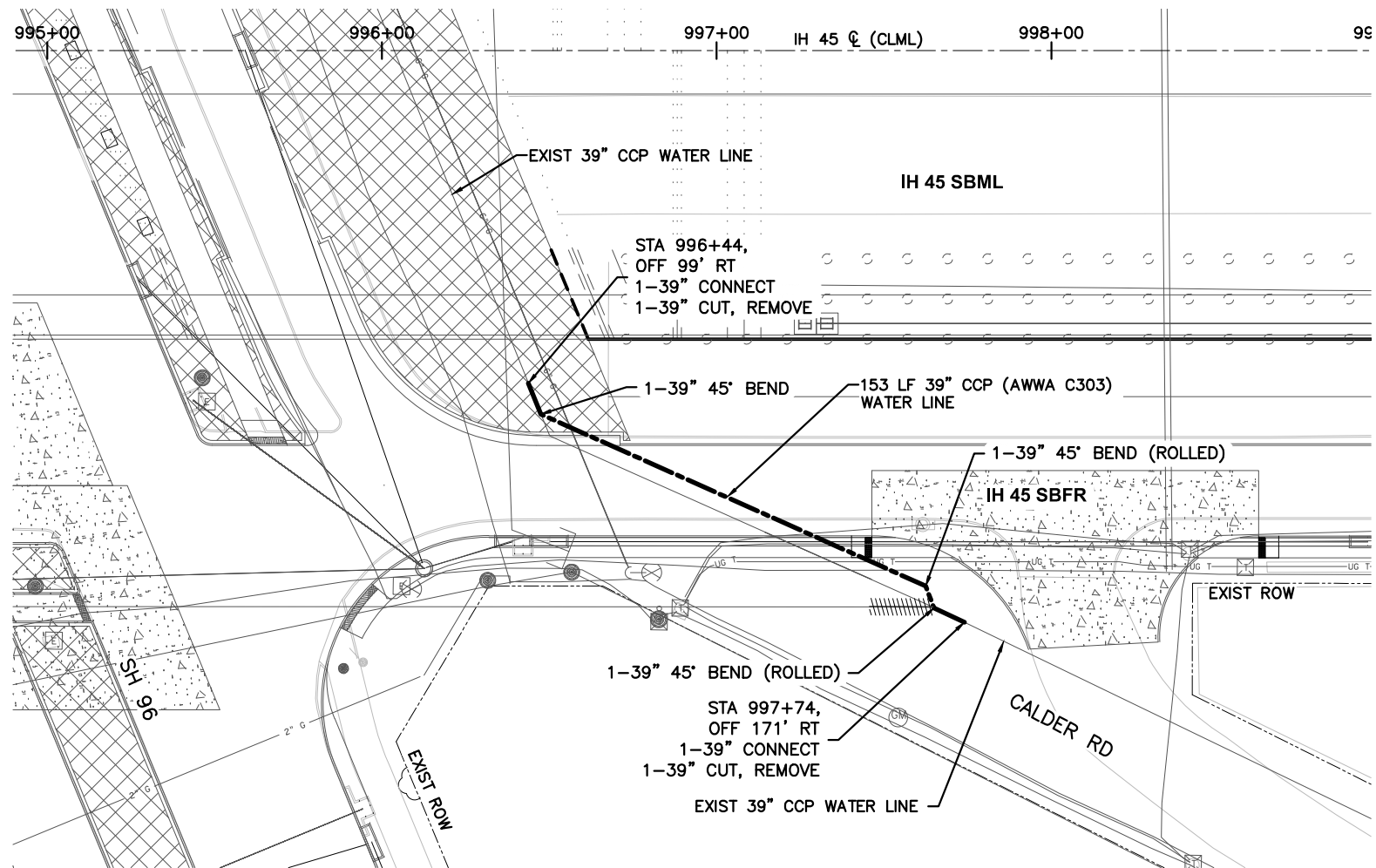
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LEAGUE CITY
TEXAS

IH 45
UTILITY ADJUSTMENTS
GENERAL NOTES

SCALE: NONE SHEET 3 OF 27

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			3002
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45



NOTES:

1. COORDINATE WITH LEAGUE CITY FOR WORK ON THIS SHEET.



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September 21, 2016



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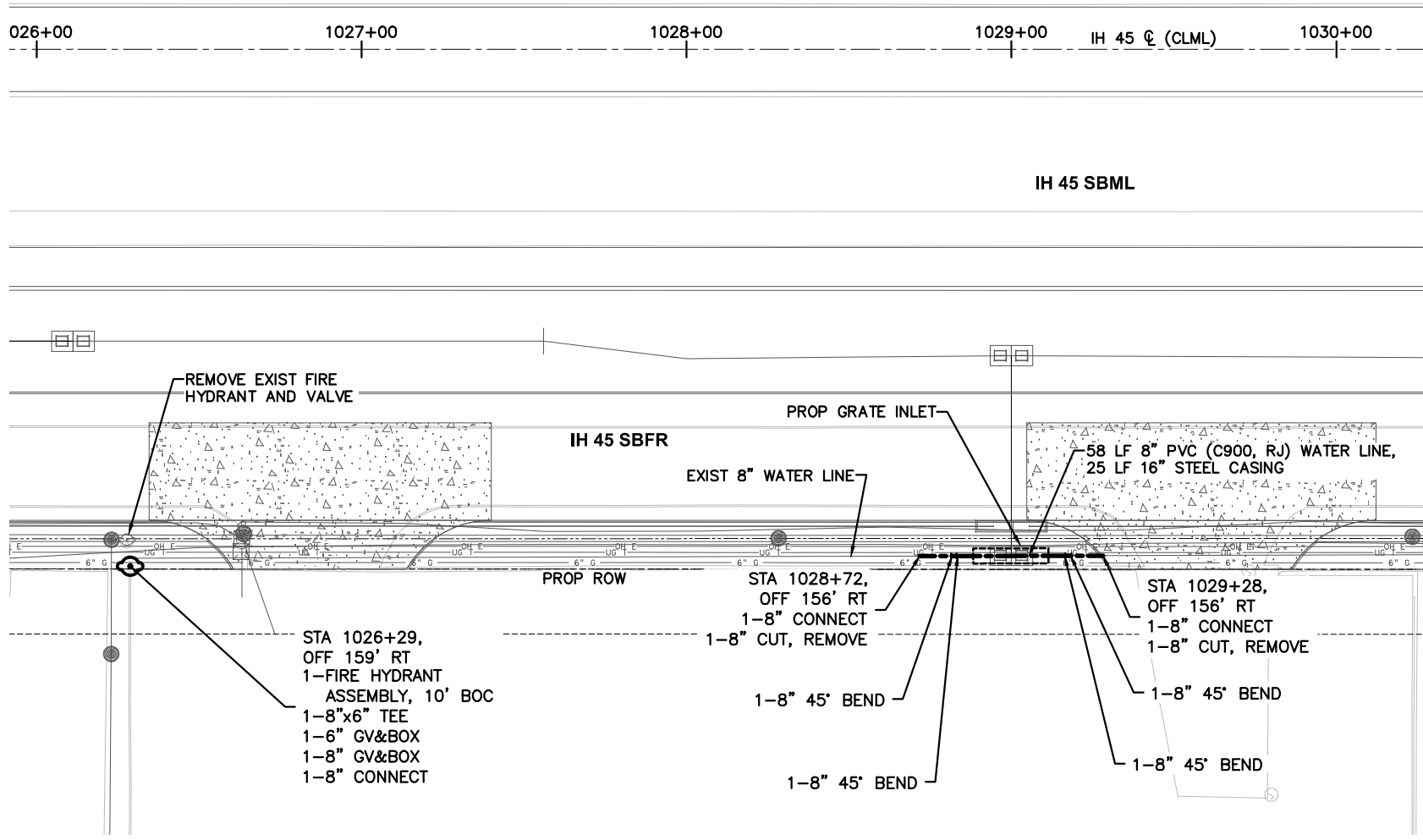
IH 45
UTILITY ADJUSTMENTS

SCALE:
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET 4 OF 24

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6			3003
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

DATE: \$DATE\$
FILE: \$FILE\$



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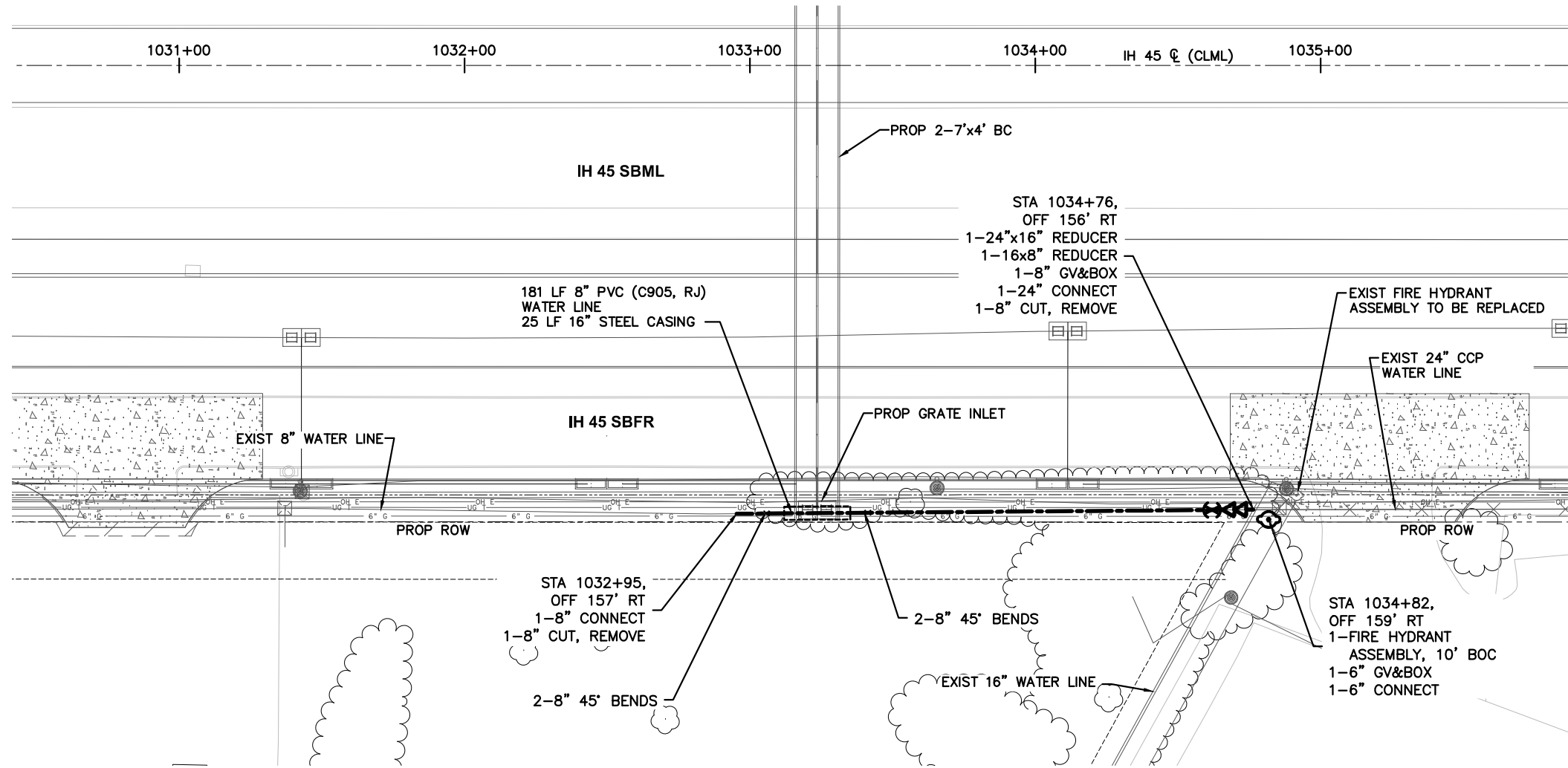
LEAGUE CITY TEXAS
IH 45
UTILITY ADJUSTMENTS

SCALE:
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET 5 OF 24

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STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
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DATE: \$DATE\$
FILE: \$FILE\$



NOTES:
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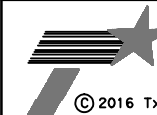
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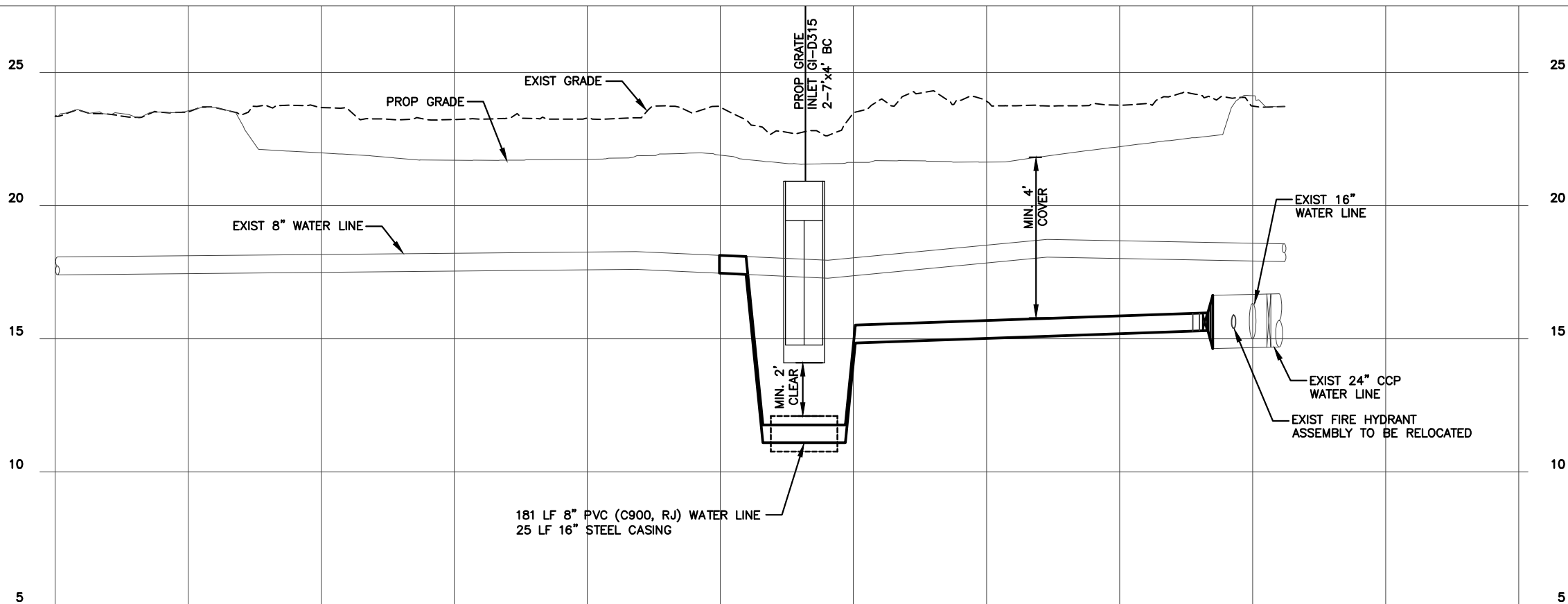
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UTILITY ADJUSTMENTS

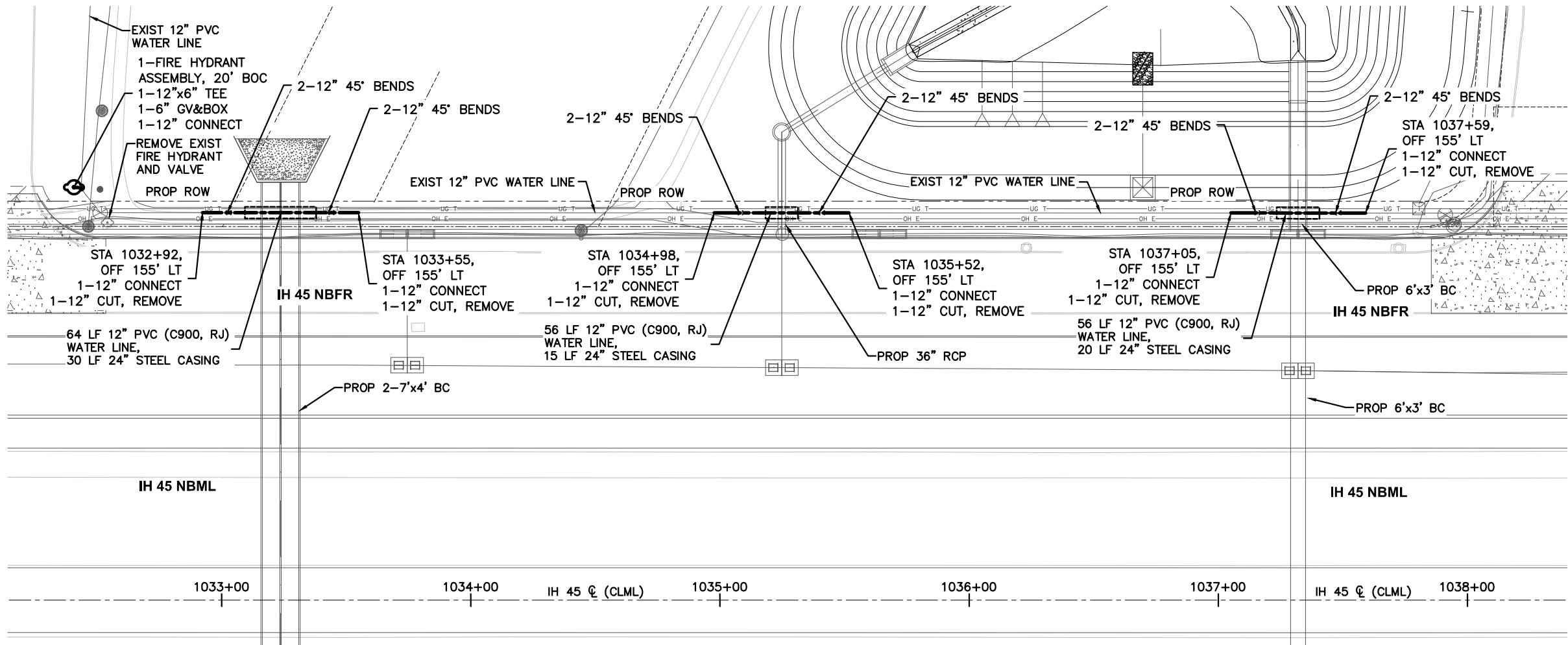
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SHEET 6 OF 24

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STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

DATE: \$DATE\$
FILE: \$FILE\$





NOTES:
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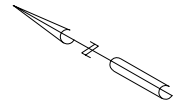
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VERT : 1" = 5'

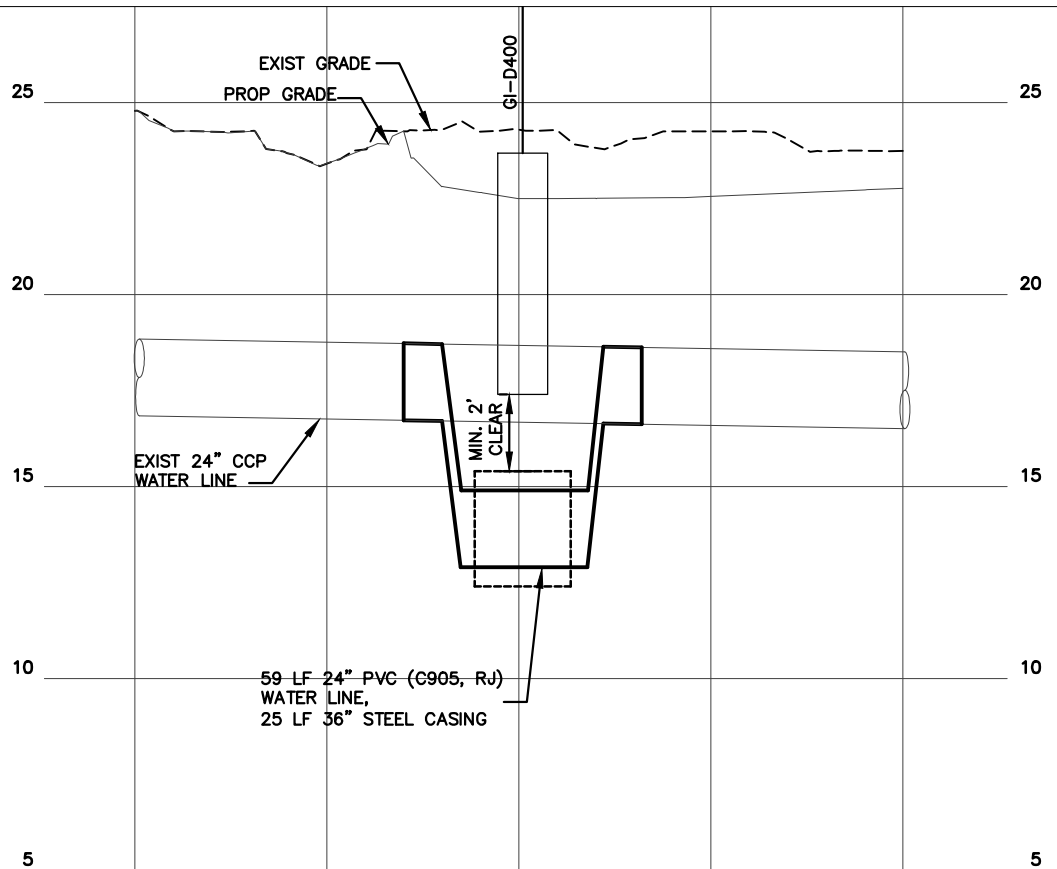
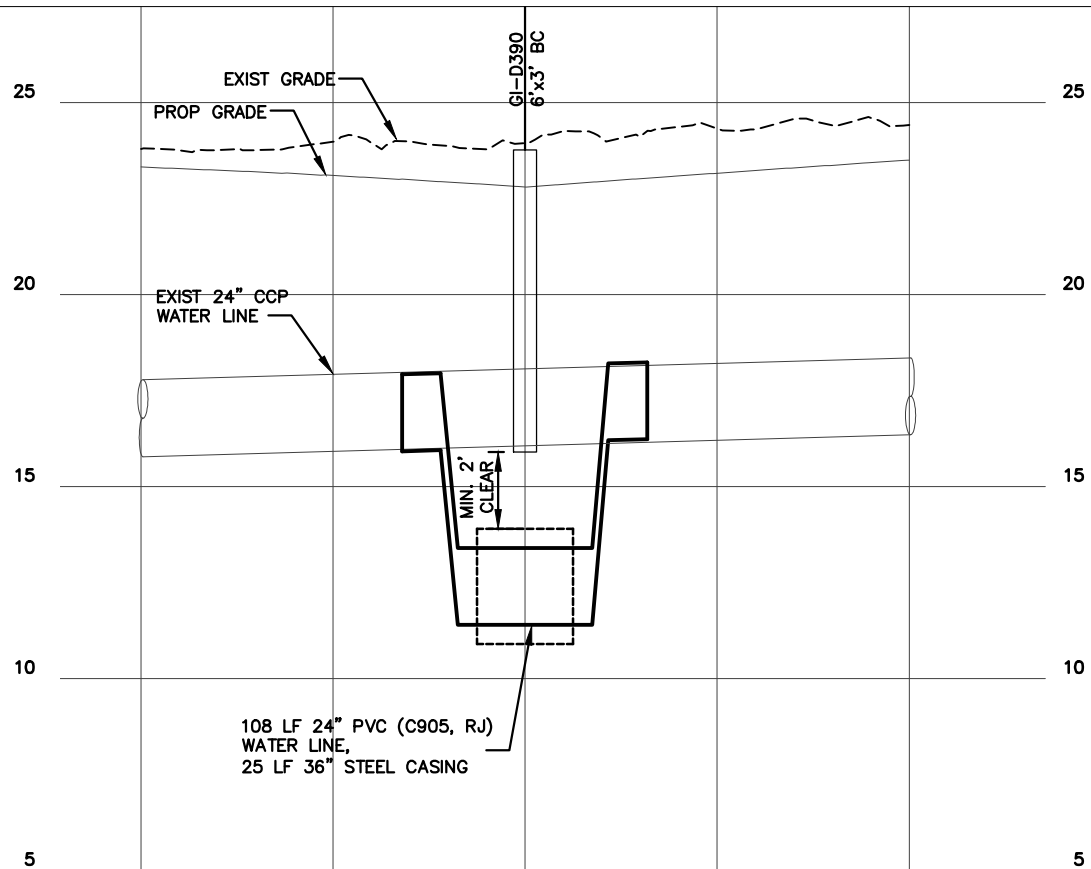
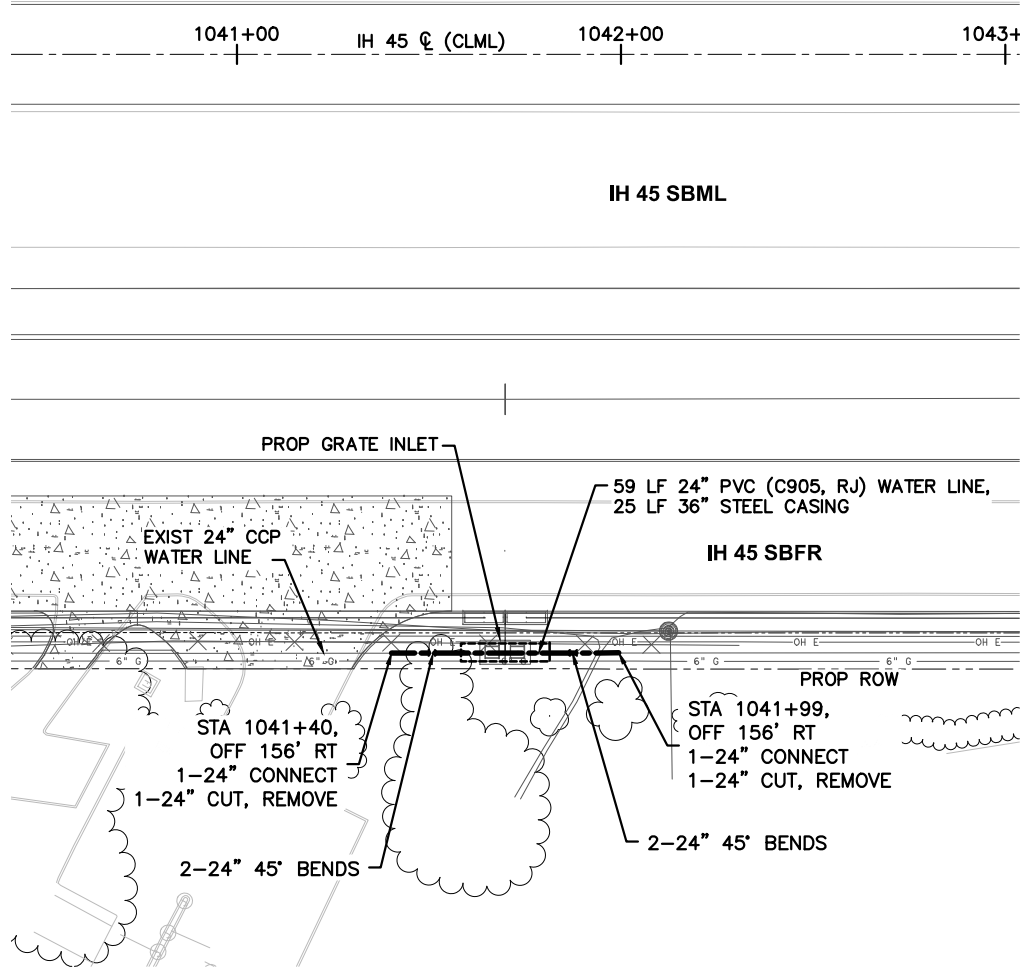
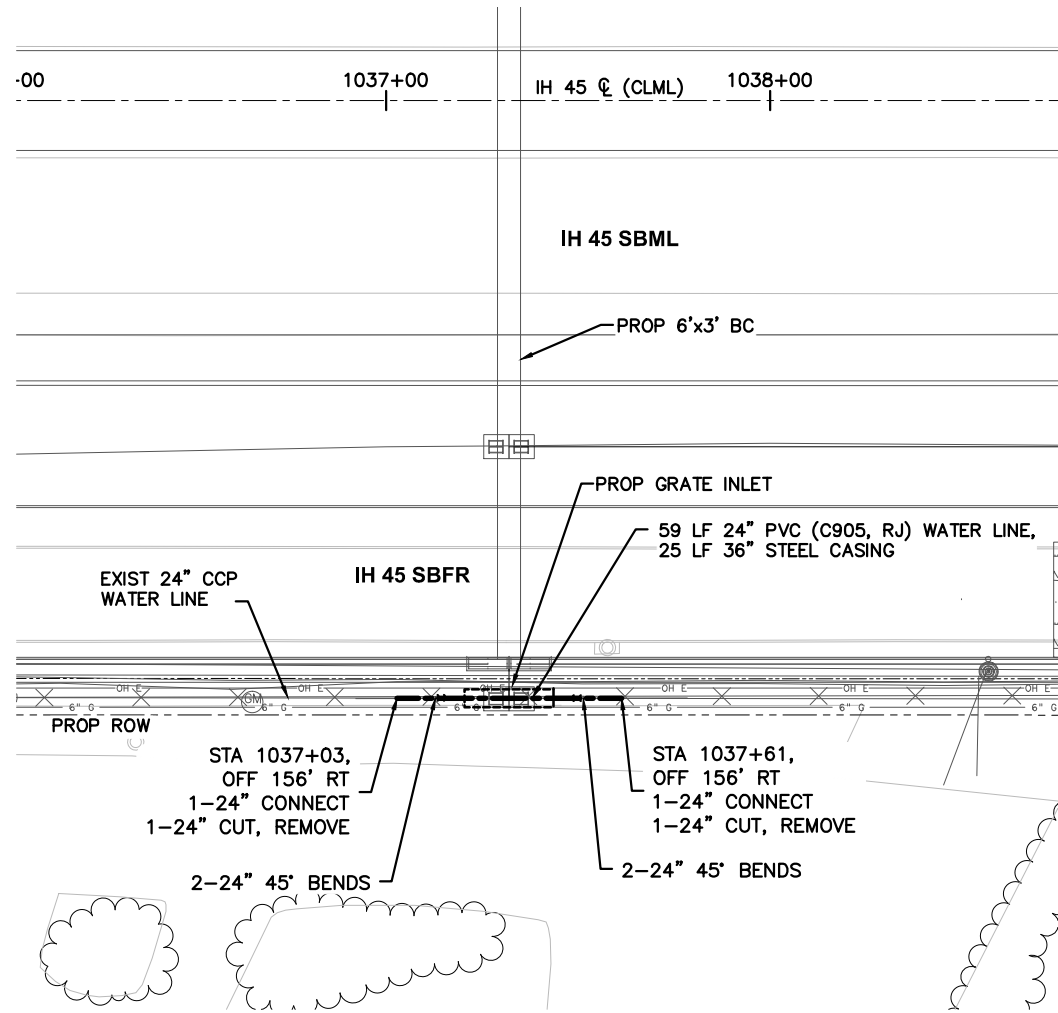
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TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

DATE: \$DATE\$
FILE: \$FILE\$



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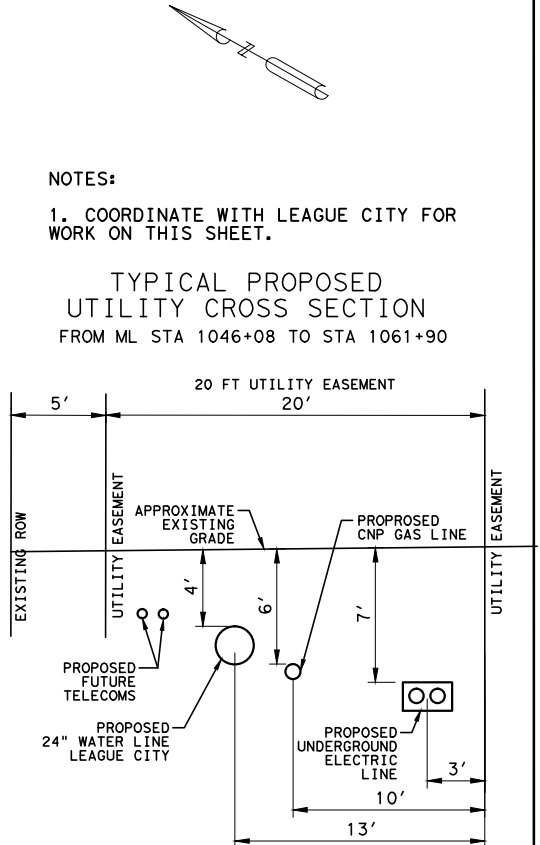
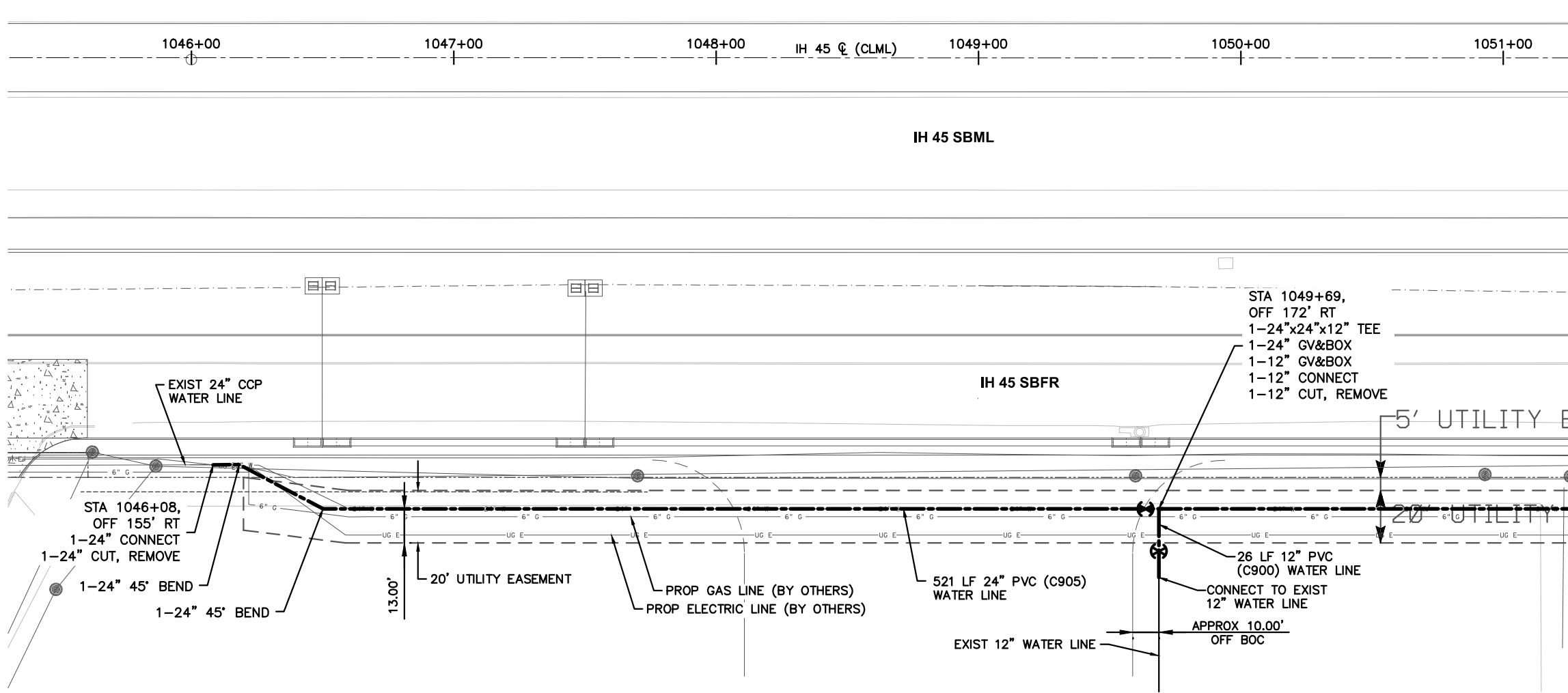
IH 45
UTILITY ADJUSTMENTS

SCALE:
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET 8 OF 24

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6			3007
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

DATE: \$DATE\$
FILE: \$FILE\$



STATE OF TEXAS
KERRY E. LACKEY
97366
LICENSED PROFESSIONAL ENGINEER
September 21, 2016

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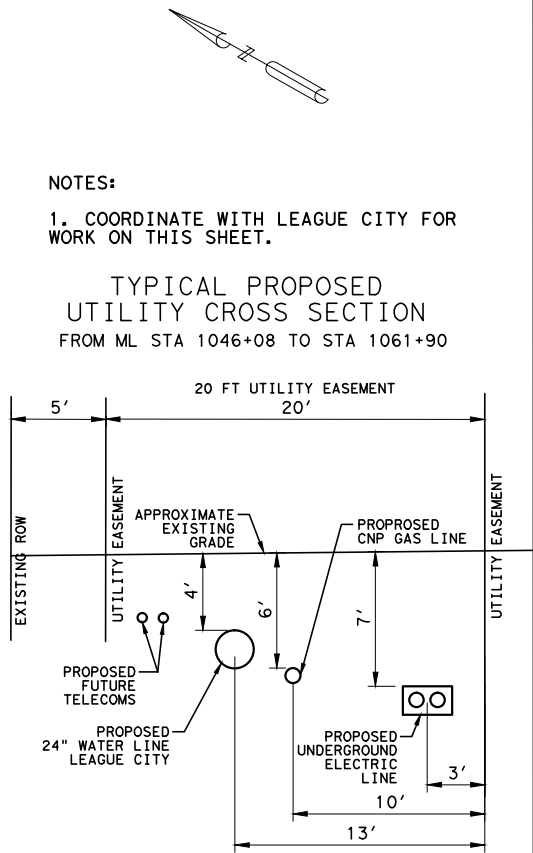
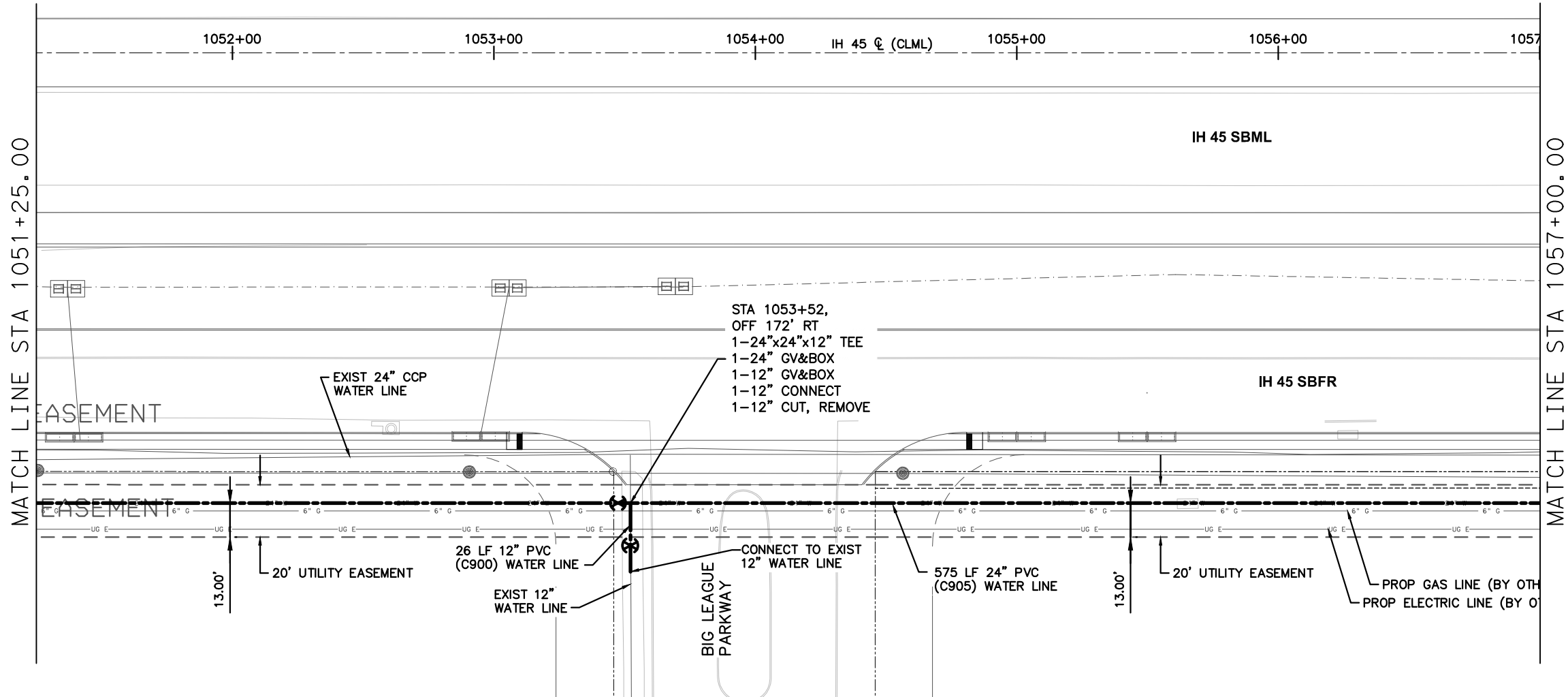
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UTILITY ADJUSTMENTS


SCALE:
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET 9 OF 24


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STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

DATE: \$DATE\$
FILE: \$FILE\$






Kerry Lackey
September 21, 2016



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UTILITY ADJUSTMENTS

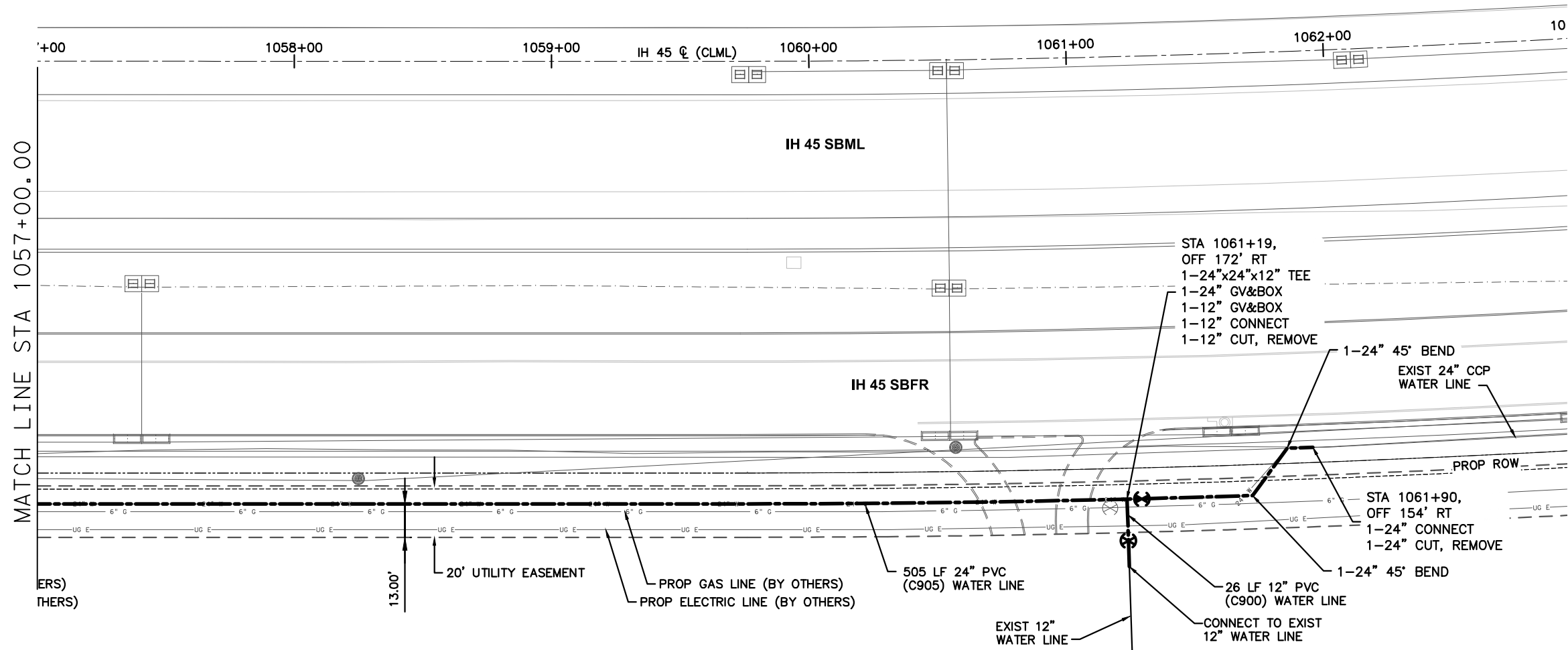
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SHEET 10 OF 24

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STATE	DIST.	COUNTY	
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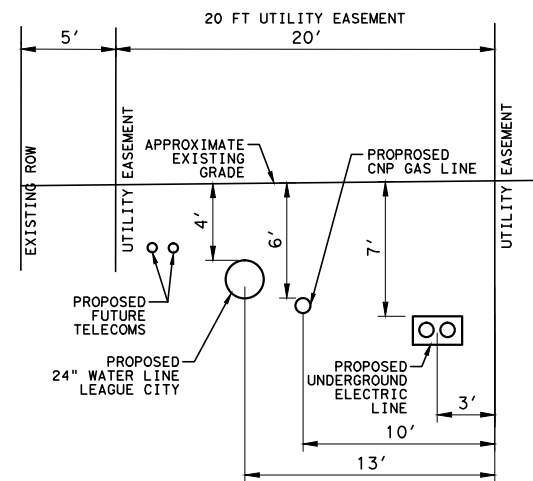
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NOTES:

1. COORDINATE WITH LEAGUE CITY FOR WORK ON THIS SHEET.

TYPICAL PROPOSED
UTILITY CROSS SECTION
FROM ML STA 1046+08 TO STA 1061+90



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September 21, 2016



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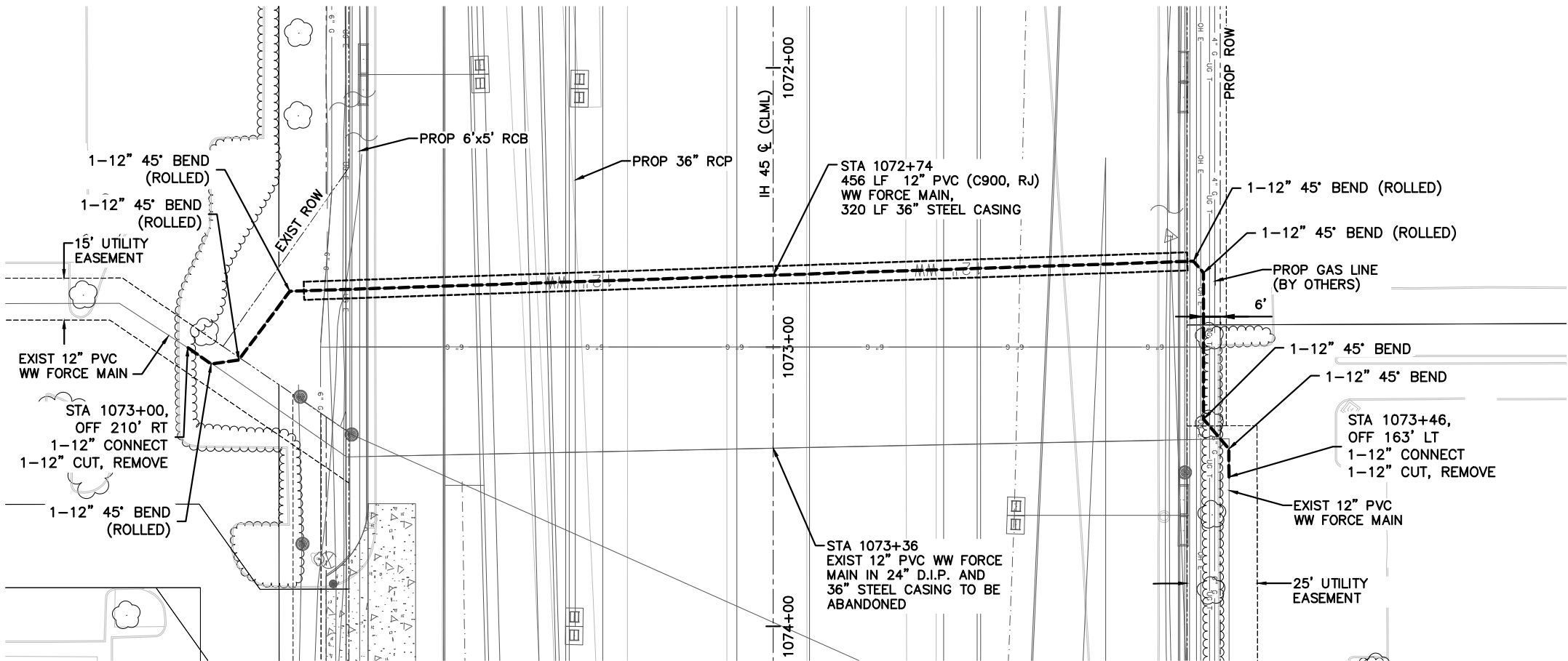
LEAGUE CITY
TEXAS

IH 45
UTILITY ADJUSTMENTS

SCALE:
HORZ : 1" = 50'
VERT : 1" = 5'

SHEET 11 OF 24

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6			3010
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45



NOTES:
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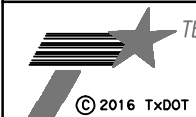


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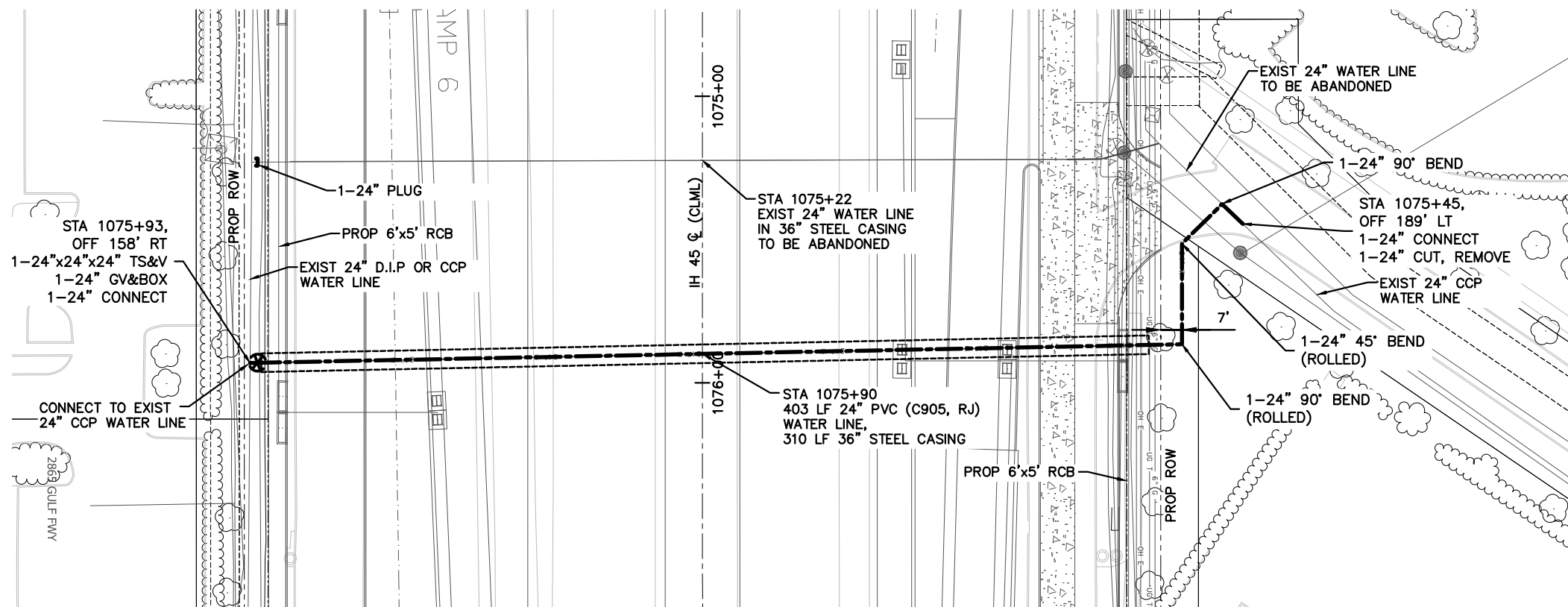
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UTILITY ADJUSTMENTS

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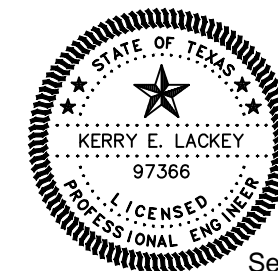
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STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

DATE: \$DATE\$
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NOTES:
1. COORDINATE WITH LEAGUE CITY FOR WORK ON THIS SHEET.

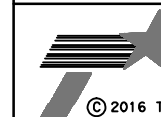


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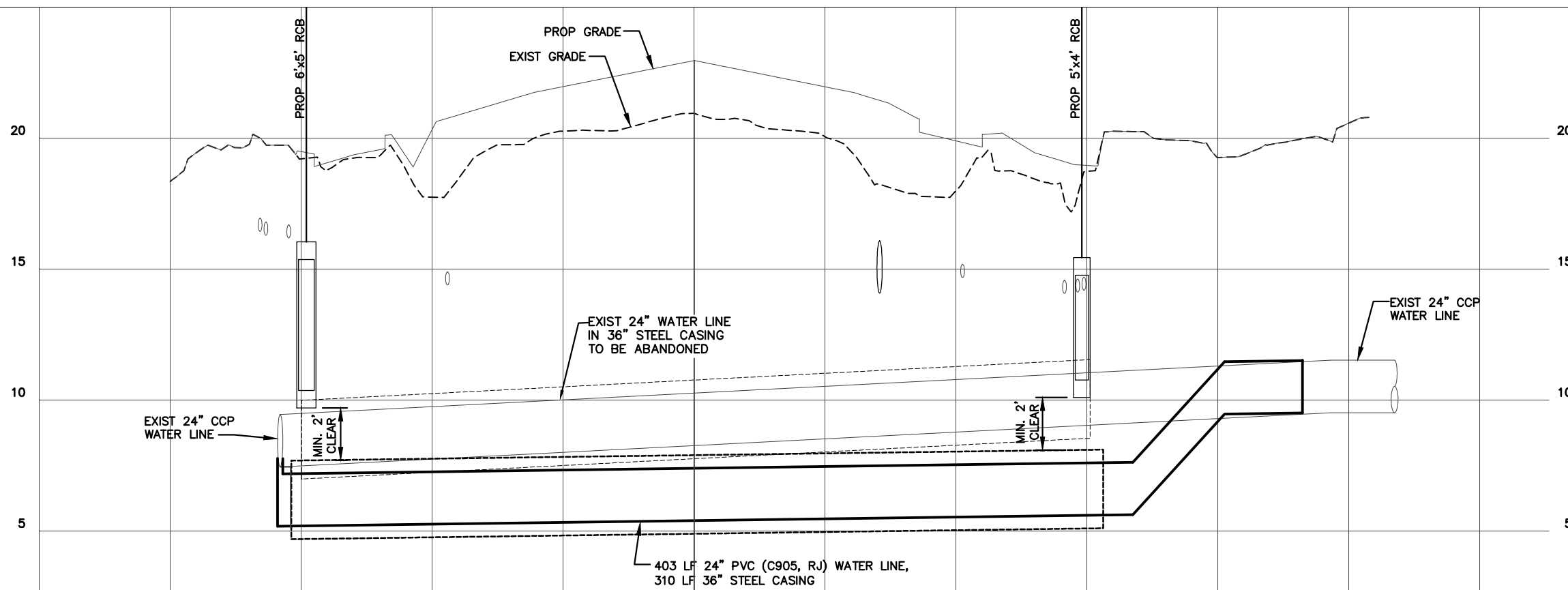
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HORZ : 1" = 50'
VERT : 1" = 5'

SHEET 13 OF 24

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6			3012
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

DATE: \$DATE\$
FILE: \$FILE\$



DATE: \$DATE\$
FILE: \$FILE\$

WATER DETAILS
SHEET 1 OF 7



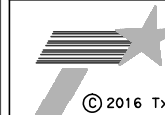
Kerry
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September 21, 2016



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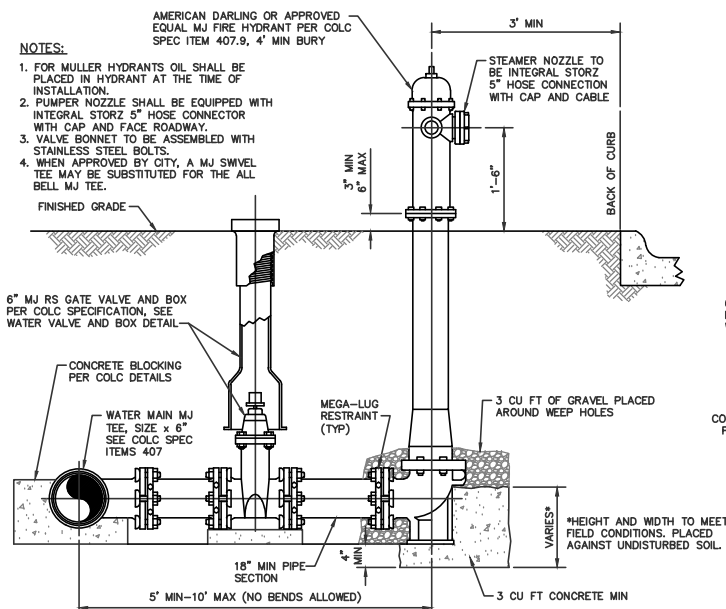
STANDARD DETAILS

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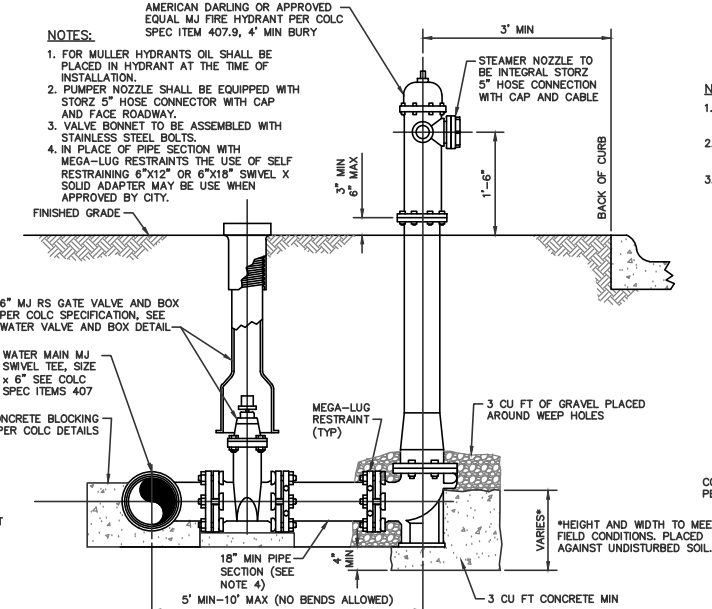
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Sheet	0 of 00

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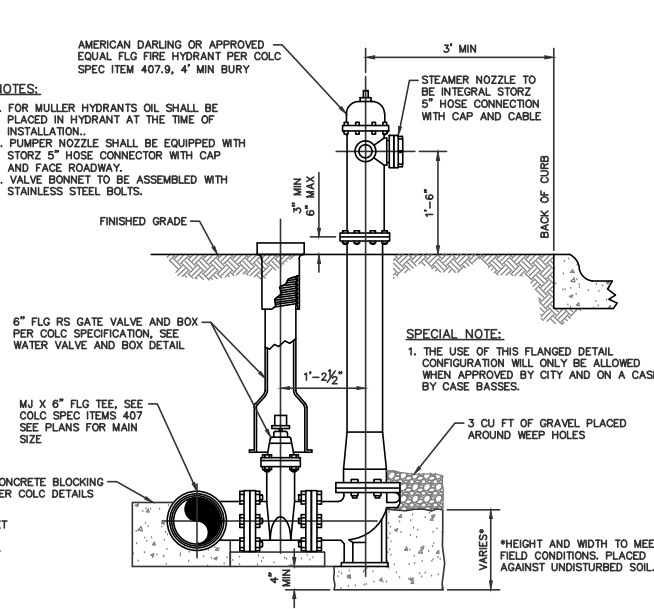
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CONT.	SECT.	JOB
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		IH 45



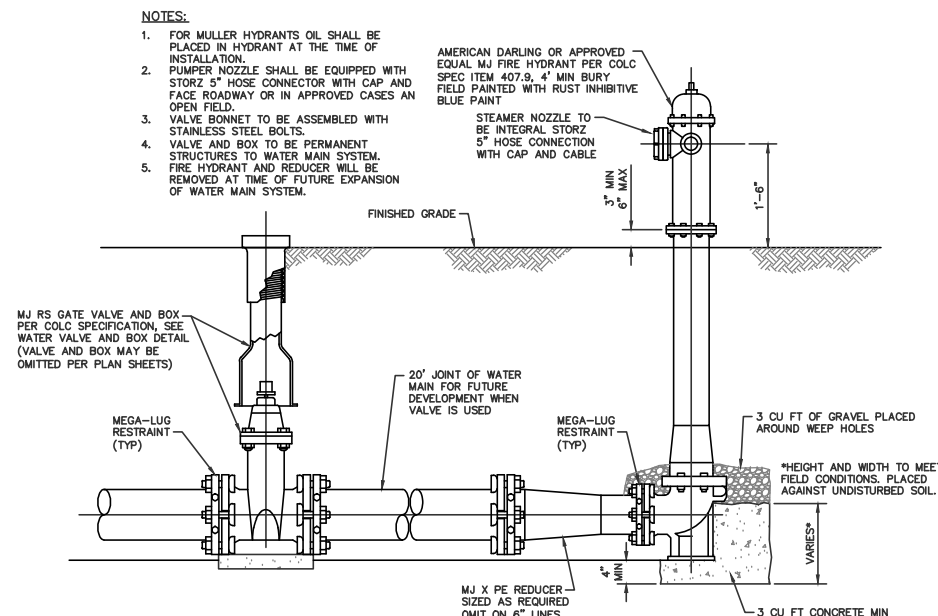
FIRE HYDRANT AND VALVE DETAIL
NTS 4-2014



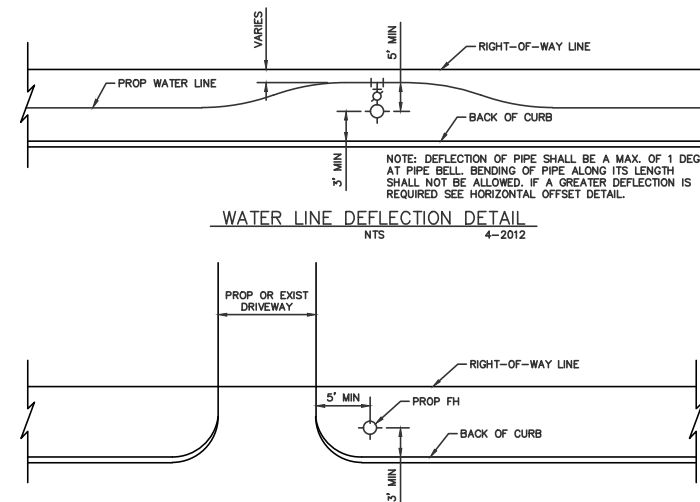
SPECIAL FIRE HYDRANT DETAIL #1
SWIVEL TEE FIRE HYDRANT AND VALVE DETAIL
NTS 4-2014



SPECIAL FIRE HYDRANT DETAIL #2
FLANGED FIRE HYDRANT AND VALVE DETAIL
NTS 4-2014



END OF LINE FIRE HYDRANT AND VALVE FOR FUTURE LINE EXTENSION
NTS 4-2014



WATER LINE DEFLECTION DETAIL
NTS 4-2012

FIRE HYDRANT TO PAVEMENT CLEARANCE DETAIL
NTS 4-2012

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING ACT". NO WARRANTY OF ANY KIND IS MADE BY COLC FOR ANY PURPOSE WHATSOEVER. COLC ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

DATE: \$DATE\$
FILE: \$FILE\$

WATER DETAILS
SHEET 2 OF 7



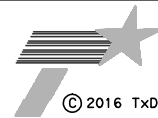
Kerry
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September 21, 2016



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STANDARD DETAILS

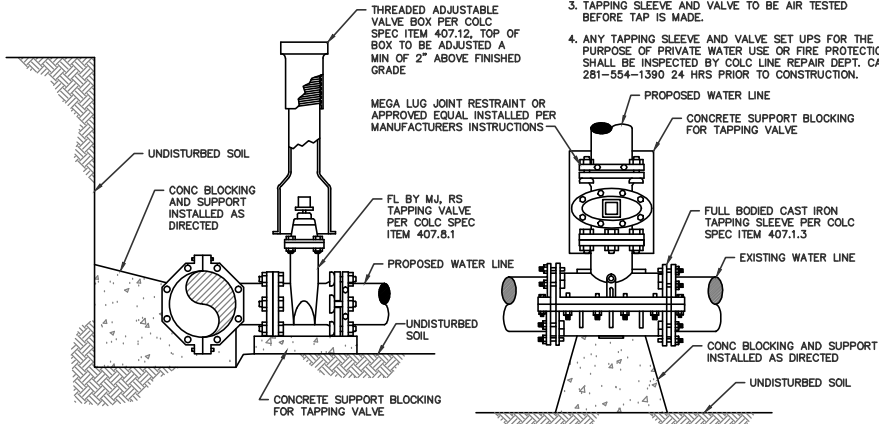
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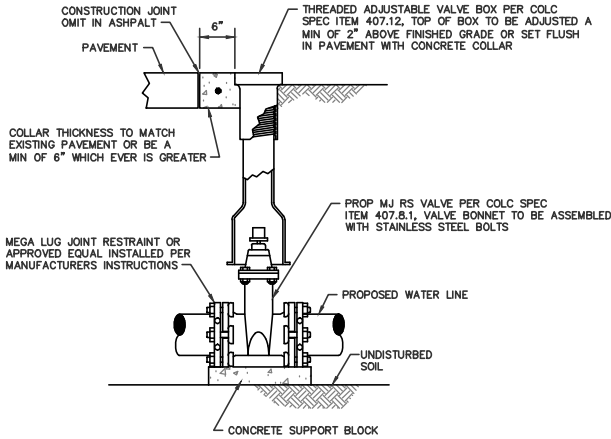
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STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

NOTES:

1. VALVE AND TAPPING SLEEVE TO BE INSTALLED PER COLC SPECIFICATION WITH POLY WRAP BEFORE ANY CONCRETE IS POURED.
2. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
3. TAPPING SLEEVE AND VALVE TO BE AIR TESTED BEFORE TAP IS MADE.
4. ANY TAPPING SLEEVE AND VALVE SET UPS FOR THE PURPOSE OF PRIVATE WATER USE OR FIRE PROTECTION SHALL BE INSPECTED BY COLC LINE REPAIR DEPT. CALL 281-554-1390 24 HRS PRIOR TO CONSTRUCTION.



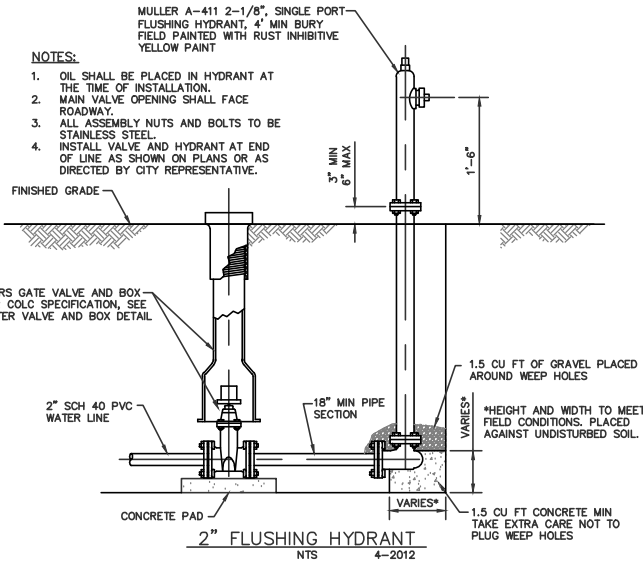
TAPPING SLEEVE AND VALVE DETAIL
NTS 4-2012



WATER VALVE AND BOX DETAIL
NTS 4-2012

NOTES:

1. OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION.
2. MAIN VALVE OPENING SHALL FACE ROADWAY.
3. ALL ASSEMBLY NUTS AND BOLTS TO BE STAINLESS STEEL.
4. INSTALL VALVE AND HYDRANT AT END OF LINE AS SHOWN ON PLANS OR AS DIRECTED BY CITY REPRESENTATIVE.

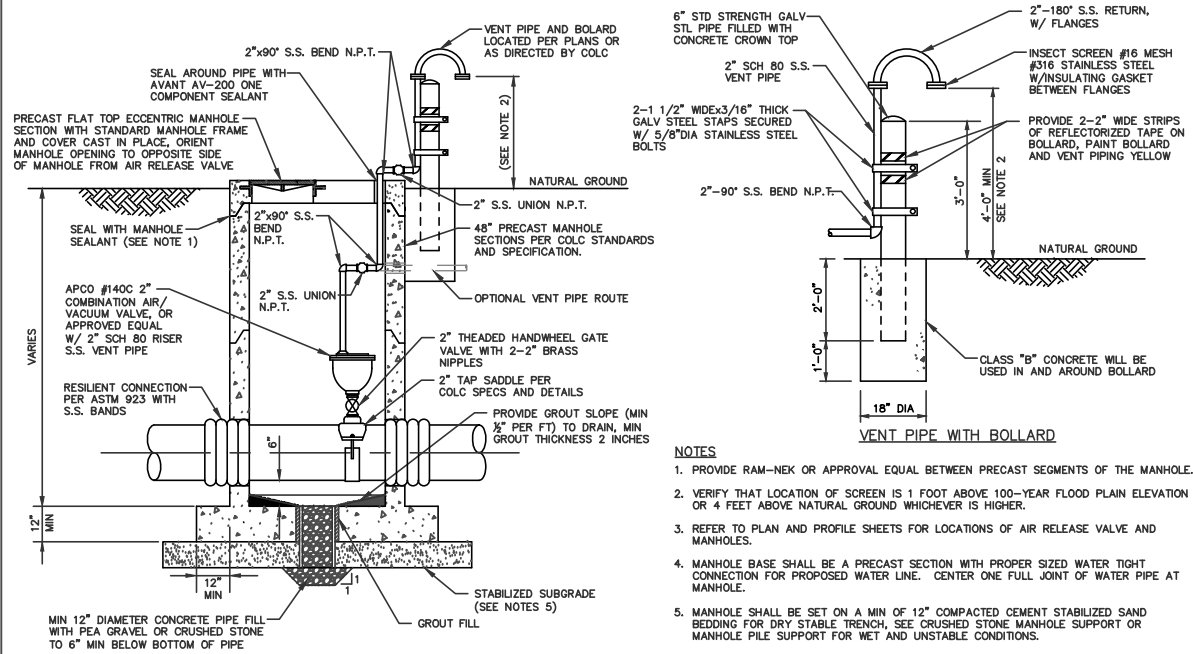


2" FLUSHING HYDRANT
NTS 4-2012
(USE OF 2" FLUSHING HYDRANT ONLY WHEN APPROVED BY CITY ENGINEERING DEPT.)

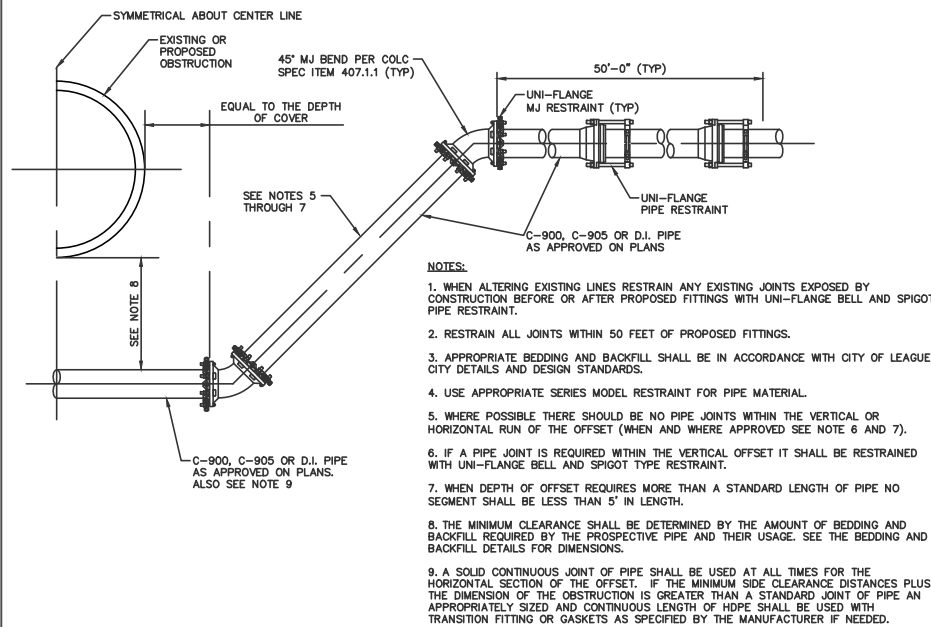
DISCLAIMER:

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DATE: \$DATE\$
FILE: \$FILEL\$

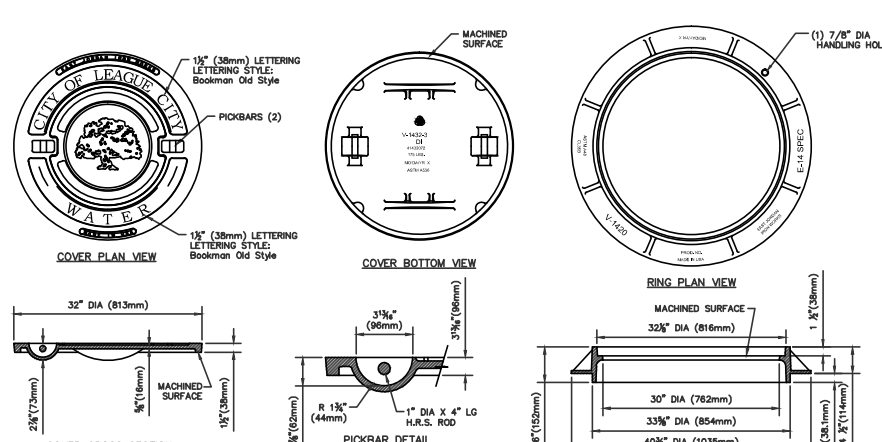


COMBINATION AIR RELEASE/AIR VACUUM VALVE ASSEMBLY DETAIL
NTS 4-2012



RESTRAINED MECHANICAL JOINT VERTICAL OFFSET
NTS 4-2012

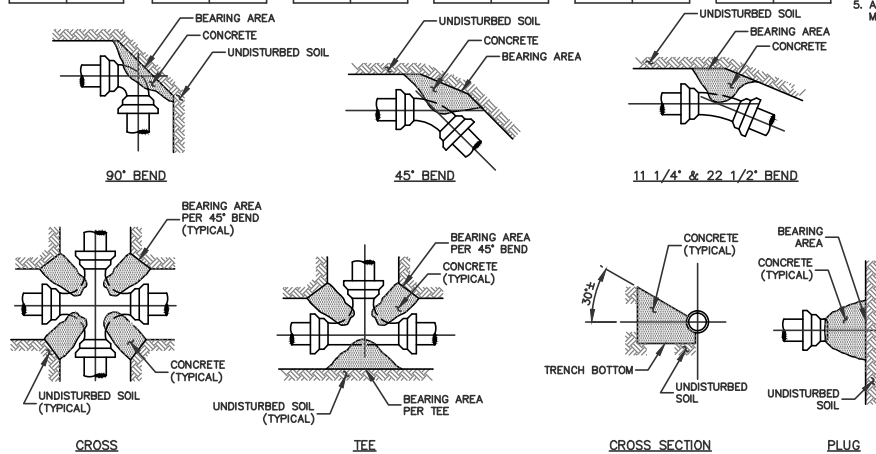
- NOTES:
1. PROVIDE RAM-NEK OR APPROVAL EQUAL BETWEEN PRECAST SEGMENTS OF THE MANHOLE.
 2. VERIFY THAT LOCATION OF SCREEN IS 1 FOOT ABOVE 100-YEAR FLOOD PLAIN ELEVATION OR 4 FEET ABOVE NATURAL GROUND WHICHEVER IS HIGHER.
 3. REFER TO PLAN AND PROFILE SHEETS FOR LOCATIONS OF AIR RELEASE VALVE AND MANHOLES.
 4. MANHOLE BASE SHALL BE A PRECAST SECTION WITH PROPER SIZED WATER TIGHT CONNECTION FOR PROPOSED WATER LINE. CENTER ONE FULL JOINT OF WATER PIPE AT MANHOLE.
 5. MANHOLE SHALL BE SET ON A MIN OF 12" COMPACTED CEMENT STABILIZED SAND BEDDING FOR DRY STABLE TRENCH, SEE CRUSHED STONE MANHOLE SUPPORT OR MANHOLE PILE SUPPORT FOR WET AND UNSTABLE CONDITIONS.



- NOTES:
1. Cover Material Spec: Ductile Iron ASTM A 536, Shall Meet All AASHTO M 306 Proof-load Specifications and Requirements.
 2. Ring Material Spec: Gray Iron ASTM A 48 CL35B, Shall Meet All AASHTO M 306 Proof-load Specifications and Requirements.
 3. For Use On Public Water Mains Only. For Private Mains Use Generic List That Meet Above Specifications.
 4. Refer To City of League City General Design and Construction Standards Book Item 507.7.3 Paragraphs 1 and 2 For More Information.

HEAVY DUTY
WATER 32"
MANHOLE RING AND COVER DETAIL
NTS 4-2012

90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
PIPE SIZE	BEARING AREA	PIPE SIZE	BEARING AREA	PIPE SIZE	BEARING AREA	PIPE SIZE	BEARING AREA	PIPE SIZE	BEARING AREA	PIPE SIZE	BEARING AREA
4"	2 S.F.	4"	1 S.F.	4"	1 S.F.	4"	1 S.F.	4"	2 S.F.	4"	2 S.F.
6"	4 S.F.	6"	3 S.F.	6"	3 S.F.	6"	3 S.F.	6"	3 S.F.	6"	3 S.F.
8"	8 S.F.	8"	4 S.F.	8"	4 S.F.	8"	4 S.F.	8"	5 S.F.	8"	5 S.F.
10"	12 S.F.	10"	6 S.F.	10"	6 S.F.	10"	6 S.F.	10"	8 S.F.	10"	8 S.F.
12"	16 S.F.	12"	9 S.F.	12"	9 S.F.	12"	9 S.F.	12"	12 S.F.	12"	12 S.F.
14"	22 S.F.	14"	12 S.F.	14"	12 S.F.	14"	12 S.F.	14"	15 S.F.	14"	15 S.F.
16"	29 S.F.	16"	16 S.F.	16"	16 S.F.	16"	16 S.F.	16"	20 S.F.	16"	20 S.F.
18"	36 S.F.	18"	20 S.F.	18"	20 S.F.	18"	20 S.F.	18"	25 S.F.	18"	25 S.F.
20"	44 S.F.	20"	24 S.F.	20"	24 S.F.	20"	24 S.F.	20"	32 S.F.	20"	32 S.F.
24"	64 S.F.	24"	36 S.F.	24"	36 S.F.	24"	36 S.F.	24"	45 S.F.	24"	45 S.F.
30"	100 S.F.	30"	54 S.F.	30"	54 S.F.	30"	54 S.F.	30"	71 S.F.	30"	71 S.F.
36"	163 S.F.	36"	72 S.F.	36"	72 S.F.	36"	72 S.F.	36"	115 S.F.	36"	115 S.F.



HORIZONTAL THRUST BLOCKING DETAILS
NTS 4-2012

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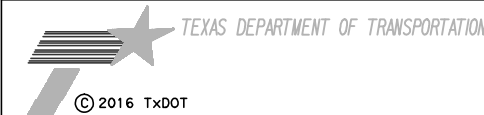
WATER DETAIL
SHEET 3 OF 7



Kerry
Lackey

September 21, 2016

HR 4828 LOOP CENTRAL DRIVE,
SUITE 800
HOUSTON, TEXAS 77081
(713) 622-9264
FAX (713) 622-9265
Texas P.E. Firm
Registration No. F-754



LEAGUE CITY
TEXAS

STANDARD DETAILS

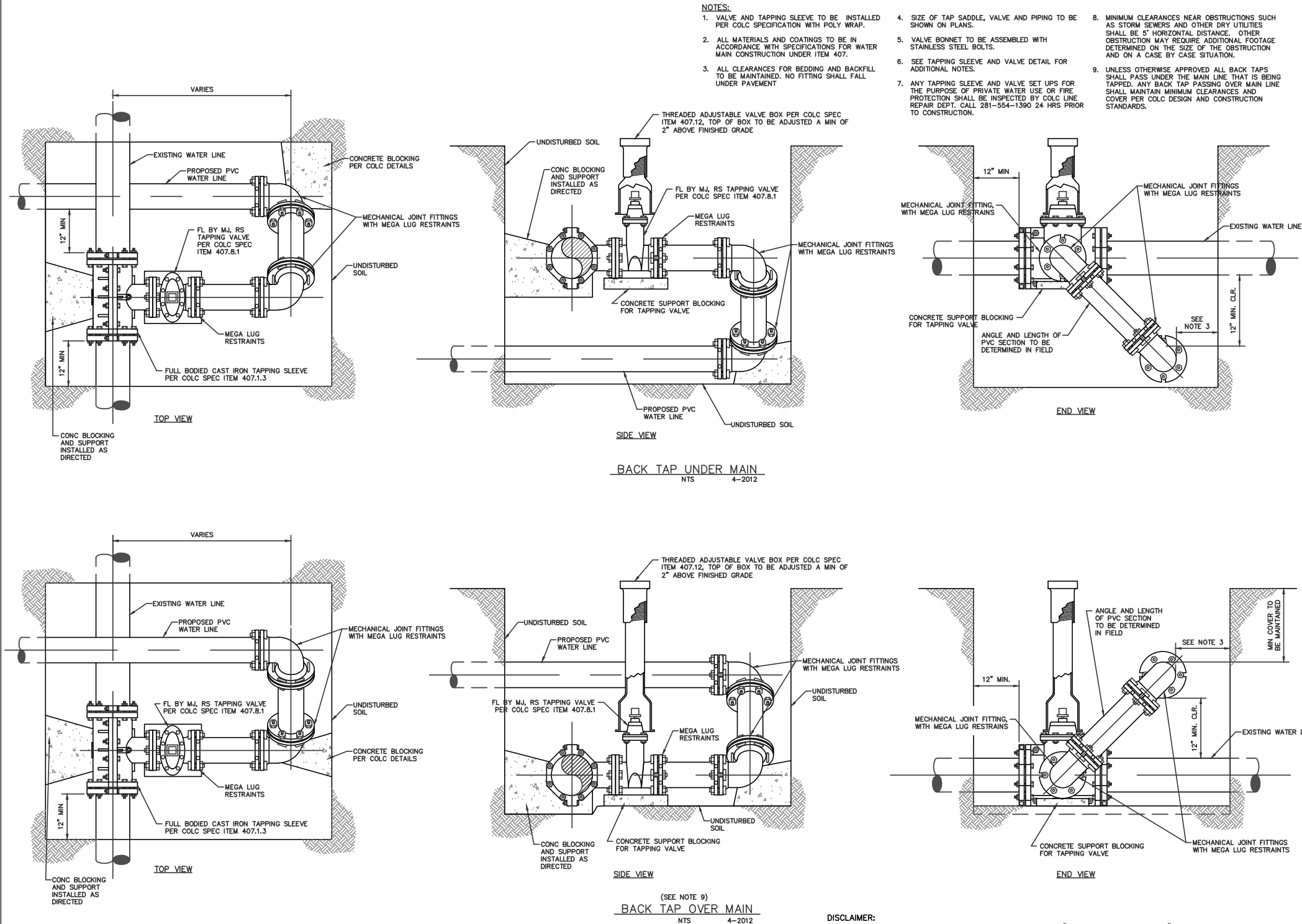
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Date	OCT 2011
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STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

DATE: \$DATE\$
FILE: \$FILE\$



WATER DETAILS
SHEET 4 OF 7



Kerry Lackey

September 21, 2016



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STANDARD DETAILS

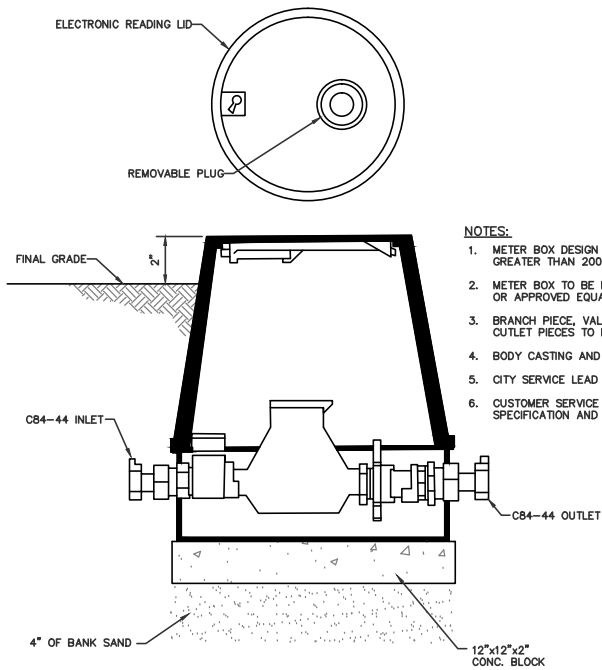
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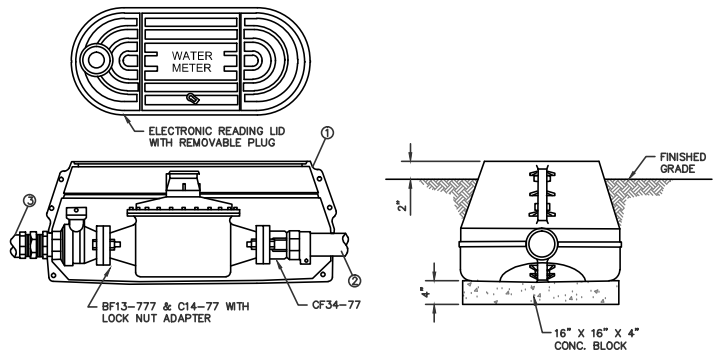
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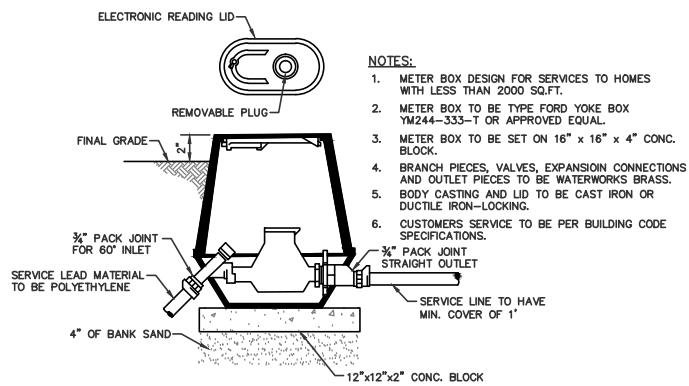
1" METER BOX DETAIL
NTS 4-2012

- NOTES:
1. METER BOX DESIGN FOR SERVICE TO HOMES WITH GREATER THAN 2000 SQ. FT.
 2. METER BOX TO BE FORD YL111-444-TP YOKE BOX OR APPROVED EQUAL.
 3. BRANCH PIECE, VALVES EXPANSION CONNECTIONS, AND OUTLET PIECES TO BE WATER WORKS BRASS.
 4. BODY CASTING AND LID TO BE CAST IRON LOCKING.
 5. CITY SERVICE LEAD MATERIAL TO BE POLYETHYLENE.
 6. CUSTOMER SERVICE LINE TO BE PER BUILDING CODE SPECIFICATION AND HAVE A MIN. ONE FOOT COVER.

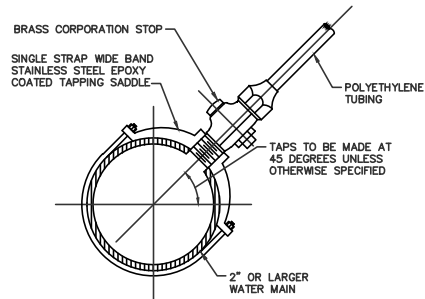


- NOTES:
1. FORD 2" METER BOX WITH CAST IRON BODY, ASTM A48-CLASS 25, EPOXY COATED, FUSION BONDED, #FPM8-7EP-TP OR APPROVED EQUAL.
 2. CUSTOMER SERVICE LINE MATERIAL TO BE PER CITY SPECIFICATIONS AND HAVE A MIN COVER OF 12 INCHES.
 3. CITY SERVICE LEAD MATERIAL TO BE POLYETHYLENE.

1-1/2" & 2" METER BOX DETAIL
NTS 4-2012



3/4" x 3/4" SINGLE SERVICE METER BOX DETAIL
NTS 4-2012



3/4" TO 2" SERVICE TAP DETAIL
NTS 4-2012

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WATER DETAILS
SHEET 5 OF 7



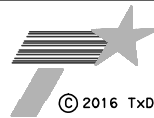
Kerry
Lackey

September 21, 2016



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Registration No. F-754

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STANDARD DETAILS

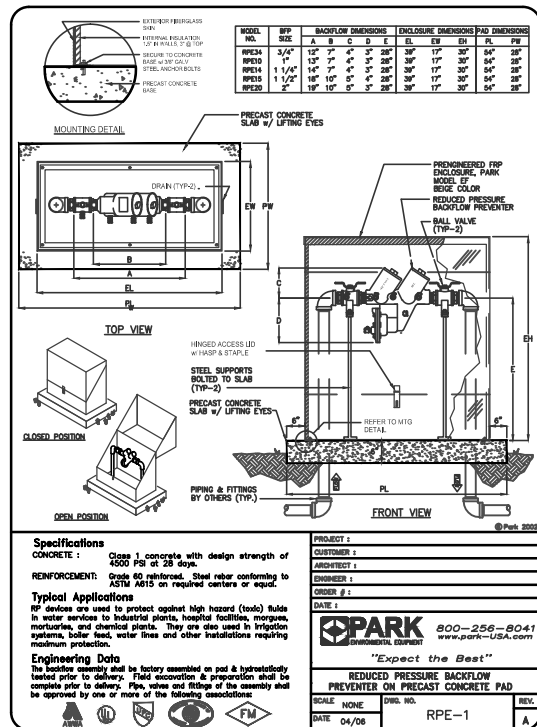
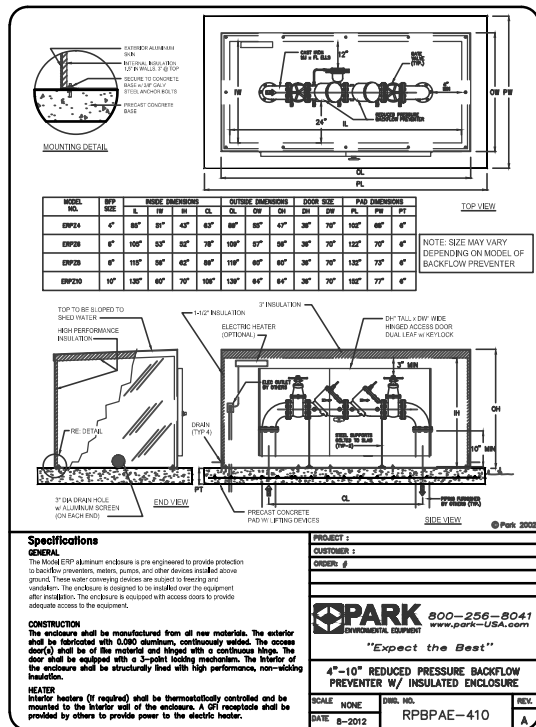
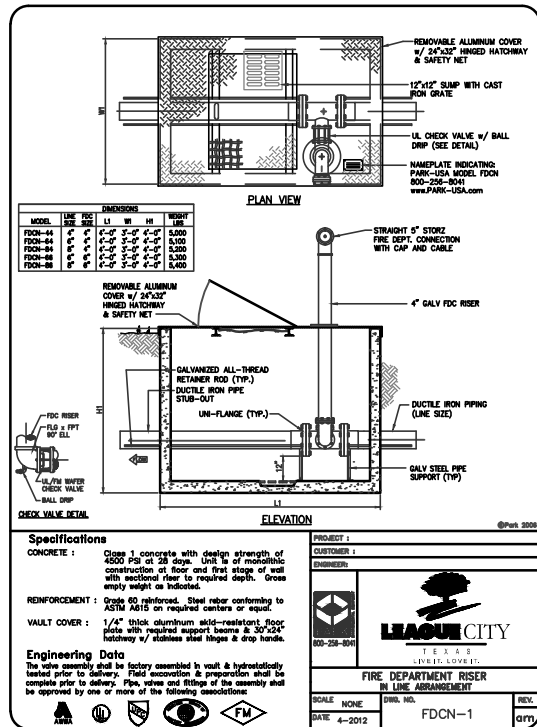
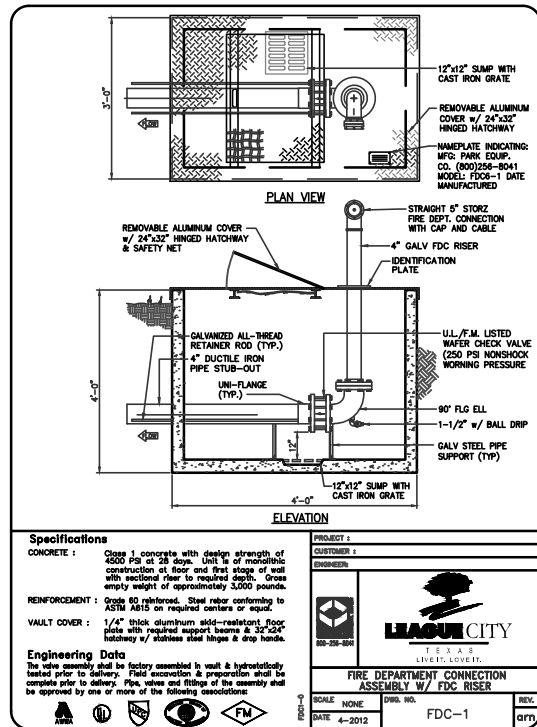
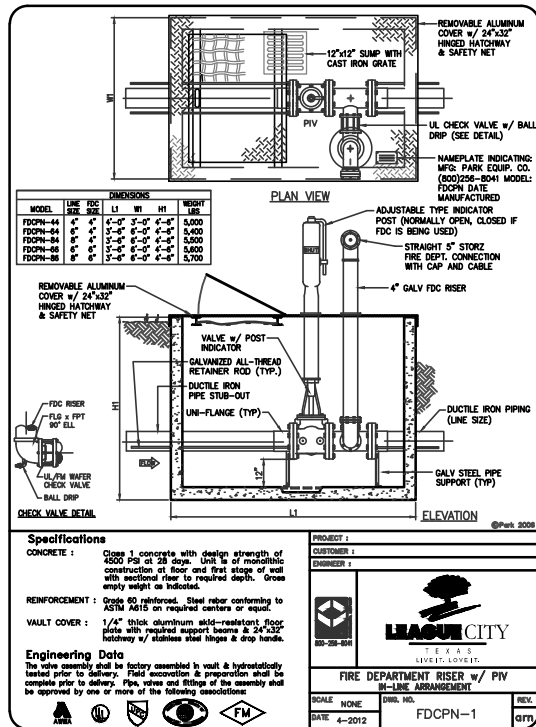
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6				3018
STATE	DIST.	COUNTY		
TEXAS	HOU	GALVESTON		
CONT.	SECT.	JOB	HIGHWAY NO.	
0500	04	096	IH 45	

DATE: \$DATE\$
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WATER DETAILS SHEET 7 OF 7



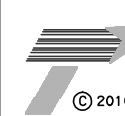
Kerry
Lackey

September 21, 2016



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Registration No. F-754

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STANDARD DETAILS

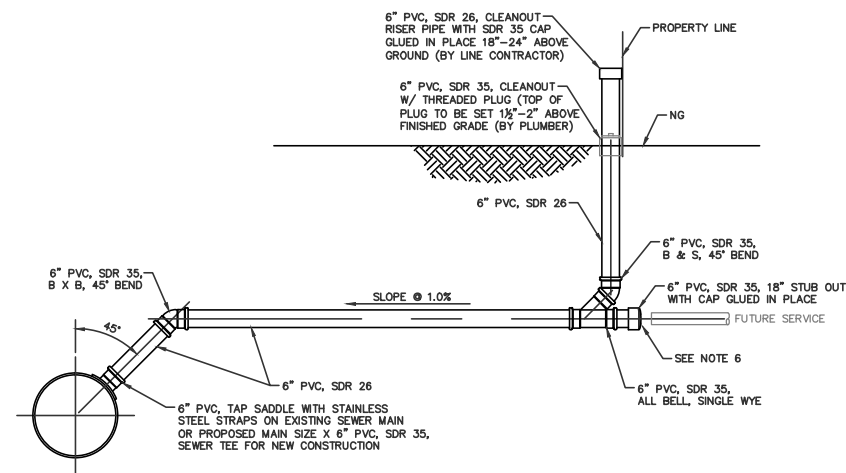
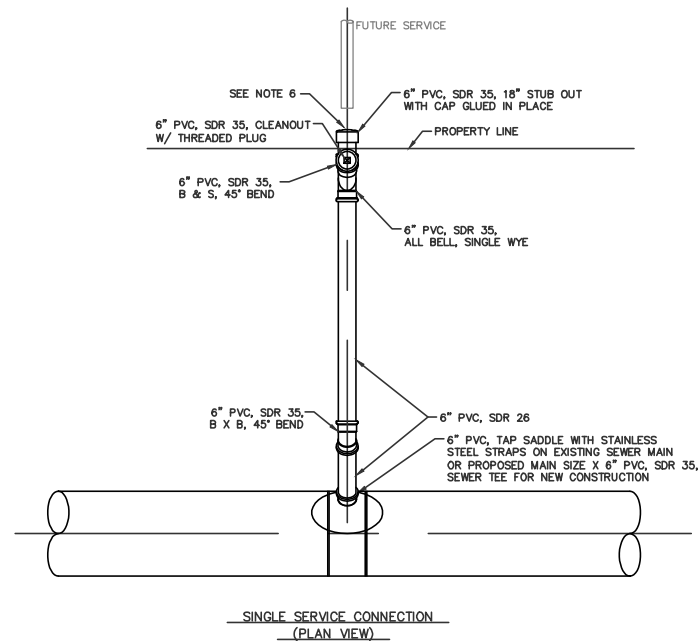
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Date	OCT 2011
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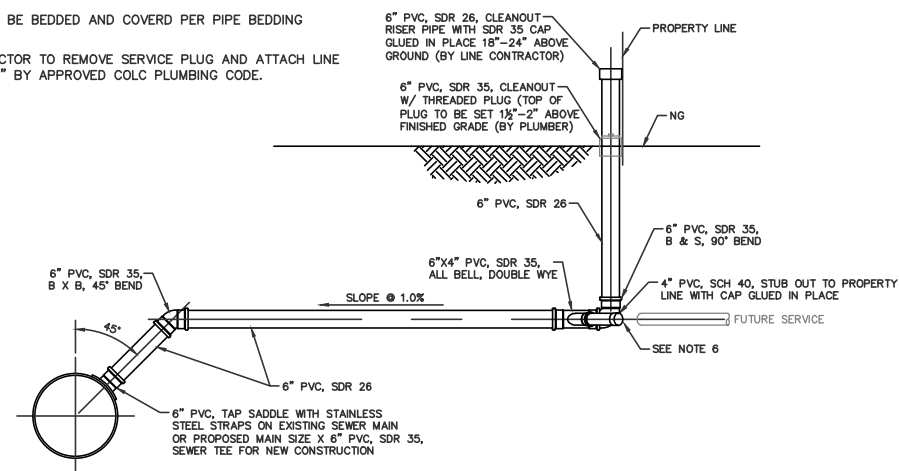
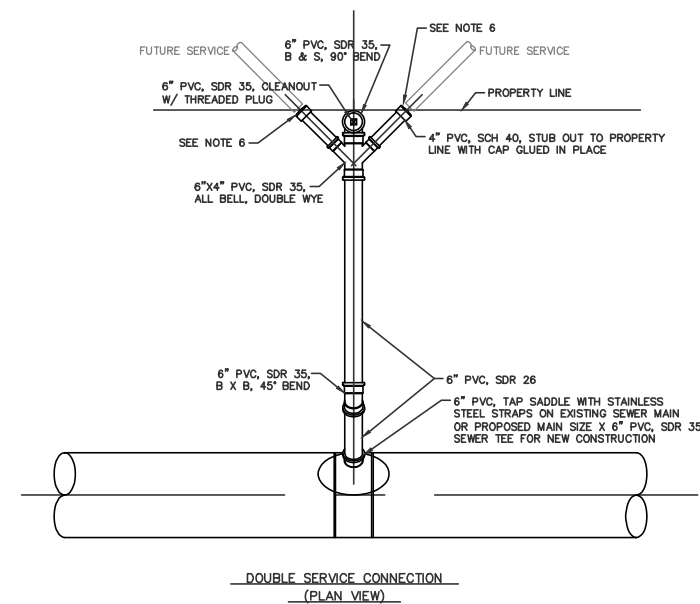
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SANITARY SERVICE TAP AND
CLEAN OUT DETAILS
SHEET 1 OF 3

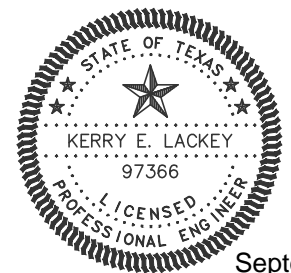


- NOTES:**
1. CEMENT STABILIZED SAND TO BE PLACED AROUND TAPPING SADDLE OR SEWER TEE AT MAIN LINE.
 2. SEWER MAIN CONTRACTOR TO EXTEND 6" CLEAN OUT RISER PIPE 18" TO 24" ABOVE GRADE AT TIME OF CONSTRUCTION WITH CAP GLUED IN PLACE.
 3. PLUMBING CONTRACTOR TO SET TOP OF 6" THREADED ADAPTER CLEAN OUT WITH PLUG 1½" TO 2" ABOVE FINISHED GRADE.
 4. ALL FITTINGS AND PIPE TO BE GASKETED BELL AND SPIGOT EXCEPT WHERE NOTED ON DETAIL.
 5. SERVICE LEADS TO BE BEDDED AND COVERED PER PIPE BEDDING DETAILS.
 6. PLUMBING CONTRACTOR TO REMOVE SERVICE PLUG AND ATTACH LINE FROM HOUSE TO 6" BY APPROVED COLC PLUMBING CODE.



SERVICE TAP, LEAD AND CLEAN OUT DETAILS
NTS 4-2012

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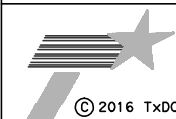
Kerry
Lachy

September 21, 2016



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 TEXAS DEPARTMENT OF TRANSPORTATION

LEAGUE CITY
TEXAS

STANDARD DETAILS

WW-01

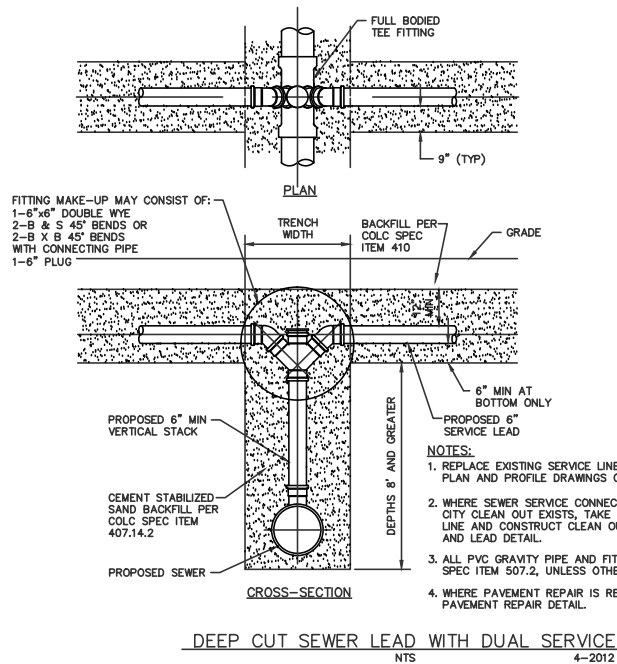
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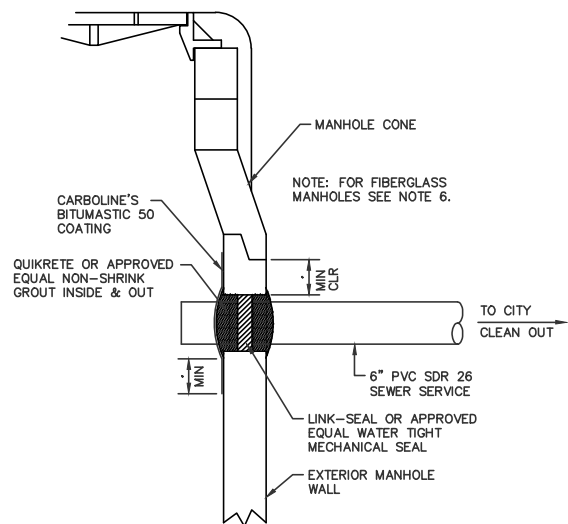
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TEXAS	HOU	GALVESTON	
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0500	04	096	IH 45

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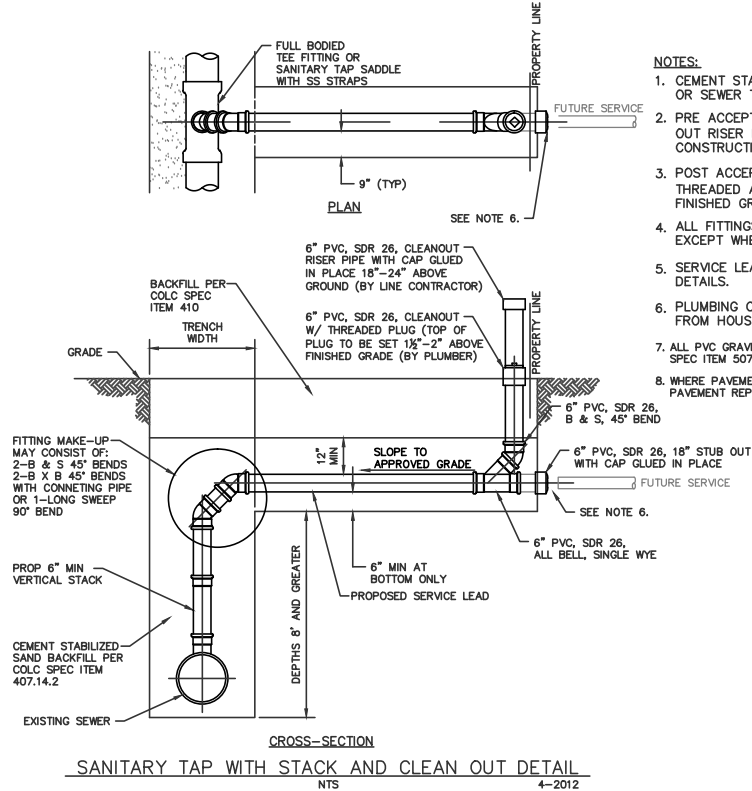


DEEP CUT SEWER LEAD WITH DUAL SERVICE
NTS 4-2012



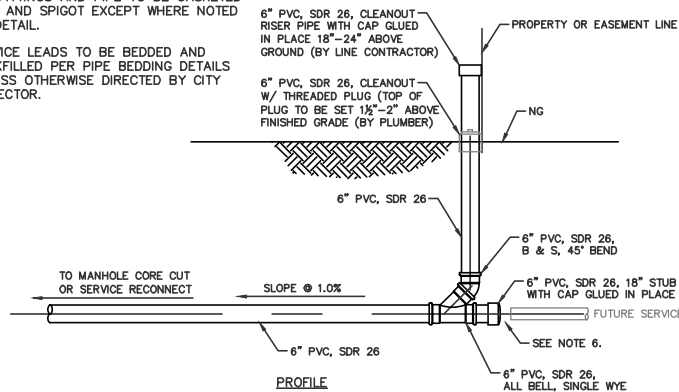
- NOTES:
1. NO TAPS WILL BE ALLOWED ON CONE SECTION OF MANHOLE.
 2. A MIN OF 6" CLEARANCE SHALL BE KEPT FROM ANY MANHOLE JOINT LINE.
 3. TAPS SHALL ENTER PERPENDICULAR TO MANHOLE.
 4. WATER TIGHT SEALING MATERIAL SHALL BE APPROVED BEFORE INSTALLING AND GROUTING OVER.
 5. PRELIMINARY INSPECTION OF TAP TO OCCURE BEFORE GROUT PLACEMENT; FINAL INSPECTION OF TAP TO OCCURE AFTER GROUT PLACEMENT AND INTERIOR PROTECTIVE COATING.
 6. IN CASES OF FIBERGLASS MANHOLES, TAPS SHALL BE MADE WITH AN "INSERTA-TEE" AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
 7. CONTACT COLC LINE REPAIR DEPT. © 281-554-1390 24 HRS IN ADVANCE OF MAKING TAP TO SCHEDULE INSPECTION.

MANHOLE CORE CUT 6" SERVICE DETAIL
NTS 7-2014

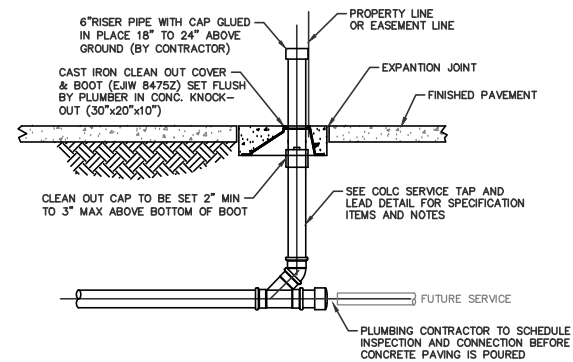


SANITARY TAP WITH STACK AND CLEAN OUT DETAIL
NTS 4-2012

- NOTES:
1. PLUMBING CONTRACTOR TO SET TOP OF 6" THREADED ADAPTER CLEAN OUT WITH PLUG, 1½" TO 2" ABOVE FINISHED GRADE.
 2. ALL FITTINGS AND PIPE TO BE GASKETED BELL AND SPIGOT EXCEPT WHERE NOTED ON DETAIL.
 3. SERVICE LEADS TO BE BEDDED AND BACKFILLED PER PIPE BEDDING DETAILS UNLESS OTHERWISE DIRECTED BY CITY INSPECTOR.



SINGLE SANITARY CLEAN-OUT DETAIL
NTS 4-2012



CLEAN OUT IN PAVEMENT DETAIL
NTS 4-2012

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SANITARY SERVICE TAP AND
CLEAN OUT DETAILS
SHEET 2 OF 3



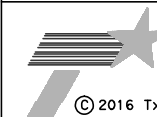
Kerry
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September 21, 2016



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FAX (713) 622-9265



TEXAS DEPARTMENT OF TRANSPORTATION

LEAGUE CITY
TEXAS

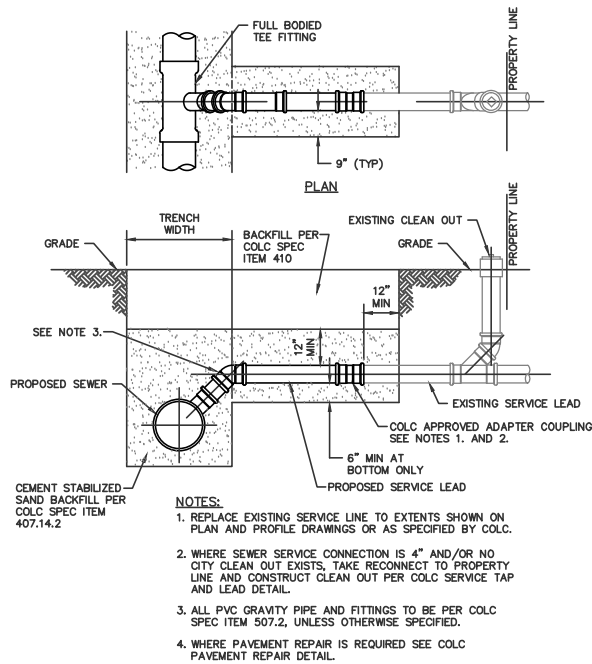
STANDARD DETAILS

WW-02

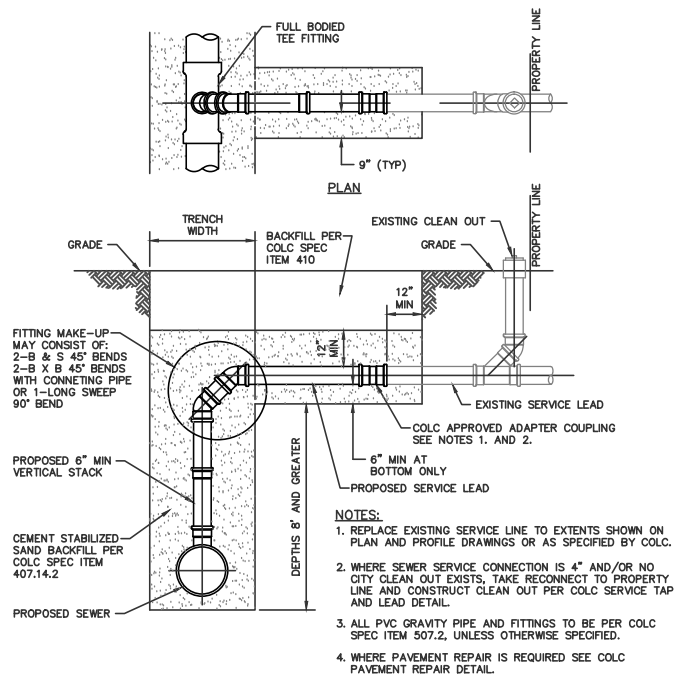
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Checked	XXX
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Date	OCT 2011
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STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

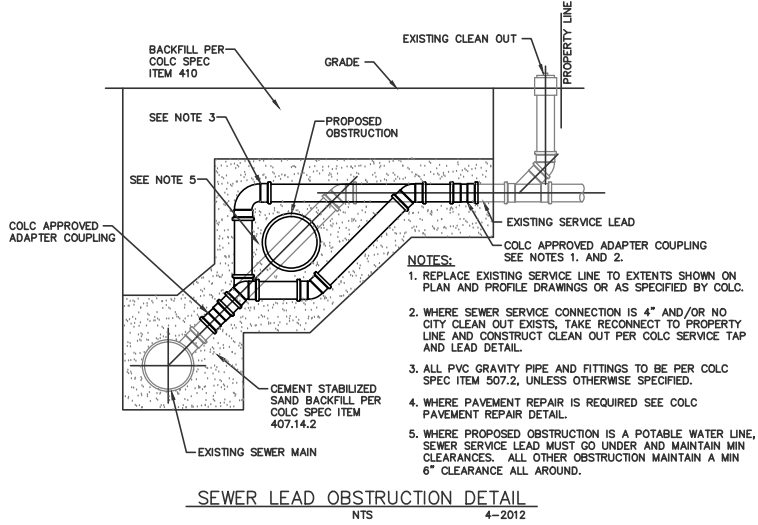
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CROSS-SECTION
SEWER LEAD RECONNECT DETAIL
NTS 4-2012



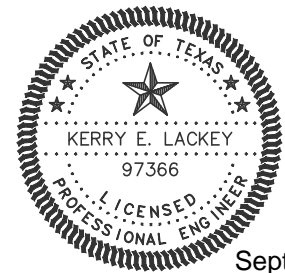
CROSS-SECTION
DEEP CUT SEWER LEAD AND RECONNECT
NTS 4-2012



SEWER LEAD OBSTRUCTION DETAIL
NTS 4-2012

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SANITARY SERVICE TAP AND
CLEAN OUT DETAILS
SHEET 3 OF 3



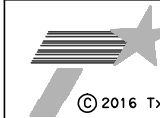
Kerry
Lackey

September 21, 2016



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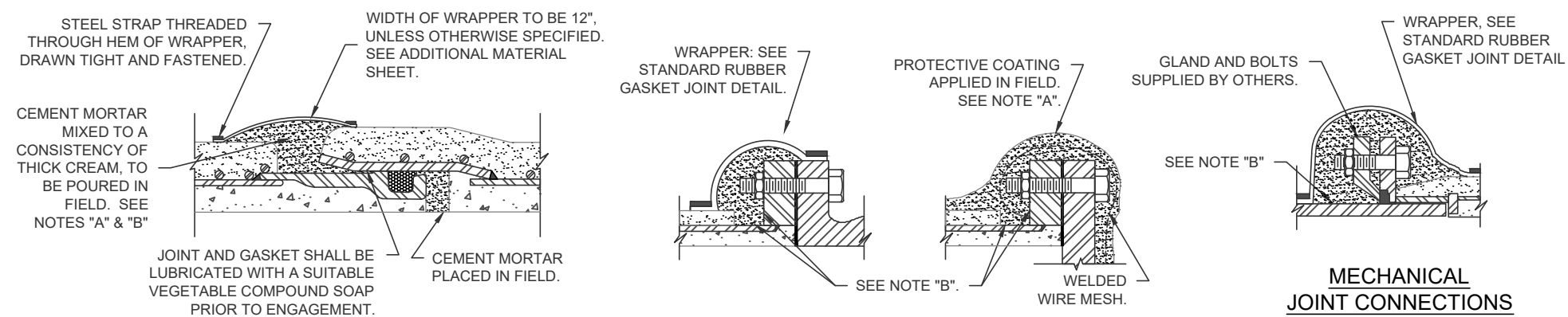
STANDARD DETAILS

WW-03

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Drawn	ARN	Checked	XXX
Scale	NTS	Date	OCT 2011
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SCALE: NONE		SHEET 24 OF 27	
FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			3023
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

PROTECTIVE COATING APPLIED IN THE FIELD



STANDARD RUBBER GASKET JOINT
APPLICABLE TO ALL TYPES OF PRESSURE PIPE MANUFACTURED BY FORTERRA.

FLANGE CONNECTIONS
FOR AIR VALVES, ACCESS MANHOLES, FLANGED GATE VALVES, ETC.

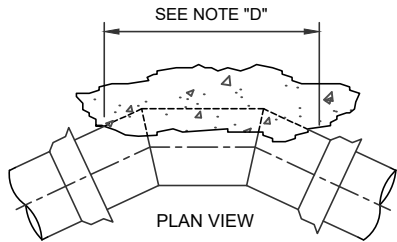
MECHANICAL JOINT CONNECTIONS
FOR VALVES AND OTHER TYPES OF PIPE. ABOVE ALSO APPLICABLE TO CAULKED JOINTS AND FLEXIBLE COUPLING CONNECTIONS.

NOTE "A"

PROVIDE 1" MINIMUM THICKNESS CONCRETE OR MORTAR COATING IN THE FIELD FOR THE PROTECTION OF ALL EXPOSED STEEL SUCH AS FLANGES, CAULKED JOINTS, THREADED OUTLETS, CLOSURES, ETC. THE CEMENT MORTAR USED SHALL CONSIST OF ONE PART PORTLAND CEMENT TO TWO AND ONE-HALF PARTS OF FINE, SHARP (PLASTER) SAND. WHERE SHOWN, COATING IS TO BE REINFORCED WITH WIRE MESH.

NOTE "B"

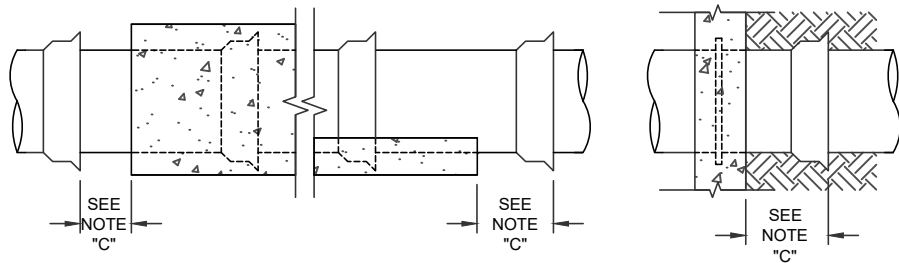
ANY SURFACE RECEIVING A CEMENT MORTAR COATING SHALL BE THOROUGHLY CLEANED AND WETTED WITH WATER JUST PRIOR TO PLACING THE CEMENT MORTAR COATING. AFTER PLACEMENT, CARE SHALL BE TAKEN TO PREVENT CEMENT MORTAR COATING FROM DRYING OUT TOO RAPIDLY BY COVERING WITH DAMP EARTH OR BURLAP. SOME SHRINKAGE CRACKING MAY OCCUR; SHRINKAGE CRACKS LESS THAN 1/8" WIDE IN OTHERWISE SOUND JOINT MORTAR ARE GENERALLY CONSIDERED ACCEPTABLE. CEMENT MORTAR COATING SHALL NOT BE ALLOWED TO FREEZE.



THRUST BLOCK

NOTE "D"

THRUST BLOCK SHOULD NOT LIMIT THE FLEXIBILITY OF THE JOINTS. THRUST BLOCK DESIGN SHALL BE DETERMINED THROUGH CONSIDERATION OF EXISTING SOIL CONDITIONS BY THE OWNER AND/OR ENGINEER. THRUST SHOWN ON LAYOUT DRAWINGS ARE BASED ON PIPE DESIGN PRESSURES.



CONCRETE CRADLE, ENCASEMENT, OR
STRUCTURE WALL CONNECTION

NOTE "C"

IN ORDER TO PROVIDE FLEXIBILITY IN THE EVENT OF DIFFERENTIAL SETTLEMENT, A RUBBER GASKET JOINT SHALL BE WITHIN 2' OF A RIGID SUPPORT FOR PIPE 24" DIAMETER AND SMALLER. A FLEXIBLE JOINT SHALL BE WITHIN ONE PIPE DIAMETER OR 5' OF A RIGID SUPPORT, WHICHEVER IS LESS, FOR LARGER PIPE.

NOTE:

1. ENGR'S SPECIFICATION SUPERSEDE FORTERRA RECOMMENDATIONS.
2. GENERAL FIELD INFORMATION SUBJECT TO OWNER'S AND/OR CONSULTING ENGR'S SPECIFICATIONS AND/OR APPROVAL.

GENERAL INFORMATION

CONCRETE CYLINDER PIPE DETAILS



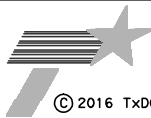
Kerry
Lackey

September 21, 2016



Texas P.E. Firm
Registration No. F-754

4828 LOOP CENTRAL DRIVE,
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HOUSTON, TEXAS 77081
(713) 622-9264
FAX (713) 622-9265



TEXAS DEPARTMENT OF TRANSPORTATION

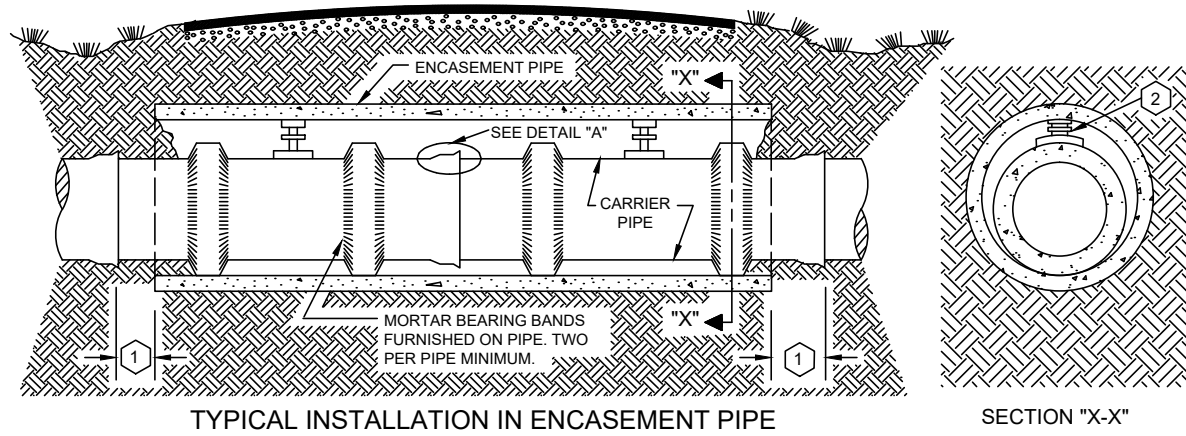
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LEAGUE CITY
TEXAS

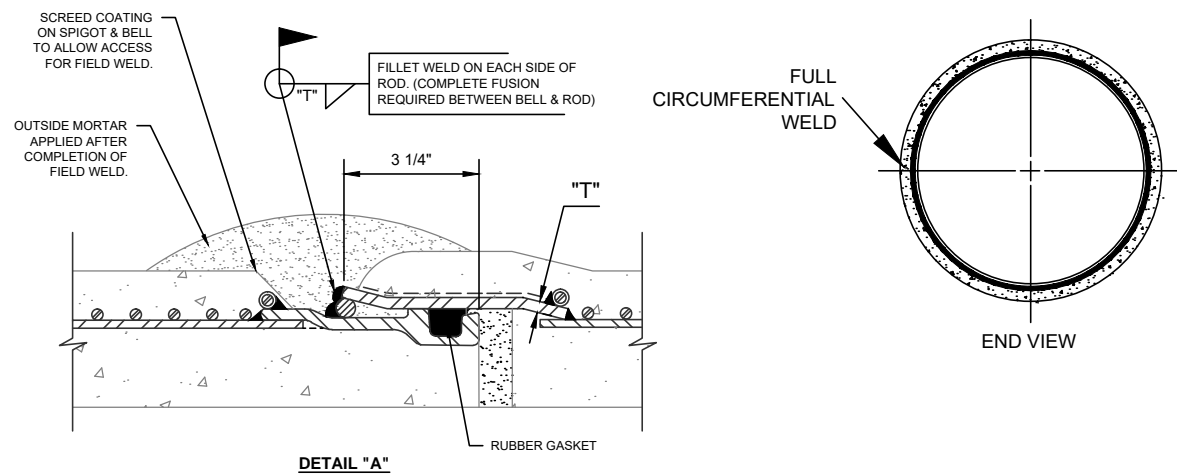
STANDARD DETAILS

SCALE: NONE SHEET 25 OF 27

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			3024
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45



2 CARRIER PIPE WILL FLOAT WHEN EMPTY. PIPE JACKS ARE USED TO PREVENT CARRIER PIPE FROM FLOATING IF THE ENCASEMENT PIPE BECOMES FILLED WITH WATER WHEN CARRIER PIPE IS NOT FULL.



TUNNEL INFORM. FOR WELDED JOINTS

CONCRETE CYLINDER PIPE DETAILS

INSTALLATION PROCEDURE:

CONCRETE PRESSURE PIPE SHALL HAVE UNIFORM ALIGNMENT AND BEARING WHEN INSTALLED AS A CARRIER PIPE IN A TUNNEL OR ENCASEMENT PIPE. TO PROVIDE STRAIGHT ALIGNMENT AND GRADE, CONCRETE PAVING WITHIN THE ENCASEMENT MAY BE REQUIRED. CARRIER PIPE TO BE INSTALLED IN AN ENCASEMENT WITH STAINLESS STEEL CASING SPACERS.

INSTALLATION OF WELDED B-303 PIPE IN TUNNEL :

THE FIRST PIPE SHALL BE PLACED IN THE TUNNEL LEAVING THE END OF THE PIPE EXTENDING OUTSIDE THE TUNNEL APPROXIMATELY ONE FOOT. THE GASKET SHALL BE POSITIONED IN THE SPIGOT GROOVE OF THE NEXT JOINT, JOINT LUBRICANT APPLIED TO THE JOINT SURFACES, CEMENT MORTAR APPLIED TO THE INSIDE OF THE BELL SOCKET ON PIPE LESS THAN 24" IN DIAMETER, THE JOINT ENGAGED, AND THE GASKET POSITION CHECKED. THE INTERIOR JOINT MORTAR FOR PIPE LESS THAN 24" IN DIAMETER SHALL BE SMOOTHED AND CLEANED WITH A SWAB. 3/8" DIAMETER MILD STEEL ROD SHALL THEN BE PLACED SNUGLY INTO THE EXTERIOR RECESS BETWEEN THE BELL AND SPIGOT AS SHOWN IN DETAIL "A" AND THE END VIEW. FILLET WELDS SHALL THEN BE MADE BETWEEN EACH ROD AND BOTH THE BELL AND SPIGOT. AFTER THE WELD HAS COOLED, A JOINT WRAPPER SHALL BE STRETCHED TIGHTLY OVER THE JOINT SO IT WILL NOT BULGE WHEN FILLED. THE WRAPPER SHALL BE FILLED WITH WITH A QUICK-SET MORTAR WHICH DOES NOT CONTAIN A CHLORIDE ACCELERATOR AND THE MORTAR SHALL BE ALLOWED TO HARDEN. BOTH PIPE SHALL THEN BE MOVED INTO THE TUNNEL, AGAIN LEAVING THE END OF THE SECOND PIPE EXTENDING APPROXIMATELY ONE FOOT OUTSIDE THE TUNNEL. THE ABOVE STEPS SHALL BE REPEATED UNTIL ALL PIPE ARE PLACED IN THE TUNNEL. ON PIPE LARGER THAN 24" IN DIAMETER, INTERIOR JOINT PROTECTION SHALL THEN BE APPLIED IN A MANNER CONSISTENT WITH SPECIFICATIONS FOR ALL OTHER PORTIONS OF THE PIPELINE.

NOTES:

VARIOUS METHODS ARE USED TO PROVIDE THE FORCE NECESSARY TO SLIDE THE PIPE INSIDE A TUNNEL DEPENDING UPON CONSTRUCTION EQUIPMENT AVAILABLE. HOWEVER, THE PIPE MUST NOT BE PULLED WITH A CHOKER CABLE OR SIMILAR DEVICE. HANSON SERVICE REPRESENTATIVES ARE AVAILABLE TO SUGGEST METHODS. BORE INSTALLATION INFORMATION SUBJECT TO OWNER'S AND/OR CONSULTING ENGINEER'S SPECIFICATIONS AND/OR APPROVAL.

1 PIPE DIAMETER	MAXIMUM DISTANCE OF JOINT FROM TUNNEL OR ENCASEMENT
24" & SMALLER	2' MAX.
27" THRU 60"	ONE PIPE DIAMETER
66" & LARGER	5' MAX.
WHEN THE DIMENSION SHOWN IS GREATER THAN THE MAX. DISTANCE, PAVING SHALL BE INSTALLED FROM THE EDGE OF THE ENCASEMENT TO WITHIN THE MAX. DISTANCE OF THE FLEXIBLE JOINT.	

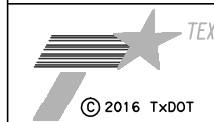


Kerry
Lackey

September 21, 2016



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TEXAS DEPARTMENT OF TRANSPORTATION

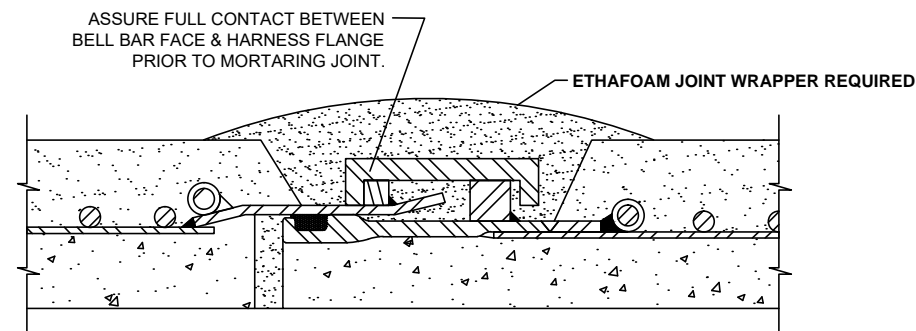
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LEAGUE CITY
TEXAS

STANDARD DETAILS

SCALE: NONE SHEET 26 OF 27

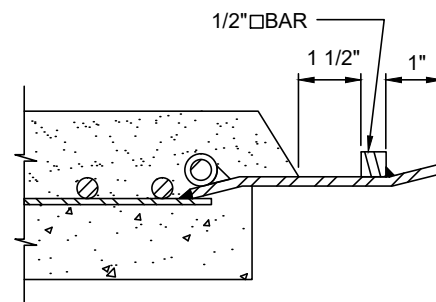
FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			3025
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45



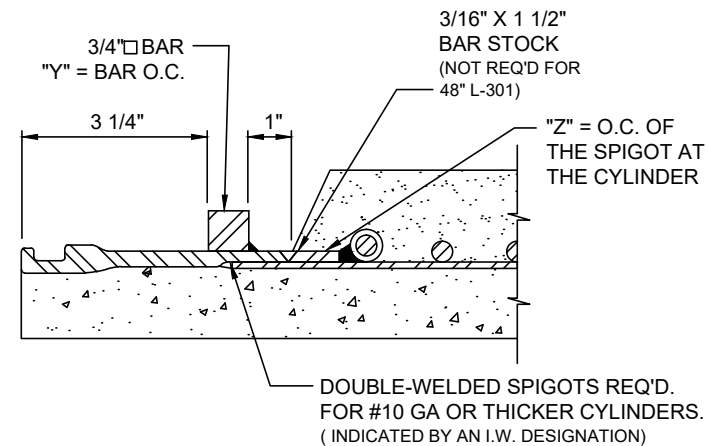
ASSEMBLED JOINT DETAIL
W/JOINT HARNESS

NOTES:
HARNESS JOINT ASSEMBLY HAS BEEN
DESIGNED TO PROVIDE 3/4" JOINT
FLEXIBILITY DURING INSTALLATION.

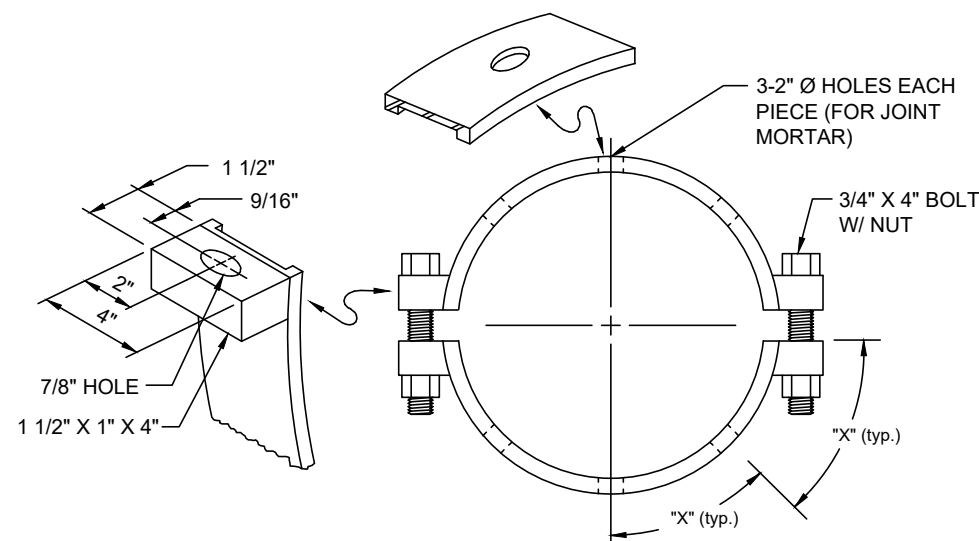
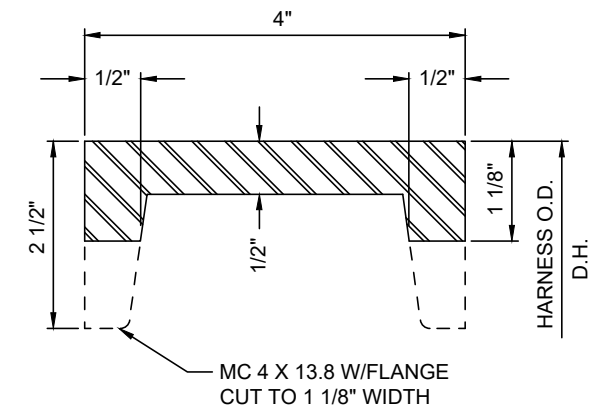
12" WIDE ETHAFOAM JOINT WRAPPER
REQUIRED FOR EACH HARNESSSED JOINT.
SEE ADDITIONAL MATERIAL SHEET



TYPICAL BELL DETAIL
FOR JOINT HARNESS

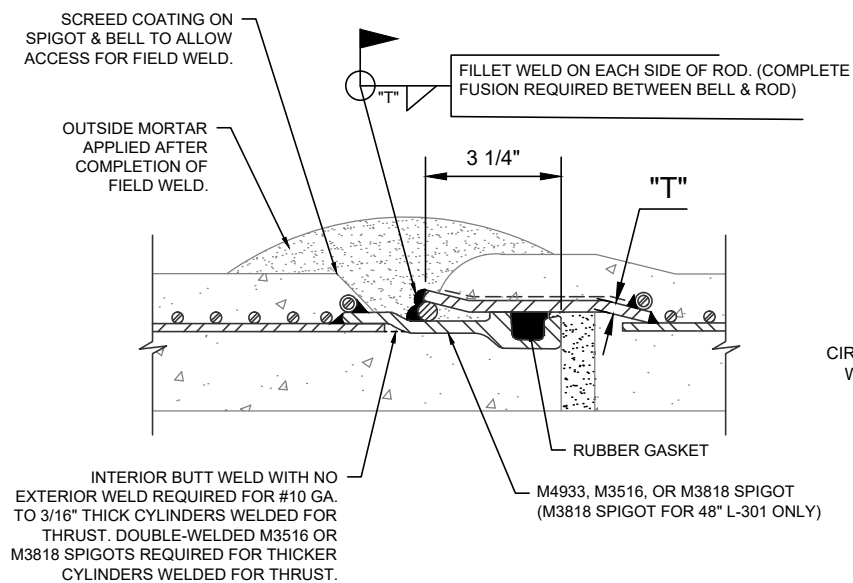


TYPICAL SPIGOT DETAIL
FOR JOINT HARNESS

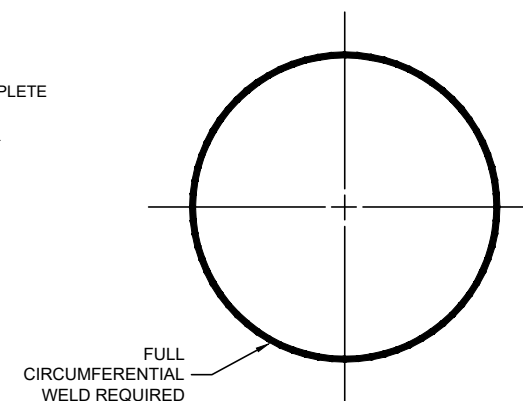


SETS REQ'D	JOINT SIZE & TYPE	HARNESS O.D., D.H.	O.C. HARNESS EACH PIECE	"X"	TAPED O.C. "Y"	TAPED O.C. "Z"
3	39" L	47 1/4	73 13/16	18 7/16	143 3/4	139 1/16

B-303 & L-301 JOINT HARNESS



FIELD PROCEDURE: PLACE A 3/8"Ø STEEL ROD
SNUGLY INTO THE RECESS BETWEEN THE BELL AND
SPIGOT. THE WELD MUST BE CONTINUOUS.



END VIEW

PIPE SIZE & TYPE	WELD DESIGN, PSI
39" L	150



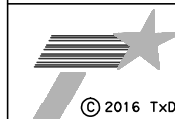
Kerry
Lackey

September 21, 2016



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Registration No. F-754

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TEXAS DEPARTMENT OF TRANSPORTATION

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LEAGUE CITY
TEXAS

STANDARD DETAILS

SCALE: NONE SHEET 27 OF 27

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			3026
STATE	DIST.	COUNTY	
TEXAS	HOU	GALVESTON	
CONT.	SECT.	JOB	HIGHWAY NO.
0500	04	096	IH 45

CONCRETE CYLINDER PIPE DETAILS

DATE: \$DATE\$
FILE: \$FILE\$

Plan Specifications

The specifications for the attached plans are included in the TxDOT Houston District 2014 Specifications. The applicable specifications are Special Specification: 7049- Water Mains, Special Specification: 7017- Sanitary Sewers, and as specified in the design plans and details.

Control CSJ 0500-04-096
ROW CSJ 0500-04-123
U14647

COST ESTIMATE
League City

U14647 Cost Summary

CATEGORY	NOTES	SUBTOTAL
Utility Construction Cost Estimate	Included in highway construction contract-to be paid by TxDOT directly to highway contractor	\$ 1,543,860.00
Engineering Design Costs	Paid by TxDOT to HDR Engineering by Contract No. 36-6IDP5195	\$ 87,485.35
Reimbursable Costs Estimate	Based on League City hourly rates- to be paid by TxDOT to League City	\$ 15,852.53
Reimbursable Title Research for League City Water Line Easements	League City may retain the use of a Title research firm to conduct easement research along TxDOT ROW. Research expenses to be paid by TxDOT to League City	\$ -
	SUB-TOTAL	\$ 1,647,197.88

Total Amount Reimbursable to League City	\$ 15,852.53
---	---------------------

Control CSJ 0500-04-096
ROW CSJ 0500-04-123
U14647

CONSTRUCTION COST ESTIMATE
League City

Item No.	TxDOT Bid Code		Utility Item	Unit	Quantity	Unit Cost	Total
1	7017	6079	ABANDON SANITARY SEWER (12IN)	EA	1	\$ 3,000.00	\$3,000.00
2	7017	6091	FM CONNECTION (FORCE MAIN)	EA	2	\$ 2,900.00	\$5,800.00
3	7017	6092	SAN SWR (FM) PVC (RESTRAINED JT) 12IN	LF	456	\$ 105.00	\$47,880.00
4	7049	6014	WATER MAIN PIPE (PVC) (12IN) (C-900)	LF	609	\$ 105.00	\$63,945.00
5	7049	6020	WTR MAIN PIPE (PVC)(RESTRAINED JT) 8IN	LF	239	\$ 55.00	\$13,145.00
6	7049	6021	WTR MAIN PIPE (PVC)(RESTRAINED JT) 12IN	LF	176	\$ 140.00	\$24,640.00
7	7049	6068	JCK TUN BOR OR AUG CSG (STL) (16IN)*	LF	50	\$ 450.00	\$22,500.00
8	7049	6071	JCK TUN BOR OR AUG CSG (STL) (24IN)*	LF	65	\$ 550.00	\$35,750.00
9	7049	6073	JCK TUN BOR OR AUG CSG (STL) (36IN)*	LF	680	\$ 700.00	\$476,000.00
10	7049	6078	GATE VALVE (24IN)*	EA	4	\$ 14,000.00	\$56,000.00
11	7049	6104	FIRE HYDRANT ASSEMBLY*	EA	5	\$ 4,300.00	\$21,500.00
12	7049	6114	REMOVING FIRE HYDRANT	EA	5	\$ 700.00	\$3,500.00
13	7049	6127	CUT AND PLUG WATER MAIN (8IN)	EA	4	\$ 3,500.00	\$14,000.00
14	7049	6129	CUT AND PLUG WATER MAIN (12IN)	EA	11	\$ 4,000.00	\$44,000.00
15	7049	6134	CUT AND PLUG WATER MAIN (24IN)	EA	8	\$ 6,000.00	\$48,000.00
16	7049	6139	WET CONNECTION (6IN)	EA	1	\$ 1,600.00	\$1,600.00
17	7049	6140	WET CONNECTION (8IN)	EA	4	\$ 2,000.00	\$8,000.00
18	7049	6142	WET CONNECTION (12IN)	EA	12	\$ 2,500.00	\$30,000.00
19	7049	6146	WET CONNECTION (24IN)	EA	9	\$ 5,000.00	\$45,000.00
20	7049	6151	WATER MAIN PIPE (CCP) (39IN) (C-303)	LF	153	\$ 700.00	\$107,100.00
21	7049	6152	WTR MAIN PIPE (PVC) (RESTRAINED JT) 24IN	LF	521	\$ 200.00	\$104,200.00
22	7049	6153	WATER MAIN PIPE (PVC) (24IN) (C-900)	LF	1582	\$ 150.00	\$237,300.00
23	7049	6154	TAPPING SLEEVE AND VALVE (24IN X 24IN)*	EA	1	\$ 35,000.00	\$35,000.00
24	7049	6155	CUT AND PLUG WATER MAIN (39IN)	EA	2	\$ 8,000.00	\$16,000.00
25	7049	6156	WET CONNECTION (39IN)	EA	2	\$ 40,000.00	\$80,000.00
Total							\$1,543,860.00

* Materials indicated with asterisk - * - are to be 'Buy America' compliant. Otherwise, materials with no asterisk are exempt from 'Buy America' provisions.

Utility agrees to comply with Buy America provisions in accordance with TxDOT / FHWA guidance for all utility work performed and accomplished in furtherance of this agreement. Certification, where indicated, will be provided with the FINAL billing documents.

Utility
Initial

TASK DESCRIPTION	PRINCIPAL	SENIOR PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	EIT	SENIOR UTILITY COORDINATOR	UTILITY COORDINATOR	SENIOR ENGINEER TECH	ADMIN. CLERICAL	TOTAL LABOR HRS. & COSTS
Function Code 163: Utility Design - League City Waterline Relocation											
PROJECT KICKOFF MEETINGS WITH STATE, HDR, CITY		1	8		8						17
DEVELOP AND MAINTAIN PROJECT SCHEDULE			6							14	20
COORDINATION MEETING WITH CITY			8		8				8		24
PROJECT DESIGN (11,600 LF WATER LINES) (TITLE, 13 PLAN & PROFILES)		4	30		80				140		254
PROGRESS REVIEW MEETING W/STATE			6		12					4	22
CITY STANDARDS/SPECIFICATIONS		2	6		12				8	17	45
QUANTITY TAKE-OFFS		2	6		12				6	8	34
ESTIMATE		4	4		12				6	4	30
STATE/CITY OF REVIEW, COMMENTS, APPROVALS		2	12		12				8		34
GENERAL NOTES			4		4				2	4	14
UTILITY AGREEMENT PACKAGE			4		4						8
HOURS SUB-TOTALS	0	15	94	0	164	0	0	0	178	51	502
CONTRACT RATE PER HOUR	\$ 223.43	\$ 196.73	\$ 174.24	\$ 140.52	\$ 122.25	\$ 95.55	\$ 140.52	\$ 118.04	\$ 103.98	\$ 61.83	
FC 163 (Waterline Design) DIRECT LABOR FEE	\$ -	\$ 2,950.95	\$ 16,378.56	\$ -	\$ 20,049.00	\$ -	\$ -	\$ -	\$ 18,508.44	\$ 3,153.33	\$ 61,040.28
% DISTRIBUTION OF STAFFING	0.0%	7.4%	46.3%	0.0%	80.8%	0.0%	0.0%	0.0%	87.7%	25.1%	
Function Code 163: Utility Design - League City Wastewater Relocation											
PROJECT DESIGN (??? LF FORCE MAIN) (TITLE, 2 PLAN & PROFILES)		2	12		40				50		104
CITY OF ROSENBERG STANDARDS/SPECIFICATIONS		1	4		10				4	4	23
QUANTITY TAKE-OFFS		1	4		10				12		27
ESTIMATE		1	4		14				4		23
STATE/CITY OF ROSENBERG REVIEW, COMMENTS, APPROVALS			8		4				6		18
STATE GENERAL NOTES			2		4				2		8
HOURS SUB-TOTALS	0	5	34	0	82	0	0	0	78	4	203
CONTRACT RATE PER HOUR	\$ 223.43	\$ 196.73	\$ 174.24	\$ 140.52	\$ 122.25	\$ 95.55	\$ 140.52	\$ 118.04	\$ 103.98	\$ 61.83	
FC 163 (Wastewater Design) DIRECT LABOR FEE	\$ -	\$ 983.65	\$ 5,924.16	\$ -	\$ 10,024.50	\$ -	\$ -	\$ -	\$ 8,110.44	\$ 247.32	\$ 25,290.07
% DISTRIBUTION OF STAFFING	0.0%	2.5%	16.7%	0.0%	40.4%	0.0%	0.0%	0.0%	38.4%	2.0%	
LEAGUE CITY OTHER DIRECT EXPENSES											
	# OF UNITS	COST/UNIT	UNIT								
MILEAGE	1000	\$0.54	miles								\$ 540.00
Photocopies B/W (8.5" x 11")	50	\$0.10	each								\$ 5.00
Photocopies B/W (11" x 17")	600	\$0.20	each								\$ 120.00
Photocopies Color (8.5" x 11")	200	\$0.65	each								\$ 130.00
Photocopies Color (11" x 17")	300	\$1.20	each								\$ 360.00
LEAGUE CITY OTHER DIRECT EXPENSES SUB-TOTAL											\$ 1,155.00
LEAGUE CITY DESIGN TOTAL HOURS	0	20	128	0	246	0	0	0	256	55	705
LEAGUE CITY DESIGN SUB-TOTAL											\$87,485.35

Control CSJ 0500-04-096
ROW CSJ 0500-04-123
U14647

REIMBURSABLES COST ESTIMATE
Galveston County Water Control and Improvements District No. 1

ENGINEER'S FEE SCHEDULE: City of League City
PROJECT NAME/CSJ: 0500-04-096
Limits: South of FM 518 to South of FM 517

TASK DESCRIPTION	John L	Jack	Chris S	Gabe	John B	Alan N		TOTAL
	PROJECT	SENIOR	UTILITY	PW DIR	Deputy City	Engr.		LABOR HRS.
	MANAGER	ENGINEER	Supervisor		Manager	Tech		& COSTS
PROJECT ADMINISTRATION	40	40	15	20	10	4		129
PROJECT KICKOFF MEETINGS WITH TXDO	6		6	6				18
PLAN REVIEW SUBMITTAL AND COMMENT	10		10	4	2	15		41
STANDARDS/SPECIFICATIONS	4		4	2		8		18
CONSRTRUCTION OBSERVATION	8		20	2		40		70
								276
HOURS SUB-TOTALS	68	40	55	34	12	67		276
CONTRACT RATE PER HOUR	\$68.58	\$68.31	\$40.00	\$87.50	\$109.38	\$29.39		
DIRECT LABOR COSTS	\$4,663.44	\$2,732.40	\$2,200.00	\$2,975.00	\$1,312.56	\$1,969.13		\$15,852.53
% DISTRIBUTION OF STAFFING	24.8%	14.5%	19.9%	12.3%	4.3%	24.3%		

Attachment “B”

Utility’s Accounting Method

For this project, the Utility selects the following method for developing utility relocation costs;

- ☒ Actual Cost Method of Accounting: Utility Accumulates costs under work order accounting procedures prescribed by the Federal or State regulatory body; and the utility proposes to request reimbursement for actual direct and related indirect costs.
- ☐ Lump Sum Method of Accounting: Utility proposes to request reimbursement based upon an agreed lump sum amount supported by a detailed cost analysis.

Attachment “C”

Utility’s Schedule of Work and Estimated Date of Completion

All work to complete League City utility adjustments will be performed upon a schedule with completion dates to be defined at the discretion of the highway contractor selected by the Texas Department of Transportation.

Attachment “D”

Statement Covering Contract Work

Please see attached Form ROW-U-48.

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

U-Number: U14647

ROW CSJ Number: 0500-04-123 District: Houston
County: Galveston Highway No.: IH 45
Federal Project No.: N/A

I, John Baumgartner, a duly authorized and qualified representative of
Deputy City Manager, 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 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.
- ☐ 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. 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. (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.

Signature
John Baumgartner, Deputy City Manager

Title

Date

Attachment “E”

Utility Joint Use Acknowledgement

League City is not retaining property interests inside TxDOT ROW. TxDOT form ROW-U-JUAA is not required. League City will relinquish any existing property interests through a Quitclaim Deed.

The TxDOT highway contractor shall apply for and obtain a TxDOT Utility Installation Request (UIR) permit for work on the League City Facilities prior to requesting payment for any construction associated with this project.

Attachment “F”

Eligibility Ratio

Texas Transportation Code 203.092 provides that the adjustment of any utility facilities necessitated by the improvement of any highway on the interstate highway system will be made by the utility at the expense of TxDOT, provided such adjustment is eligible for Federal participation.

Eligibility Ratio is 100%.

Attachment “G”

Betterment Calculations and Estimate

There is no elective betterment on this project.

Attachment “H”

Proof of Property Interests

League City will relinquish any existing property interests through a Quitclaim Deed once proof of property interest is provided.

A new utility request permit will be obtained by the contractor prior to construction.

Attachment “I”

Inclusion in Highway Construction Contract

See attached Inclusion in Highway Construction Contract form.

ATTACHMENT "I"
(to be used only for Inclusion in Highway Construction Contract)

In the best interest of both the **State** and the **Utility**, the **Utility** requests the **State** to include the plans and specifications for this work in the general contract for construction of Highway IH 45 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.

Utility: City of League City
Name of Utility

By: _____
Authorized Signature

John Baumgartner
Print or Type Name

Title: Deputy City Manager

Date: _____

Initial Date
TxDOT

Initial Date
Utility