

CITY OF HOUSTON

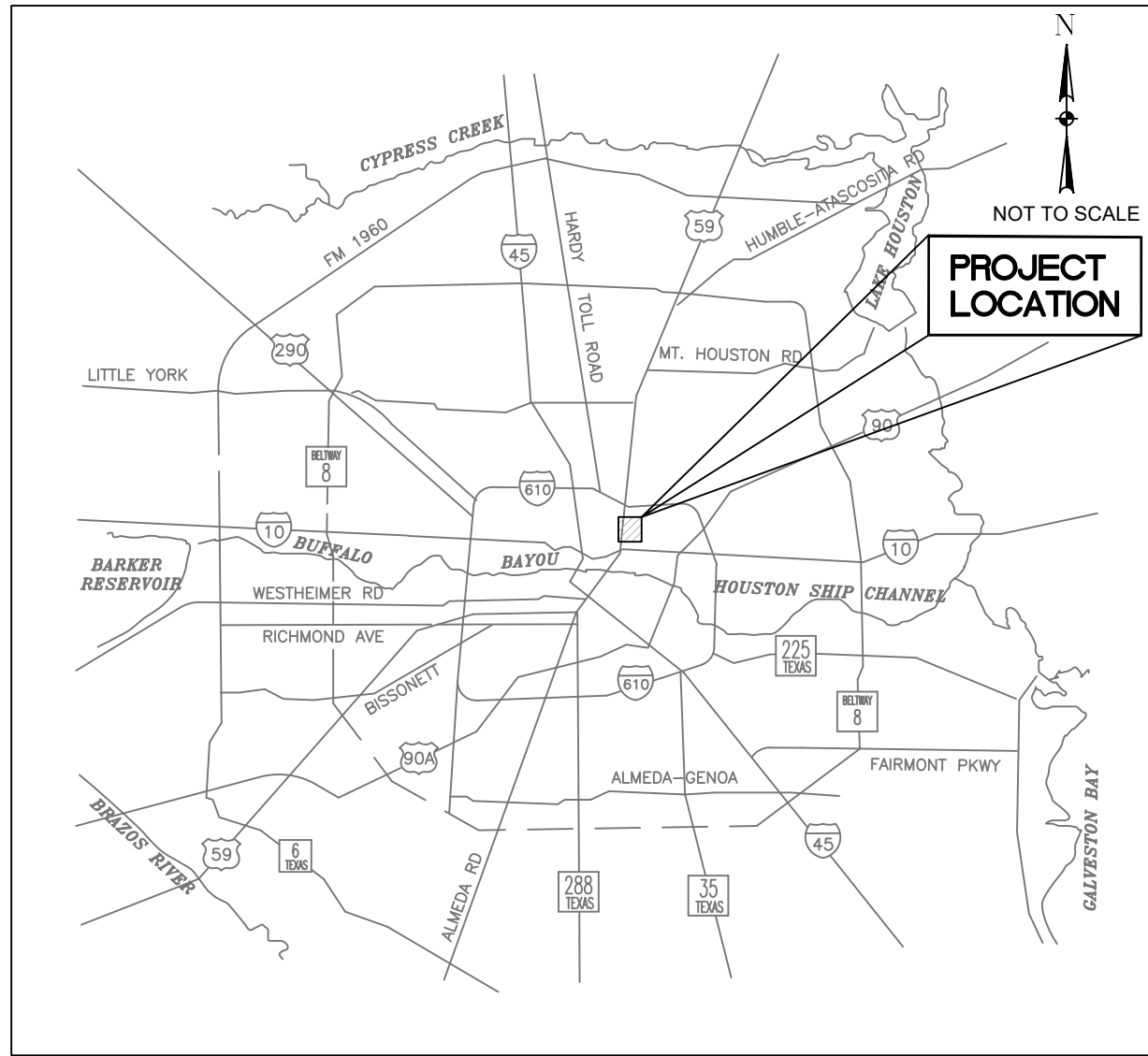
HOUSTON PUBLIC WORKS

CAPITAL PROJECTS

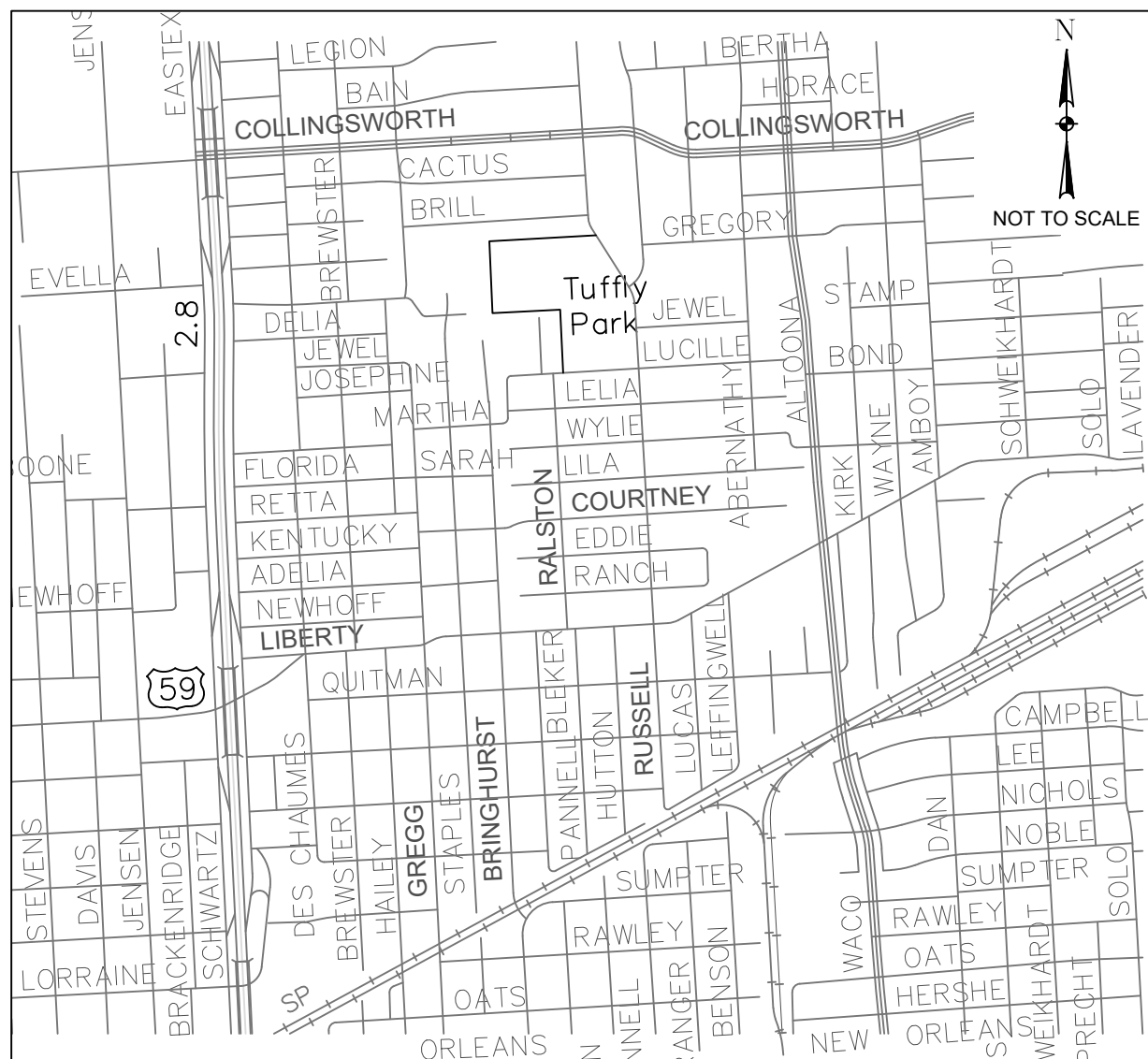
FRENCHTOWN DRAINAGE AND

PAVING IMPROVEMENTS

WBS NO. M-42LHUD-0006-3

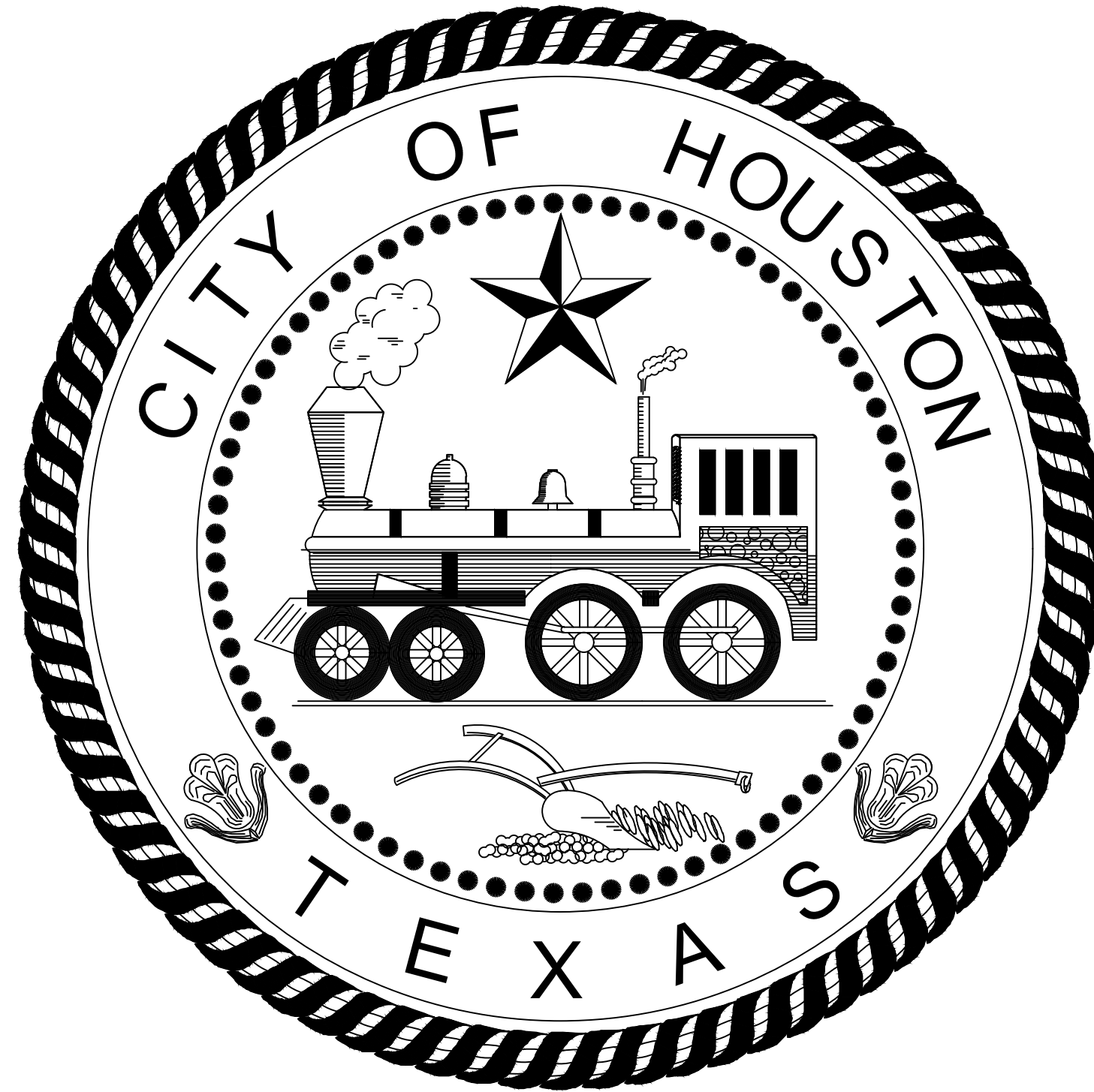


LOCATION MAP



VICINITY MAP

KEY MAP NO 454W, 454X, 494A & 494B
GIMS MAP NO 5458B & 5459D
COUNCIL DISTRICT B



MAYOR
JOHN WHITMIRE

CONTROLLER
CHRIS HOLLINS

DISTRICT COUNCIL MEMBERS

AMY PECK DISTRICT A	TARSHA JACKSON DISTRICT B	ABBIE KAMIN DISTRICT C	CAROLYN EVANS-SHABAZZ DISTRICT D
FRED FLICKINGER DISTRICT E	TIFFANY D. THOMAS DISTRICT F	MARY NAN HUFFMAN DISTRICT G	MARIO CASTILLO DISTRICT H
JOAQUIN MARTINEZ DISTRICT I	EDWARD POLLARD DISTRICT J	MARTHA CASTEX-TATUM DISTRICT K	

COUNCIL MEMBERS AT-LARGE

JULIAN RAMIREZ POSITION 1	WILLIE DAVIS POSITION 2
TWILA CARTER POSITION 3	LETITIA PLUMMER POSITION 4
SALLIE ALCORN POSITION 5	

NO.	DATE	REVISION	APP.
 3151 BRIARPARK DRIVE, SUITE 275 HOUSTON, TEXAS 77042 PHONE: (713) 779-2990 TX FIRM NUMBER: 9245		THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES. RESPONSIBLE ENGINEER: BOWMAN ENGINEERING & CONSULTING, INC. WILLIE V. BROWN, P.E. TEXAS REGISTRATION NO. 85396 Jun 02, 2025 60% SUBMITTAL	
SURVEYED BY: FB NO. #####			
PARKS-FORESTRY DEPT. METRO HOUSTON WATER TRANSPORTATION & DRAINAGE OPERATIONS CAPITAL PROJECTS SURVEY CITY ENGINEER DATE DIRECTOR OF HOUSTON PUBLIC WORKS DATE SHEET NO 1 OF 69 SHEETS			

TDLR EABPR

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NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811
AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES
CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR
OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY.
(This signature verifies existing underground facilities – not to be used for conflict verification)

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only.
Signature valid for one year.



3151 Briarpark Drive, Ste. 275
Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

SURVEYED BY:
FB NO. 000000

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INTERIM REVIEW AND NOT
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OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BOWMAN ENGINEERING & CONSULTING, INC.
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

INDEX OF DRAWINGS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 2 OF 69	

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS
GENERAL NOTES- INSIDE CITY LIMITS

- UNLESS OTHERWISE NOTED AND APPROVED ON DRAWINGS, CONSTRUCT CIVIL INFRASTRUCTURE IN ACCORDANCE WITH THE EFFECTIVE EDITION OF THE HOUSTON PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS, STANDARD CONSTRUCTION DETAILS, AND SUPPLEMENTS, ADDENDA AND AMENDMENTS THERETO. THE LATEST EDITION OF THE ABOVE PUBLICATIONS CAN BE FOUND AT:
http://www.houstonpermittingcenter.org/office-city-engineer/design-and-construction-standards.
- THE DESIGN MUST BE CONSISTENT WITH THE EFFECTIVE EDITION OF HOUSTON PUBLIC WORKS INFRASTRUCTURE DESIGN MANUAL AND TCEQ (TEXAS COMMISSION ON ENVIRONMENTAL QUALITY) REQUIREMENTS.
- THE GEOTECHNICAL INVESTIGATION FOR THIS PROJECT WAS CONDUCTED IN ACCORDANCE WITH CHAPTER 11 OF THE LATEST EDITION OF THE PUBLICATION INFRASTRUCTURE DESIGN MANUAL, PUBLISHED BY HOUSTON PUBLIC WORKS. SOILS REPORT WAS PREPARED BY PARADIGM CONSULTANTS, INC. (REPORT NO. 17-1108, DATED APRIL 3, 2018.
- UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567/811 OR 800-344-8377 AND LONE STAR NOTIFICATION CENTER AT 800-689-8344 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION. UTILITIES MARKED WITHIN THE PUBLIC RIGHT OF WAY OR IN EASEMENTS SHALL COMPLY WITH TAC TITLE 16, PART 1, CHAPTER 18, RULE §18.6 AND THE AMERICAN PUBLIC WORKS ADMINISTRATION (APWA) UNIFORM COLOR CODE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING WATER, WASTEWATER, STORM WATER LINES AND TRAFFIC CONTROL DEVICES. DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE HOUSTON PUBLIC WORKS, STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEM, WATER LINES, STORM DRAINAGE, AND STREET PAVING AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING, REFERENCED ABOVE, AT NO ADDITIONAL COST.
- CONTRACTOR SHALL NOTIFY THE OFFICE OF THE CITY ENGINEER, HOUSTON PUBLIC WORKS @ 832-394-9098 OR VIA FAX AT 832-395-4424 FOR INSPECTION AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER.
- CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG THE AREA OF EXCAVATION.
- CONTRACTOR SHALL COMPLY WITH LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION.
- CONTRACTOR SHALL MAINTAIN A SET OF REDLINE DRAWINGS AND RECORD AS-BUILT CONDITIONS DURING CONSTRUCTION. THESE REDLINE MARKED UP DRAWINGS WILL BE SUBMITTED TO THE DESIGN CONSULTANT WHO WILL MAKE THE CHANGES ON THE ORIGINAL TRACINGS. LABEL EACH SHEET IN THE SET AS "RECORD DRAWINGS", AND RETURN IT TO THE OFFICE OF THE CITY ENGINEER.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS
STREET & BRIDGE CONSTRUCTION NOTES

- HOUSTON PUBLIC WORKS "STANDARD CONSTRUCTION SPECIFICATIONS" AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING" UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN IS CONSISTENT WITH THE MINIMUM STANDARDS ESTABLISHED IN THE "INFRASTRUCTURE DESIGN MANUAL" REFERENCED AT:
https://edocs.publicworks.houstontx.gov/engineering-and-construction/design-manuals.html
- FILL AREAS ON PLANS SHALL BE FILLED IN LAYERS NOT EXCEEDING 8" IN DEPTH AND EACH COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY PRIOR TO INSTALLATION OF WATER LINE AND FILL AREA SHALL BE SEEDED AND FERTILIZED WITHIN 10 WORKING DAYS.
- UTILITY CONTRACTOR SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURBED INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.
- CONTRACTOR SHALL PROVIDE SILT BARRIER FENCE ON ALL STAGE 1 CURB INLETS.
- EXISTING PAVEMENTS, CURBS, DRIVEWAYS, AND SIDEWALKS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY OF HOUSTON STANDARDS, WITH LATEST ADDENDA AND AMENDMENTS THERETO.
- CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY UPON COMPLETION OF JOB SHALL BE AS GOOD AS OR BETTER THAN PRIOR TO STARTING WORK.
- ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO SATISFACTION OF THE OWNING AUTHORITY.
- EXPPOSE 15" OF REINFORCING STEEL AT PROPOSED SAWED JOINT IF NO REINFORCING STEEL EXISTS. USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BARS 24" LONG 24" C-C DRILLED AND EMBEDDED 8" INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL.
- CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG AREAS OF EXCAVATION.
- CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAWS CONCERNING EXCAVATION, TRENCHING AND SHORING AS SPECIFIED IN CITY OF HOUSTON ORDINANCE #87-1457.
- WHEEL CHAIR RAMPS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOUSTON STANDARDS AT ALL INTERSECTIONS WHERE SIDEWALKS EXIST AND THE EXISTING CURB OR SIDEWALK IS DAMAGED OR REMOVED DURING CONSTRUCTION.
- WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE HOUSTON PUBLIC WORKS "STANDARD CONSTRUCTION SPECIFICATIONS" AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING" UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN SHOULD BE CONSISTENT WITH THE MINIMUM STANDARD ESTABLISHED IN THE "DESIGN MANUAL FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORMS DRAINAGE AND STREET PAVING".
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGES TO EXISTING WATER, WASTEWATER, STORM SEWER AND TRAFFIC SIGNAL CONDUITS. ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE HOUSTON PUBLIC WORKS "STANDARD CONSTRUCTION SPECIFICATIONS" WITH LATEST ADDENDA AND AMENDMENTS THERETO, AT NO COST TO THE CITY OF HOUSTON.
- PRIOR TO STREET CONSTRUCTION, THE CONTRACTOR SHALL CONTACT HOUSTON PUBLIC WORKS AT (PHONE) 832-394-9578 AND COMPLY WITH ALL REQUIREMENTS FOR THE ISSUANCE OF NECESSARY PERMITS/WORK ORDERS FOR STREET CONSTRUCTION.
- DOUBLE REFLECTORIZED BLUE TRAFFIC MARKERS SHALL BE PLACED 6-INCHES OFFSET OF THE CENTERLINE OF ALL FIRE HYDRANT LOCATIONS BY THE PAVING CONTRACTOR. HYDRANTS LOCATED AT INTERSECTIONS SHALL HAVE A BUTTON PLACED ON EACH STREET.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS
WATER CONSTRUCTION NOTES

- ALL 4" THROUGH 12" WATER LINE TO BE AWWA C-900 PVC DR-18 BLUE PRESSURE RATED WATER MAIN WITH 2" AND SMALLER WATER SERVICE LINE TO BE CONTINUOUS TYPE K COPPER TUBING PER COH STANDARD SPECIFICATION SECTION 02503. ALL 4" THRU 54" DI PIPE WATER LINES SHALL BE AWWA C151 WITH INSIDE LINING WITH AWWA C104 AND DOUBLE WRAPPED WITH 8-MIL POLYETHYLENE SHEETS.
- CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT. USE RESTRAINED JOINTS WHERE PREVENTING MOVEMENT OF 16" OR GREATER PIPE IS NECESSARY DUE TO THRUST.
- ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT OF ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
- ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER CITY OF HOUSTON AND TCEQ REGULATIONS.
- 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.
- ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH. AT LEAST ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EVERY 1,000 LINEAR FEET OF WATER LINE AND SHALL BE REPEATED IF CONTAMINATION PERSISTS.
- ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.
- 4" THRU 12" FIT TINGS SHALL BE CEMENT MORTAR LINED COMPACT DUCTILE IRON PRESSURE FITTINGS PER ANSI A21.53, OR PUSH ON FITTINGS PER ANSI A21.10 PRESSURE RATED AT 250 PSIG.
- HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST CITY OF HOUSTON STANDARD CONSTRUCTION SPECIFICATIONS. TESTS ARE TO BE PERFORMED ON THE ENTIRE FOOTAGE OF WATER PIPE LINE INCLUDED IN THE PROJECT.
- ALL WATER LINES TO HAVE 4' MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEARANCE TO OTHER UTILITIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS. ALL WATER LINE INSTALLED OVER 8' DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.
- CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAPPED (OR OTHERWISE EFFECTIVELY COVERED) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.

GRADING NOTES:

- GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
- BEFORE STARTING CONSTRUCTION, CONTRACTOR SHALL VERIFY BENCHMARK ELEVATION AND NOTIFY ENGINEER IF ANY DISCREPANCY AND/OR CONFLICT IS FOUND.
- CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS AND NO PONDING IN PAVED AREAS, AND SHALL NOTIFY ENGINEER IF ANY GRADING DISCREPANCIES ARE FOUND IN THE EXISTING AND PROPOSED GRADES PRIOR TO PLACEMENT OF PAVEMENT OR UTILITIES.
- CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES THAT ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.
- ALL EXISTING CONCRETE PAVING, SIDEWALK, AND CURB DEMOLITION SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR. DISPOSAL SHALL BE AT AN APPROVED OFF-SITE, LAWFUL LOCATION, UNLESS DIRECTED OTHERWISE BY THE OWNER.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS
STORM CONSTRUCTION NOTES

- STORM SEWER SHALL BE REINFORCED CONCRETE PIPE (C-76, CLASS III), AND SHALL BE INSTALLED, BEDDED, AND BACK FILLED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 02317-02, 02317-3, 02317-05, 02317-06, AND 02317-07 (OCT. 2002) AS APPLICABLE UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- ALL STORM SEWER CONSTRUCTED IN SIDELOT EASMENT SHALL BE R.C.P (C-76, CLASSIII) AND SHALL BE EMBEDDED IN ACCORDANCE WITH THE CITY OF HOUSTON DRAWING NOS. 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 AS APPLICABLE.
- ALL SEWER UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1-1/2 SACK CEMENT/C.Y. STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE. THE REMAINING DEPTH OF TRENCH SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL.
- ALL TRENCH BACKFILL SHALL BE IN 8" LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS IN EACH LIFT, AND MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMACTION TEST (ASTM D-698/AASHTO T99).
- CIRCULAR AND ELLIPTICAL REINFORCED CONCRETE PIPE SHALL BE INSTALLED USING RUBBER GASKET JOINT CONFORMING TO ASTM C443 AND ASTM C877 RESPECTIVELY.
- ALL STORM SEWER PIPES AND INLET LEADS SHALL BE 24" AND LARGER RCP (C-76, CLASS III).
- ALL PROPOSED PIPE STUB-OUTS FROM MANHOLES AND INLET LEADS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.
- MINIMUM HORIZONTAL CLEARANCE BETWEEN ANY STORM PIPE AND BOX SHALL BE AT LEAST 48-INCHES FROM EXTERIOR OF THE STORM PIPE OR BOX TO THE EXTERIOR OF THE EXISTING OR PROPOSED PUBLIC OR PRIVATE UTILITY AND OTHER APPURTENANCES. MINIMUM VERTICAL CLEARANCE BETWEEN ANY STORM PIPE AND BOX SHALL BE AT LEAST 18-INCHES FROM EXTERIOR OF THE STORM PIPE OR BOX TO THE EXTERIOR OF THE EXISTING OR PROPOSED PUBLIC OR PRIVATE UTILITY AND OTHER APPURTENANCES.
- ADJUST MANHOLE COVERS TO GRADE CONFORMING TO REQUIREMENTS OF SECTION 02086-ADJUSTING MANHOLES, INLETS, AND VALAVE BOXES TO GRADE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACK SLOPE DRAINAGE SYSTEM DISTURBED AS A RESULT OF THIS WORK.
- ALL DITCHES SHALL BE GRADED TO PROPOSED ELEVATIONS TO INSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE PROPERLY BACKFILLED AND COMPACTED. ALL DISTURBED AREA SHALL BE REGRADED, SEEDED, AND FERTILIZED.
- ALL DRIVEWAYS WILL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES

CITY OF HOUSTON
HOUSTON PUBLIC WORKS
SWPPP CONSTRUCTION NOTES

- CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND SIDE DITCHES AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION (SWPP) PLANS TO KEEP SILT AND OR EXCAVATED MATERIALS FROM ENTERING INTO THE STORM WATER INLETS AND DITCHES EVENTUALLY POLLUTING THE RECEIVING STORM.
- DURING THE EXCAVATION PHASE OF THE PROJECT, CONTRACTOR SHALL SCHEDULE THE WORK IN SHORT SEGMENTS SO THAT EXCAVATION MATERIAL CAN BE QUICKLY HAULED AWAY FROM THE SITE AND TO PREVENT IT FROM STAYING UNCOLLECTED ON THE EXISTING PAVEMENT. ANY LOOSE EXCAVATED MATERIAL WHICH FALLS ON PAVEMENTS OR DRIVEWAYS SHALL BE SWEEPED BACK INTO THE EXCAVATED AREA.
- CONTRACTOR SHALL CLEAN UP THE EXISTING STREET INTERSECTIONS AND DRIVEWAYS DAILY, AS NECESSARY, TO REMOVE ANY EXCESS MUD, SILT OR ROCK TRACKED FORM THE EXCAVATED AREA.
- CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.
- CONTRACTOR TO INSPECT AND MAINTAIN THE AREAS LISTED BELOW AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.
 - DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
 - AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
 - STRUCTURAL CONTROL MEASURES.
 - LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.
- CONTRACTOR TO BE RESPONSIBLE TO MAINTAIN EXISTING DITCHES AND OR CULVERTS FOR UNOBSTRUCTED DRAINAGE AT ALL TIMES. WHERE SODDING IS DISTURBED BY EXCAVATION ON BACKFILLING OPERATIONS, SUCH AREAS SHALL BE REPLACED BY SEEDING OR SODDING. SLOPES 4:1 OR STEEPER SHALL BE REPLACED BY BLOCK SODDING.

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Signature valid for six months.

Date
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities – not to be used for conflict verification)
Signature valid for six months.

Date
Approved for AT&T underground conduit facilities only. Signature valid for one year.



3151 Briarpark Drive, Ste. 275
Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

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

RESPONSIBLE ENGINEER:
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

60% SUBMITTAL

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS	
CONSTRUCTION NOTES	
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
MASOOUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 3 OF 69	

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS
SANITARY SEWER CONSTRUCTION NOTES

- ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF HOUSTON "STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, STREET PAVING, AND TRAFFIC" AND ALL CURRENT AMENDMENTS THERETO AND BE SUBJECT TO A STANDARD EXFILTRATION TEST. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF SEWER LINE INCLUDED IN THE PROJECT. REQUIREMENTS OF TEXAS ADMINISTRATIVE CODE, TITLE 30 CHAPTER 217, "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS" SHALL GOVERN WHERE CONFLICTS EXIST EXCEPT WHERE CITY REQUIREMENTS ARE MORE STRINGENT.
- ALL MANHOLES ARE TO BE PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBERS 02082-01, 02082-02, 02082N-02, 02082-03, AND 02082N-03 UNLESS OTHERWISE NOTED. USE 2019 VERSION AS APPLICABLE.
- SANITARY SEWER MANHOLES WILL HAVE BEDDING AND BACKFILL PER CITY OF HOUSTON STANDARD DETAILS DRAWING NO. 02317-08 UNLESS OTHERWISE NOTED.
- THE SANITARY SEWER PVC PIPE SHALL BE ASTM D 3034 TYPE PSM SDR 26 GRAVITY SEWER PIPE, ASTM D2241 SDR 26 PRESSURE RATED SEWER PIPE OR AWWA C-900 DR-18 GREEN PVC PRESSURE RATED SEWER PIPE BASED ON CONSTRUCTION CONDITION REQUIREMENT AND CONFORMING TO ASTM D1784 AND CITY OF HOUSTON STANDARD SPECIFICATION SECTION 02506 POLYVINYL CHLORIDE PIPE.
- WHEN SS PRESSURE RATED PVC PIPE IS USED ON WATERLINE (WL) CROSSING UNDER CONDITION 1 OF COH IDM TABLE 7.3, THE SAME TYPE OF D2241 SDR 26 PVC PIPE OR C-900 GREEN DR-18 PVC GREEN PRESSURED TO BE UTILIZING IN-BETWEEN TWO SS MH'S. OR TO UTILIZE A DI TRANSITION ADAPTER FOR THE CONNECTING OF ASTM D-3034 PVC GRAVITY PIPE TO DI-00 AWWA C-900 PVC PIPE CENTERED AT WL WHEN CONNECTING TWO DIFFERENT TYPES OF PVC PIPES FOR SEWER CONSTRUCTION.
- AWWA C-900 DR-18 PVC PIPE USES EITHER AWWA C900 DR-18 PVC FITTINGS OR DIP FITTINGS.
- ALL SANITARY SEWER LINES UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL HAVE BEDDING PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBERS 02317-01, 02317-02, OR 02317-03 AS APPLICABLE. WITH 1 ½ SACK CEMENTICY STABILIZED SAND BACKFILL UP TO THE BOTTOM OF THE PAVEMENT SUBGRADE. 100 PSI PERFORMANCE RESULTS ARE STILL REQUIRED.
- ALL SANITARY SEWERS CROSSING WATER LINES WITH A CLEARANCE BETWEEN 12 INCHES AND 9 FEET SHALL HAVE A MINIMUM OF ONE 18" JOINT OF 150 PSI DUCTILE IRON OR (GREEN) C900 PVC PIPE MEETING ASTM SPECIFICATION D2241 CENTERED ON WATER LINE. WHEN WATER LINE IS BELOW SANITARY SEWER, PROVIDE MINIMUM 2 FOOT SEPARATION.
- CONTRACTOR SHALL PROVIDE A MINIMUM HORIZONTAL CLEARANCE OF 9' FEET BETWEEN WATER LINES AND SANITARY SEWER MANHOLES AND LINES.
- SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET 3" - 6" ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING WITH SLOPED BACKFILL ADDED FOR STORM WATER TO DRAIN AWAY FROM MANHOLE RIM.
- IN WET STABLE TRENCH AREAS USE BEDDING PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBER 02317-02.
- DEFLECTION TEST: DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5% IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED AS PER 30 TAC 217.57 LATEST AMENDMENT AND WITHOUT MECHANICAL PULLING DEVICES. NO BALL-TYPE MANDREL IS ALLOWED.
- INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER TAC, TITLE 30 217.57 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.
 - INFILTRATION OR EXFILTRATION TEST: TOTAL LEAKAGE AS DETERMINED BY A HYDROSTATIC HEAD TEST SHALL NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO (2) FEET.
 - LOW-PRESSURE AIR TEST: PERFORM TEST ACCORDING TO UNI-B-6-90 OR OTHER APPROPRIATE PROCEDURES. FOR SECTIONS OF PIPE LESS THAN 36" (INCH) AVERAGE INSIDE DIAMETER, THE MINIMUM ALLOWABLE TIME FOR PRESSURE DROP FROM 3.5 P.S.I.G. TO 2.5 P.S.I.G. SHALL BE AS FOLLOWS:

6" 340 SECONDS OR 0.855(L) FOR TEST LENGTHS GREATER THAN 398'
8" 454 SECONDS OR 1.520(L) FOR TEST LENGTHS GREATER THAN 298'
10" 567 SECONDS OR 2.374(L) FOR TEST LENGTHS GREATER THAN 239'
12" 680 SECONDS OR 3.419(L) FOR TEST LENGTHS GREATER THAN 199'
15" 850 SECONDS OR 5.342(L) FOR TEST LENGTHS GREATER THAN 159'
18" 1020 SECONDS OR 7.693(L) FOR TEST LENGTHS GREATER THAN 133'

WHERE L = LENGTH OF LINE OF SAME PIPE SIZE IN FEET.
- "SAN. S. E." INDICATES "SANITARY SEWER EASEMENT"
- FOR SANITARY MANHOLE (MH) RIMS SET INSIDE OF OR @ CURB & GUTTER PAVEMENT AND/OR BELOW T.C., MH RIMS WILL BE SET FLUSHED WITH AN ABUTTING PAVED SURFACE. THE (VALCUN, NEENAH OR EQUAL) HEAVY DUTY BOLTED SOLID MH COVER SHALL BE PROPERLY (AND SECURELY) ATTACHED AND SEALED TO ITS COMPATIBLE GASKETED FRAME BY USING BOTH A NEOPRENE GASKET AND (AT LEAST) 4 COUNTER-SUNK HEX-HEAD COARSE THREADED ½"-13 UNC STAINLESS STEEL BOLTS. THE HEAVY DUTY FRAME MH COVER SHALL BE SOLID (NO AIR HOLES). SAID FRAME SHALL BE BOTH EMBEDDED INTO THE MH'S TOP ALSO SECURELY ANCHORED TO THE UNDERLYING MH STRUCTURE WITH EITHER SECURELY ATTACHED EMBEDDED ANCHOR BOLTS OR THE CONCRETE MH'S EXPOSED REBARS WELDED TO THE FRAME OR OTHER EQUALLY SECURED METHODS TO PREVENT MH COVER/FRAME BLOW-OFFS/EJECTIONS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS
TRAFFIC

- CONTRACTOR OR OWNER SHALL SUBMIT TRAFFIC CONTROL PLANS WITH THE MOBILITY PERMIT APPLICATION. THE PLANS SHALL BE DRAWN TO SCALE AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS.
- THE GENERAL NOTES THAT SHALL BE INCLUDED ON THE TRAFFIC CONTROL PLAN CAN BE FOUND IN CHAPTER 15 (15.12 TRAFFIC CONTROL PLAN) OF THE CITY OF HOUSTON'S (CITY) INFRASTRUCTURE DESIGN MANUAL (IDM). BELOW ARE SEVERAL KEY NOTES FROM THE IDM TO BE AWARE OF:
- THE CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) LATEST EDITION WITH REVISIONS DURING THE ENTIRE CONSTRUCTION PERIOD.
 - NO WORK SHALL BE PERFORMED IN RESIDENTIAL AREAS FROM 7:00PM TO 7:00AM.
 - CONTRACTOR SHALL MAINTAIN APPROVED NUMBER OF LANES OF TRAFFIC IN EACH DIRECTION DURING CONSTRUCTION WORKING HOURS. TRAFFIC CONTROL PLANS SHALL INCLUDE ONE-WAY AND/OR DETOUR PLANS. CONTRACTOR SHALL MAINTAIN ADA COMPLAINT PEDESTRIAN ACCESS TO BUS STOPS AND ADEQUATE BUS ACCESS TO THE BUS STOP.
 - CONTRACTOR SHALL COVER OPEN PAVEMENT EXCAVATIONS FOR MINOR UTILITY WORK WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, OPEN LANES FOR NORMAL TRAFFIC FLOW WHEN FEASIBLE.
 - CONTRACTOR SHALL SECURE LANE/SIDEWALK/BICYCLE FACILITY CLOSURE PERMITS FROM TRANSPORTATION & DRAINAGE OPERATIONS (MOBILITY PERMIT SECTION AT WWW.GIMS.HOUSTONTX.GOV) BEFORE IMPLEMENTING THE TRAFFIC CONTROL PLAN. THE APPLICATION MUST BE SUBMITTED AT LEAST TEN BUSINESS DAYS PRIOR TO THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN AND/OR BEGINNING CONSTRUCTION WORK. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS, CONSTRUCTION SEQUENCING, AND CONSTRUCTION SCHEDULE WITH THE APPLICATION.
 - CONTRACTOR SHALL HAVE APPROVED TRAFFIC CONTROL PLAN AND PERMIT AT THE JOB SITE FOR INSPECTION AT ALL TIMES
 - ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES AS MUCH AS POSSIBLE. ADDITIONAL CONES AND/OR DELINEATORS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE MAINTAINED ACROSS THE DRIVEWAY, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE CITY OF HOUSTON.
 - ADDITIONAL OFF DUTY POLICE OFFICERS/FLAGGERS MAY BE REQUESTED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED AT THE DIRECTION OF THE CITY EVEN IF THEY ARE NOT SPECIFICALLY IDENTIFIED ON THE PROJECT PLANS.

PRIVATE UTILITY NOTES:

CENTERPOINT ENERGY NOTES:

CAUTION: UNDERGROUND GAS FACILITIES

THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

- WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 207-5463 OR (713- 945-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713) 659-3552 OR (713) 207-4200. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL LINES:

OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:

- ANY ACTIVITY WHERE PERSON OR THINGS MAY COME WITHIN SIX(6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
- OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT (713) 207-2222.

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY
NO APPROVAL TO USE, CROSS OR OCCUPY CENTERPOINT FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING & RIGHT OF WAY DIVISION AT (713) 207-6348 OR (713) 207-5769.

PRIVATE UTILITY NOTES (CONT):

AT&T TEXAS/ SWBT FACILITIES:

- THE LOCATIONS OF AT&T TEXAS/SWBT FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL CALL 1-800-344-8377 (TEXAS 811) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF AT&T TEXAS/SWBT FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWBT FACILITIES.
- WHEN AT&T TEXAS/SWBT FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
- THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES OR BURIED CABLE FACILITIES SHOWN ON THESE PLANS DOES NOT MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN CONDUIT IN THE AREA.
- PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANAGER KEVIN RAY AT (713)614-1983 OR E-MAIL HIM AT KR7896@ATT.COM, IF CABLE LOCATE REQUESTS ARE NOT COMPLETED FOR OUR AT&T TEXAS/SWBT FACILITIES.

NOTICE: FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811	
VERIFICATION OF PRIVATE UTILITY LINES	
Date	
CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification. Signature valid for six months.	
Date	
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities – not to be used for conflict verification) Signature valid for six months.	
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Approved for AT&T underground conduit facilities only. Signature valid for one year.	
 3151 Briarpark Drive, Ste. 275 Houston, TX 77042 713.779.2990 TBPELS Registration No. F-9245	THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES. RESPONSIBLE ENGINEER: BOWMAN ENGINEERING & CONSULTING, INC. WILLIE V. BROWN, P.E. TEXAS REGISTRATION NO. 85396 Jun 02,2025 60% SUBMITTAL
SURVEYED BY: FB NO. 000000	

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

GENERAL NOTES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
NOT TO SCALE	
CITY OF HOUSTON PM	
MASOOUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 4 OF 69	

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		AERIAL POWER LINE					ELECTRIC BOXES			<table><tr><td>BL</td><td>BASELINE</td><td>RCB</td><td>REINFORCED CONCRETE BOX</td></tr><tr><td>BBIN</td><td>BB-INLET</td><td>RCP</td><td>REINFORCED CONCRETE PIPE</td></tr><tr><td>BC</td><td>BACK OF CURB</td><td>REINF</td><td>REINFORCED</td></tr><tr><td>BH-B2</td><td>BOREHOLE-DESIGNATION</td><td>ROW</td><td>RIGHT-OF-WAY</td></tr><tr><td>BLDG</td><td>BUILDING/MOBILE HOME</td><td>RD</td><td>ROAD</td></tr><tr><td>BWF</td><td>BARBED WIRE FENCE</td><td>RJ</td><td>RESTRAINED JOINT</td></tr><tr><td>CATV</td><td>CABLE TV BOX</td><td>SAN</td><td>SANITARY</td></tr><tr><td>CI</td><td>CURB INLET</td><td>STM</td><td>STORM</td></tr><tr><td>CIP</td><td>CAST IRON PIPE</td><td>SWR</td><td>SEWER</td></tr><tr><td>CL</td><td>CENTERLINE</td><td>TB</td><td>TOP OF BANK</td></tr><tr><td>CLF</td><td>CHAINLINK FENCE</td><td>TBM</td><td>TEMPORARY BENCHMARK</td></tr><tr><td>CMP</td><td>CORRUGATED METAL PIPE</td><td>TCE</td><td>TEMPORARY CONSTRUCTION</td></tr><tr><td>CO</td><td>CLEANOUT</td><td></td><td>EASEMENT</td></tr><tr><td>CONC</td><td>CONCRETE</td><td>TP</td><td>TOP OF PAVEMENT</td></tr><tr><td>CNP</td><td>CENTRPOINT ENERGY</td><td>TYP</td><td>TYPICAL</td></tr><tr><td>DIA</td><td>DIAMETER</td><td>UGE</td><td>UNDERGROUND ELECTRIC LINE</td></tr><tr><td>DR</td><td>DRIVE</td><td>VC</td><td>VERTICAL CURVE</td></tr><tr><td>DWG</td><td>DRAWING</td><td>VENT</td><td>WATERLINE VENT</td></tr><tr><td>E</td><td>EAST</td><td>W</td><td>WEST</td></tr><tr><td>EA</td><td>EACH</td><td>WDF</td><td>WOOD FENCE</td></tr><tr><td>EL OR ELEV</td><td>ELEVATION</td><td>W/</td><td>WITH</td></tr><tr><td>EOP</td><td>EDGE OF PAVEMENT</td><td>WL</td><td>WATER LINE</td></tr><tr><td>EDR</td><td>EDGE OF DRIVEWAY</td><td>WM</td><td>WATER METER</td></tr><tr><td>ER</td><td>END RETURN</td><td>WV</td><td>WATER VALVE</td></tr><tr><td>ESMT</td><td>EASEMENT</td><td></td><td></td></tr><tr><td>EXIST.</td><td>EXISTING</td><td></td><td></td></tr><tr><td>F-F</td><td>FACE TO FACE</td><td></td><td></td></tr><tr><td>FH</td><td>FIRE HYDRANT</td><td></td><td></td></tr><tr><td>FL</td><td>FLOWLINE</td><td></td><td></td></tr><tr><td>FNC</td><td>FENCE</td><td></td><td></td></tr><tr><td>FT</td><td>FEET</td><td></td><td></td></tr><tr><td>GM</td><td>GAS METER</td><td></td><td></td></tr><tr><td>GUT</td><td>GUTTER</td><td></td><td></td></tr><tr><td>GV&B</td><td>GATE VALVE AND BOX</td><td></td><td></td></tr><tr><td>GW</td><td>GUY WIRE/DOWN GUY</td><td></td><td></td></tr><tr><td>HDPE</td><td>HIGH DENSITY POLYETHELYNE</td><td></td><td></td></tr><tr><td>HMAC</td><td>HOT MIX ASPHALTIC CONCRETE</td><td></td><td></td></tr><tr><td>ID</td><td>INSIDE DIAMETER</td><td></td><td></td></tr><tr><td>INV</td><td>INVERT ELEVATION</td><td></td><td></td></tr><tr><td>JB</td><td>JUNCTION BOX</td><td></td><td></td></tr><tr><td>JT</td><td>JOINT</td><td></td><td></td></tr><tr><td>LF</td><td>LINEAR FEET</td><td></td><td></td></tr><tr><td>LN</td><td>LANE</td><td></td><td></td></tr><tr><td>LP</td><td>LIGHT POLE</td><td></td><td></td></tr><tr><td>LT</td><td>LEFT</td><td></td><td></td></tr><tr><td>MB</td><td>MAIL BOX</td><td></td><td></td></tr><tr><td>MH</td><td>MANHOLE</td><td></td><td></td></tr><tr><td>MIN</td><td>MINIMUM</td><td></td><td></td></tr><tr><td>MON</td><td>MONUMENT</td><td></td><td></td></tr><tr><td>NG</td><td>NATURAL GROUND</td><td></td><td></td></tr><tr><td>NO.</td><td>NUMBER</td><td></td><td></td></tr><tr><td>NTS</td><td>NOT TO SCALE</td><td></td><td></td></tr><tr><td>OFS</td><td>OFFSET</td><td></td><td></td></tr><tr><td>PC</td><td>POINT OF CURVATURE</td><td></td><td></td></tr><tr><td>PCC</td><td>POINT OF COMPOUND CURVATURE</td><td></td><td></td></tr><tr><td>PI</td><td>POINT OF INTERSECTION</td><td></td><td></td></tr><tr><td>PM</td><td>PIPELINE MARKER</td><td></td><td></td></tr><tr><td>PP</td><td>POWER POLE</td><td></td><td></td></tr><tr><td>PROP.</td><td>PROPOSED</td><td></td><td></td></tr><tr><td>PT</td><td>POINT</td><td></td><td></td></tr><tr><td>PT</td><td>POINT OF TANGENCY</td><td></td><td></td></tr><tr><td>PVC</td><td>POINT OF VERTICAL CURVATURE</td><td></td><td></td></tr><tr><td>PVC</td><td>POLYVINYL CHLORIDE</td><td></td><td></td></tr><tr><td>PVI</td><td>POINT OF VERTICAL INTERSECTION</td><td></td><td></td></tr><tr><td>PVMT</td><td>PAVEMENT</td><td></td><td></td></tr><tr><td>R</td><td>RADIUS</td><td></td><td></td></tr></table>						BL	BASELINE	RCB	REINFORCED CONCRETE BOX	BBIN	BB-INLET	RCP	REINFORCED CONCRETE PIPE	BC	BACK OF CURB	REINF	REINFORCED	BH-B2	BOREHOLE-DESIGNATION	ROW	RIGHT-OF-WAY	BLDG	BUILDING/MOBILE HOME	RD	ROAD	BWF	BARBED WIRE FENCE	RJ	RESTRAINED JOINT	CATV	CABLE TV BOX	SAN	SANITARY	CI	CURB INLET	STM	STORM	CIP	CAST IRON PIPE	SWR	SEWER	CL	CENTERLINE	TB	TOP OF BANK	CLF	CHAINLINK FENCE	TBM	TEMPORARY 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EXISTING			F-F	FACE TO FACE			FH	FIRE HYDRANT			FL	FLOWLINE			FNC	FENCE			FT	FEET			GM	GAS METER			GUT	GUTTER			GV&B	GATE VALVE AND BOX			GW	GUY WIRE/DOWN GUY			HDPE	HIGH DENSITY POLYETHELYNE			HMAC	HOT MIX ASPHALTIC CONCRETE			ID	INSIDE DIAMETER			INV	INVERT ELEVATION			JB	JUNCTION BOX			JT	JOINT			LF	LINEAR FEET			LN	LANE			LP	LIGHT POLE			LT	LEFT			MB	MAIL BOX			MH	MANHOLE			MIN	MINIMUM			MON	MONUMENT			NG	NATURAL GROUND			NO.	NUMBER			NTS	NOT TO SCALE			OFS	OFFSET			PC	POINT OF CURVATURE			PCC	POINT OF COMPOUND CURVATURE			PI	POINT OF INTERSECTION			PM	PIPELINE MARKER			PP	POWER POLE			PROP.	PROPOSED			PT	POINT			PT	POINT OF TANGENCY			PVC	POINT OF VERTICAL CURVATURE			PVC	POLYVINYL CHLORIDE			PVI	POINT OF VERTICAL INTERSECTION			PVMT	PAVEMENT			R	RADIUS		
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EXISTING LINE SYMBOLS (PROFILE)		DESCRIPTION	PROPOSED LINE SYMBOLS (PROFILE)	
		WATER LINE 21" & SMALLER		
		WATER LINE 24" & LARGER		
		STORM SEWER 24" & SMALLER		
		STORM SEWER 27" & LARGER		
		SANITARY SEWER 24" & SMALLER		
		SANITARY SEWER 30" & LARGER		
		RESTRAINED JOINT PIPE		

		SANITARY SEWER MANHOLE		
		STORM SEWER MANHOLE		

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		SANITARY SEWER MANHOLE		
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L:\7060 Frenchtown\PHASE II\Design\CADD\1 - General\Construction Key Notes.dwg, 6/2/25 6:22:29 PM, jtaraba

CONSTRUCTION KEY NOTES

- 1
- REMOVE EXISTING HMAC PAVEMENT, BASE, AND SUBGRADE MATERIAL
- 2
- FULL-DEPTH SAWCUT
- 3
- PROVIDE 26 LF CONCRETE PAVEMENT HEADER
- 4
- ASPHALT TRANSITION PAVEMENT
- 5
- REMOVE EXISTING STORM CULVERT
- 6
- REGRADE EXISTING DITCH TO PROPOSED FLOW LINE
- 7
- CUT, PLUG, AND ABANDON EXISTING WATER LINE
- 8
- ADJUST EXISTING SANITARY MANHOLE RIM TO FINISHED GRADE
- 9
- BRACE EXISTING WOODEN POWER POLE DURING CONSTRUCTION
- 10
- TEMPORARILY RELOCATE EXISTING MAIL BOX DURING CONSTRUCTION.
RELOCATE EXISTING MAIL BOX TO 1.5 FEET BEHIND PROPOSED EDGE OF PAVEMENT
- 11
- REMOVE EXISTING CONCRETE DRIVEWAYS
- 12
- REMOVE EXISTING ASPHALT DRIVEWAY
- 13
- REMOVE EXISTING GRAVEL DRIVEWAY
- 14
- REMOVE AND SALVAGE EXISTING TRAFFIC SIGN
- 15
- PROPOSED LANDSCAPE ISLAND. GRADE TO DRAIN.
- 16
- 6-INCH DIAMETER SANITARY SEWER SERVICE LINE
- 17
- REMOVE EXISTING SANITARY SEWER SERVICE STUBS AND REPLACE WITH
6-INCH STUBS
- 18
- INSTALL CLEANOUT

BOWMAN

ENGINEERING/CONSULTING INC.

3151 Briarpark Drive, Ste. 275
Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

SURVEYED BY:
FB NO. 000000

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

RESPONSIBLE ENGINEER:
BOWMAN ENGINEERING & CONSULTING, INC.
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

60% SUBMITTAL

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

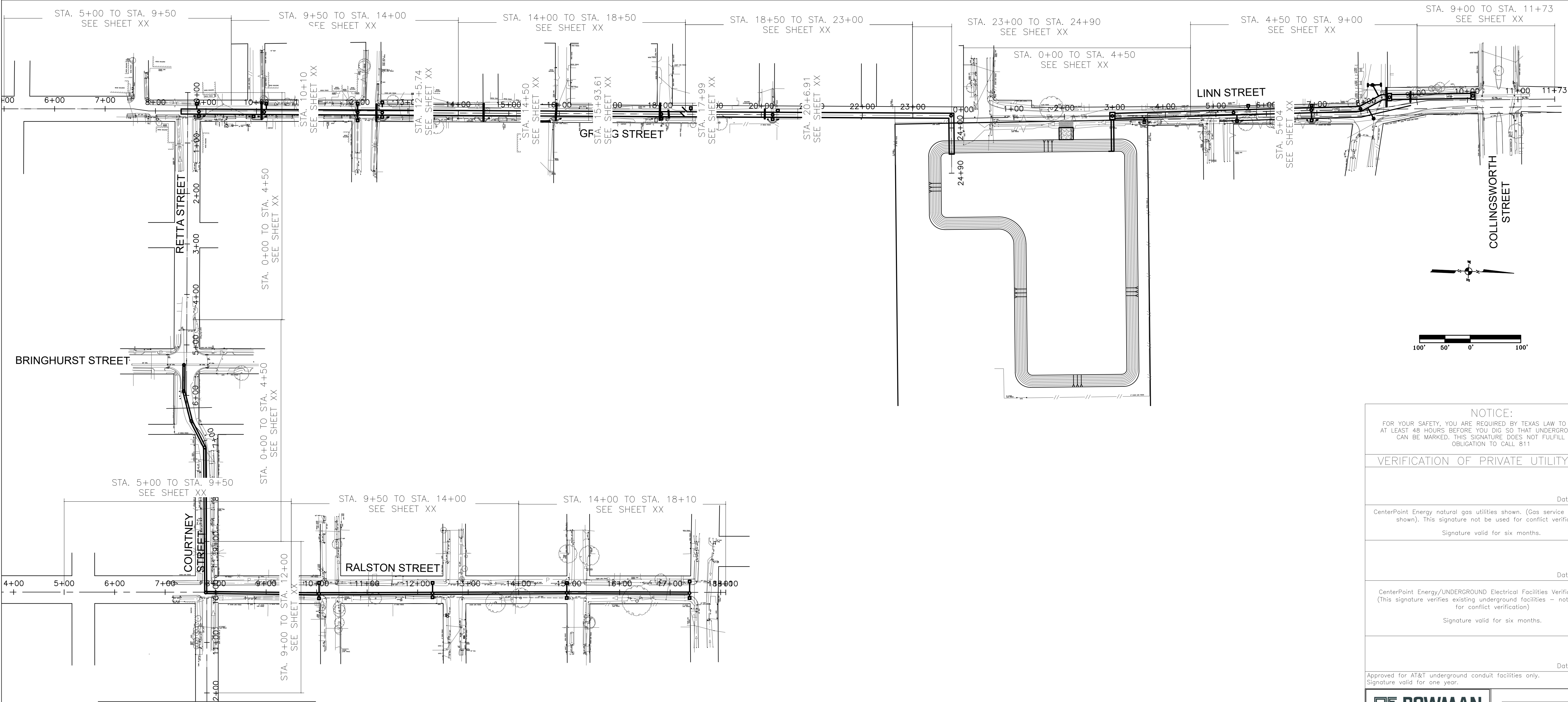
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

CONSTRUCTION KEY NOTES

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 6 OF 69	

PLOT STYLE: Qci Land Development.ctb
PLOTTED: 6/2/2025 6:21 PM

FILE PATH: L:\7060 Frenchtown\PHASE I\Design\CADD\3 - Plan & Profiles\OVERALL LAYOUT.dwg



MATCH LINE STA. 12+00

NO.	DATE	REVISION	APP.
MM/DD/YY	BRIEF DESCRIPTION	XXX	
MM/DD/YY	BRIEF DESCRIPTION	XXX	
MM/DD/YY	BRIEF DESCRIPTION	XXX	

NOTICE:

FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.

Signature valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities – not to be used for conflict verification)

Signature valid for six months.

Date

Approved for AT&T underground conduit facilities only. Signature valid for one year.

BOWMAN
ENGINEERING/CONSULTING INC.

3151 Briarpark Drive, Ste. 275
Houston, TX 77042
713.779.2990
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FB NO. 000000

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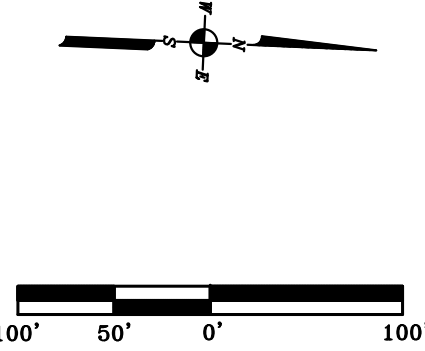
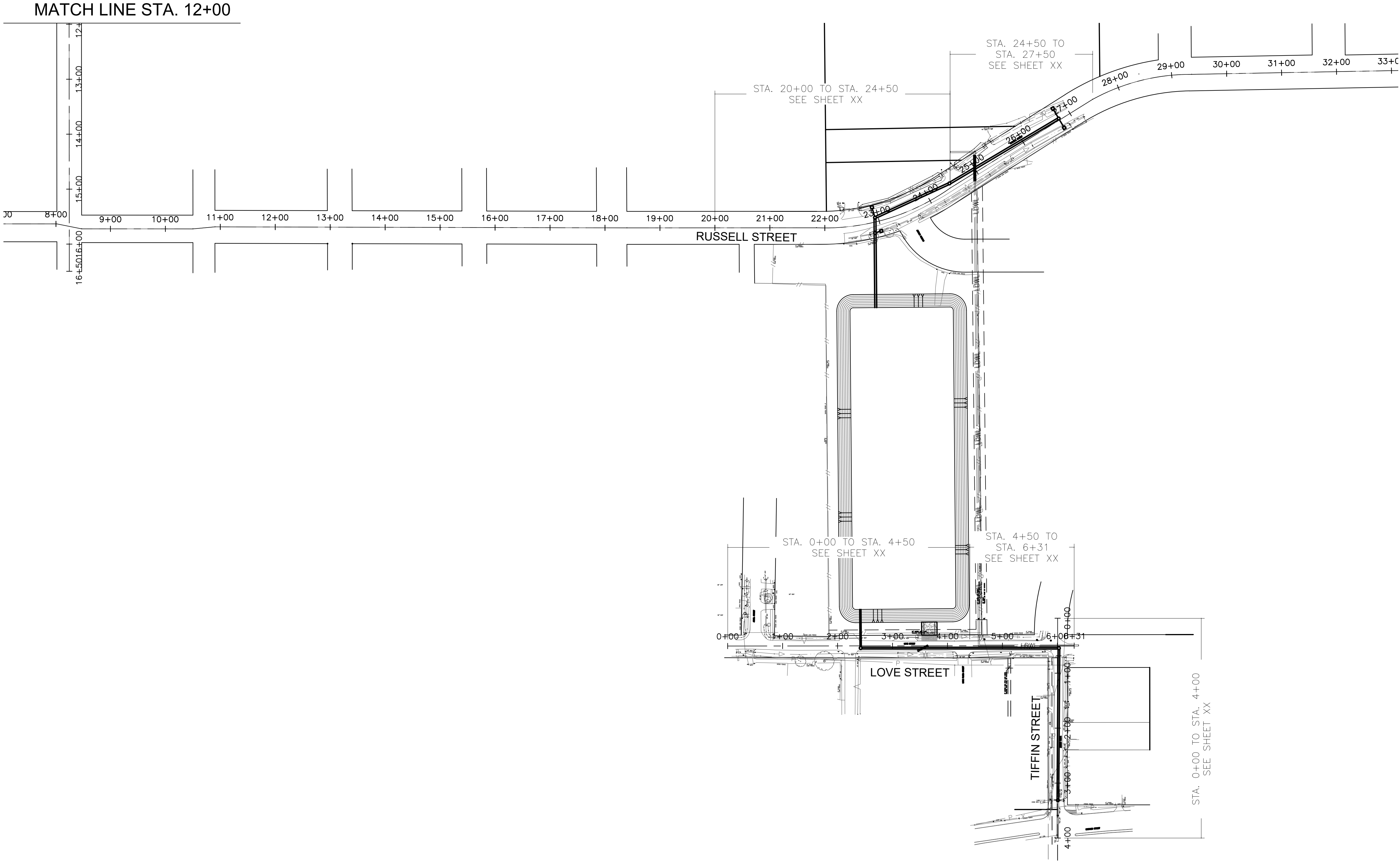
RESPONSIBLE ENGINEER:
BOWMAN ENGINEERING & CONSULTING, INC.
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
OVERALL LAYOUT (1 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 7 OF 69	



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3151 Briarpark Drive, Ste. 275
Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

SURVEYED BY:
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RESPONSIBLE ENGINEER:
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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025
60% SUBMITTAL

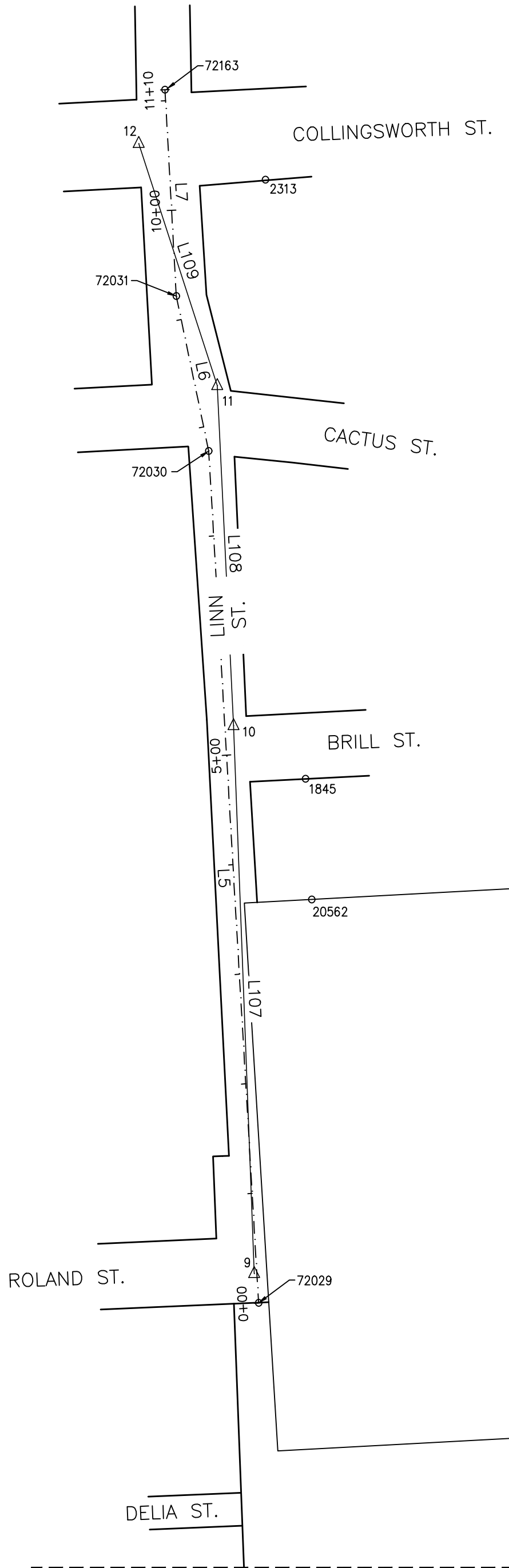
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
OVERALL LAYOUT (2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 8 OF 69	

MM/DD/YY	BRIEF DESCRIPTION	XXX
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MM/DD/YY	BRIEF DESCRIPTION	XXX
NO.	DATE	REVISION
		APP.

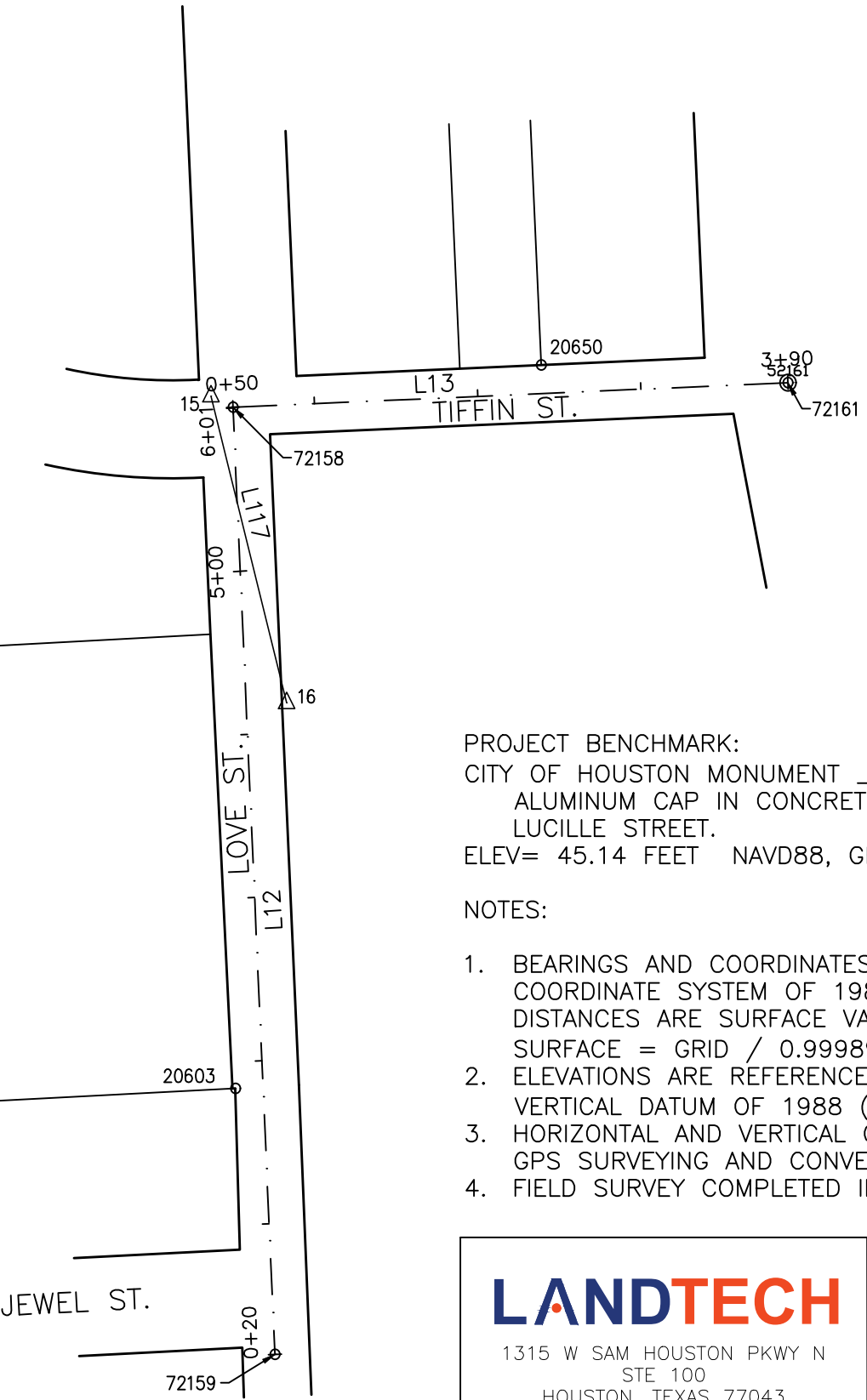
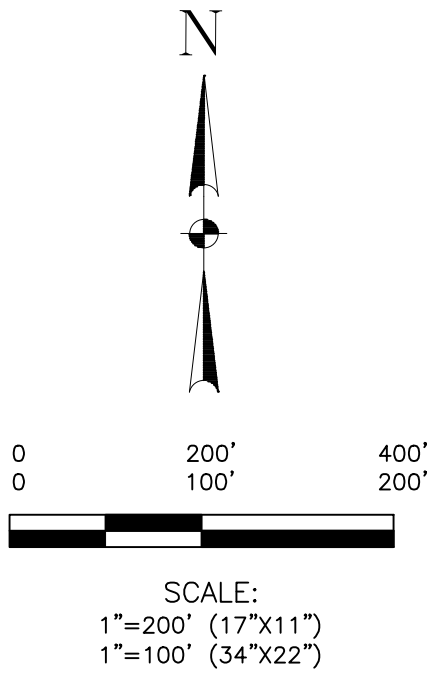
S:\2024\2420176\CADD\Frenchtown Drainage & Paving Improvement scm.dwg, 5/29/25 11:14:33 AM, nguyen



DESIGN BASELINE TABLE							
POINT	STATION	SURFACE NORTH	SURFACE EAST	GRID NORTH	GRID EAST	DESCRIPTION	BASELINE
72029	0+00.00	13,854,792.90	3,130,833.92	13,853,362.18	3,130,510.62	SET 5/8" IR W/CAP "LANDTECH"	LINN ST.
72030	7+77.49	13,855,569.06	3,130,788.51	13,854,138.26	3,130,465.21	SET CONCRETE NAIL	LINN ST.
72031	9+21.76	13,855,710.28	3,130,758.97	13,854,279.46	3,130,435.67	SET CONCRETE NAIL	LINN ST.
72163	11+10.00	13,855,898.24	3,130,748.70	13,854,467.40	3,130,425.40	SET CONCRETE NAIL	LINN ST.
72159	0+20.00	13,854,611.65	3,133,113.60	13,853,180.95	3,132,790.06	SET CONCRETE NAIL	LOVE ST.
72158	6+00.52	13,855,191.61	3,133,087.94	13,853,760.84	3,132,764.40	SET CONCRETE NAIL	LOVE ST.
72155	22+50.00	13,854,785.11	3,132,341.58	13,853,354.39	3,132,018.11	SET CONCRETE NAIL	RUSSELL ST.
72064	24+43.07	13,854,960.04	3,132,264.55	13,853,529.30	3,131,941.09	SET CONCRETE NAIL	RUSSELL ST.
72156	27+00.00	13,855,172.06	3,132,119.44	13,853,741.30	3,131,796.00	SET CONCRETE NAIL	RUSSELL ST.
72158	0+50.00	13,855,191.61	3,133,087.94	13,853,760.84	3,132,764.40	SET CONCRETE NAIL	TIFFIN ST.
72161	3+90.00	13,855,206.63	3,133,427.61	13,853,775.88	3,133,104.04	SET "X" IN CONC.	TIFFIN ST.

LINE TABLE		
LINE	BEARING	DISTANCE
L5	N03°20'54"W	777.49'
L6	N11°49'00"W	144.27'
L7	N03°07'41"W	188.24'
L11	N34°23'20"W	256.93'
L12	N02°32'00"W	580.52'
L13	N87°28'00"E	340.00'
L107	N02°09'02"W	499.63'
L108	N02°44'53"W	310.15'
L109	N17°57'40"W	231.87'
L116	S31°20'06"E	254.67'
L117	S13°50'32"E	193.45'

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C3	393.64'	28°06'09"	193.07'	N23°45'53"W 191.15'



PROJECT BENCHMARK:
CITY OF HOUSTON MONUMENT _____: SET 3/4"
ALUMINUM CAP IN CONCRETE AT RALSTON STREET AND
LUCILLE STREET.
ELEV= 45.14 FEET NAVD88, GEIOD18

NOTES:

- BEARINGS AND COORDINATES BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, SOUTH CENTRAL ZONE. DISTANCES ARE SURFACE VALUES IN FEET.
SURFACE = GRID / 0.999896735.
- ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), GEIOD18.
- HORIZONTAL AND VERTICAL CONTROLS ESTABLISHED USING GPS SURVEYING AND CONVENTIONAL METHODS.
- FIELD SURVEY COMPLETED IN MAY 2025.

LANDTECH 1315 W SAM HOUSTON PKWY N STE 100 HOUSTON, TEXAS 77043 T: 713-861-7068 F: 713-861-4131 TBPELS REGISTRATION NO. 10019100	RELEASED BY: NHUY NGUYEN, TX RPLS #6409 DATE: 5/29/2025 PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT
SURVEYED BY: LANDTECH INC. FB NO. TBD	

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

SURVEY CONTROL MAP
SHEET 1 OF 2

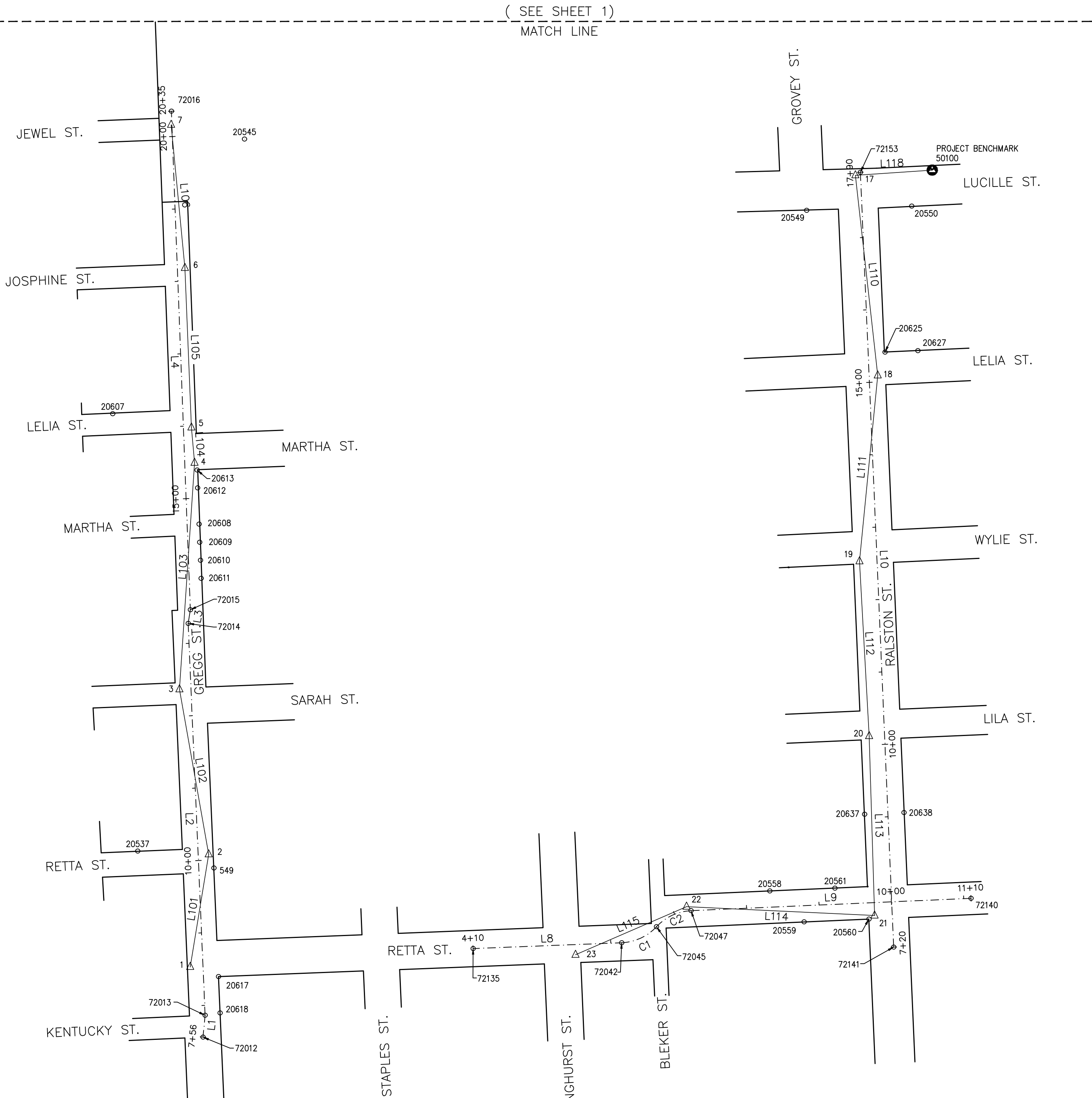
SURVEY CONTROL / TBM TABLE									
POINT	STATION	OFFSET	SURFACE NORTH	SURFACE EAST	GRID NORTH	GRID EAST	ELEV.	DESCRIPTION	CENTERLINE
9	0+26.92	2.47 LT	13,854,819.63	3,130,829.89	13,853,388.90	3,130,506.58	46.19	SET 3/8" IR W/CAP "LANDTECH"	LINN ST.
10	5+26.44	7.98 RT	13,855,318.91	3,130,811.14	13,853,888.13	3,130,487.84	45.15	SET 3/8" IR W/CAP "LANDTECH"	LINN ST.
11	8+34.27	19.81 RT	13,855,628.70	3,130,796.27	13,854,197.89	3,130,472.97	44.73	SET 3/8" IR W/CAP "LANDTECH"	LINN ST.
12	10+62.41	26.57 LT	13,855,849.27	3,130,724.77	13,854,418.44	3,130,401.47	43.76	CUT "X" IN CONC	LINN ST.
13	25+78.63	19.98 LT	13,855,060.62	3,132,171.50	13,853,629.87	3,131,848.06	46.19	SET 3/8" IR W/CAP "LANDTECH"	RUSSELL ST.
14	23+17.57	21.85 LT	13,854,843.09	3,132,303.94	13,853,412.37	3,131,980.49	44.44	SET 3/8" IR W/CAP "LANDTECH"	RUSSELL ST.
15	6+07.99	13.14 LT	13,855,198.48	3,133,074.48	13,853,767.72	3,132,750.94	44.67	SET 3/8" IR W/CAP "LANDTECH"	LOVE ST.
16	4+18.30	24.79 RT	13,855,010.66	3,133,120.76	13,853,579.91	3,132,797.22	45.24	SET 3/8" IR W/CAP "LANDTECH"	LOVE ST.

PROPERTY CORNERS TABLE								
POINT	STATION	OFFSET	SURFACE NORTH	SURFACE EAST	GRID NORTH	GRID EAST	DESCRIPTION	BASELINE
1845	4+74.24	70.46 RT	13,855,270.45	3,130,876.57	13,853,839.68	3,130,553.26	FND 1/2" IR	LINN ST.
2313	10+23.22	86.77 RT	13,855,816.32	3,130,840.08	13,854,385.49	3,130,516.77	FND 5/8" IR	LINN ST.
20562	3+64.00	69.83 RT	13,855,160.35	3,130,882.37	13,853,729.60	3,130,559.06	FND 1/2" IR	LINN ST.
20603	1+83.79	16.95 LT	13,854,774.54	3,133,089.43	13,853,343.82	3,132,765.89	FND 5/8" IR	LOVE ST.
20641	25+89.30	26.99 RT	13,855,095.96	3,132,204.23	13,853,665.20	3,131,880.78	FND 1/2" IP	RUSSELL ST.
20642	23+24.92	34.58 RT	13,854,869.48	3,132,354.37	13,853,438.75	3,132,030.91	FND "X" IN CONCRETE	RUSSELL ST.
20650	2+39.72	17.50 LT	13,855,217.48	3,133,276.70	13,853,786.71	3,132,953.14	FND 5/8" IR W/CAP	TIFFIN ST.

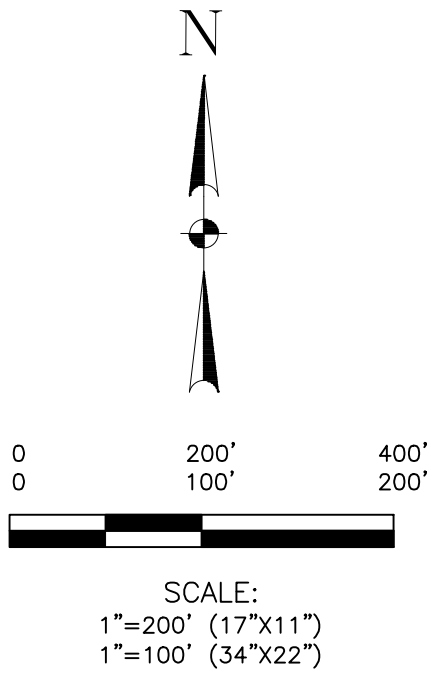
NO.	DATE	REVISION	APP.

S:\2024\2420176\CADD\Frenchtown Drainage & Paving Improvement scm.dwg, 5/29/25 11:14:35 AM, n.nguyen

SURVEY CONTROL / TBM TABLE										
POINT	STATION	OFFSET	SURFACE NORTH	SURFACE EAST	GRID NORTH	GRID EAST	ELEV.	DESCRIPTION	CENTERLINE	
1	8+53.77	17.58 LT	13,853,247.00	3,130,868.84	13,851,816.44	3,130,545.53	45.99	SET 3/8" IR W/CAP "LANDTECH"	GREGG ST.	
2	10+07.85	14.64 RT	13,853,402.33	3,130,894.36	13,851,971.76	3,130,571.04	46.05	SET 3/8" IR W/CAP "LANDTECH"	GREGG ST.	
3	12+37.17	15.82 LT	13,853,630.12	3,130,854.00	13,852,199.52	3,130,530.69	46.00	SET 3/8" IR W/CAP "LANDTECH"	GREGG ST.	
4	15+49.12	13.51 RT	13,853,942.79	3,130,874.75	13,852,512.16	3,130,551.44	46.13	SET 3/8" IR W/CAP "LANDTECH"	GREGG ST.	
5	15+97.81	10.99 RT	13,853,991.34	3,130,870.38	13,852,560.70	3,130,547.07	46.21	SET 3/8" IR W/CAP "LANDTECH"	GREGG ST.	
6	18+18.26	10.41 RT	13,854,211.62	3,130,861.42	13,852,780.96	3,130,538.11	46.42	SET 3/8" IR W/CAP "LANDTECH"	GREGG ST.	
7	20+16.25	1.08 LT	13,854,409.02	3,130,842.40	13,852,978.34	3,130,519.09	46.45	SET COTTON SPINDLE	GREGG ST.	
17	17+86.21	6.98 LT	13,854,339.34	3,131,786.65	13,852,908.67	3,131,463.24	45.83	SET 3/8" IR W/CAP "LANDTECH"	RALSTON ST.	
18	15+09.02	11.93 RT	13,854,063.22	3,131,817.43	13,852,632.57	3,131,494.02	45.91	FND MAG NAIL	RALSTON ST.	
19	12+53.92	24.28 LT	13,853,806.80	3,131,792.19	13,852,376.18	3,131,468.79	45.26	SET 3/8" IR W/CAP "LANDTECH"	RALSTON ST.	
20	10+12.30	21.26 LT	13,853,565.54	3,131,805.58	13,852,134.94	3,131,482.17	44.87	SET 3/8" IR W/CAP "LANDTECH"	RALSTON ST.	
21	7+64.65	24.31 LT	13,853,317.98	3,131,813.15	13,851,887.41	3,131,489.75	45.34	SET 3/8" IR W/CAP "LANDTECH"	RALSTON ST.	
21	9+76.08	17.82 RT	13,853,317.98	3,131,813.15	13,851,887.41	3,131,489.75	45.34	SET 3/8" IR W/CAP "LANDTECH"	RETTA COURTNEY ST.	
22	7+17.81	6.05 LT	13,853,330.21	3,131,553.62	13,851,899.64	3,131,230.24	45.23	SET 3/8" IR W/CAP "LANDTECH"	RETTA COURTNEY ST.	
23	5+50.82	14.08 RT	13,853,263.80	3,131,400.44	13,851,833.24	3,131,077.08	44.88	FND MAG NAIL	RETTA COURTNEY ST.	
50100	17+88.88	99.16 RT	13,854,346.56	3,131,892.58	13,852,915.89	3,131,569.17	45.14	SET 3/4" ALUM. CAP IN CONC.	RALSTON ST.	



CURVE TABLE					
CURVE	RADIUS	DELTA	LENGTH	CHORD	
C1	69.01'	45°00'00"	54.20'	N65°15'42"E	52.82'
C2	69.01'	44°48'05"	53.96'	N65°04'37"E	52.59'



PROPERTY CORNERS TABLE									
POINT	STATION	OFFSET	SURFACE NORTH	SURFACE EAST	GRID NORTH	GRID EAST	DESCRIPTION		BASELINE
549	9+88.69	20.95 RT	13,853,383.46	3,130,901.49	13,851,952.88	3,130,578.18	FND 1/2" IR	W/CAP	GREGG ST.
20537	10+16.56	83.19 LT	13,853,406.80	3,130,796.25	13,851,976.22	3,130,472.95	FND 1/2" IP		GREGG ST.
20545	19+92.67	99.36 RT	13,854,389.28	3,130,943.66	13,852,958.60	3,130,620.35	FND 1/2" IR		GREGG ST.
20607	16+20.90	96.79 LT	13,854,010.32	3,130,761.79	13,852,579.68	3,130,438.49	FND 1/2" IR		GREGG ST.
20608	14+64.18	16.46 RT	13,853,858.02	3,130,880.93	13,852,427.40	3,130,557.62	FND 1/2" IR		GREGG ST.
20609	14+39.23	16.44 RT	13,853,833.09	3,130,881.85	13,852,402.46	3,130,558.54	FND 1/2" IR		GREGG ST.
20610	14+14.20	16.67 RT	13,853,808.09	3,130,883.03	13,852,377.47	3,130,559.72	FND 1/2" IR		GREGG ST.
20611	13+89.32	16.52 RT	13,853,783.22	3,130,883.83	13,852,352.60	3,130,560.52	FND 1/2" IR		GREGG ST.
20612	15+14.23	16.47 RT	13,853,908.03	3,130,879.03	13,852,477.40	3,130,555.72	FND 1/2" IR		GREGG ST.
20613	15+38.91	16.74 RT	13,853,932.71	3,130,878.36	13,852,502.07	3,130,555.05	FND 1/2" IR	W/CAP "PRECISION SURVEYORS"	GREGG ST.
20617	8+38.75	20.81 RT	13,853,233.65	3,130,907.84	13,851,803.09	3,130,584.53	FND 1" IR		GREGG ST.
20618	7+88.47	20.75 RT	13,853,183.42	3,130,909.96	13,851,752.86	3,130,586.65	FND 1/2" IR		GREGG ST.
20549	17+40.77	76.42 LT	13,854,290.96	3,131,719.23	13,852,860.29	3,131,395.83	FND 5/8" IR	W/CAP "SO.TX.SURVEYING"	RALSTON ST.
20550	17+40.49	68.69 RT	13,854,296.91	3,131,864.21	13,852,866.24	3,131,540.80	FND 1/2" IR		RALSTON ST.
20560	7+60.06	32.48 LT	13,853,313.04	3,131,805.19	13,851,882.47	3,131,481.78	IR*1" IRF		RALSTON ST.
20561	8+04.69	77.55 LT	13,853,355.70	3,131,758.25	13,851,925.12	3,131,434.85	FND 1/2" IR		RALSTON ST.
20625	15+40.66	23.35 RT	13,854,095.32	3,131,827.49	13,852,664.67	3,131,504.08	IR*1" IRF		RALSTON ST.
20627	15+40.71	68.59 RT	13,854,097.31	3,131,872.69	13,852,666.66	3,131,549.27	FND 1/2" IR		RALSTON ST.
20637	9+04.85	32.13 LT	13,853,457.71	3,131,799.33	13,852,027.13	3,131,475.92	FND 1/2" IR	W/CAP "RPLS 6051"	RALSTON ST.
20638	9+04.79	22.18 RT	13,853,459.98	3,131,853.59	13,852,029.40	3,131,530.18	FND 5/8" IR	W/CAP	RALSTON ST.
20558	8+32.92	22.42 LT	13,853,351.87	3,131,668.36	13,851,921.30	3,131,344.96	FND 3/8" IR		RETTA COURTNEY ST.
20559	8+78.43	22.38 RT	13,853,309.12	3,131,715.80	13,851,878.55	3,131,392.40	FND 5/8" IR		RETTA COURTNEY ST.
20560	9+67.91	22.40 RT	13,853,313.04	3,131,805.19	13,851,882.47	3,131,481.78	FND 1" IR		RETTA COURTNEY ST.
20561	9+22.89	22.28 LT	13,853,355.70	3,131,758.25	13,851,925.12	3,131,434.85	FND 1/2" IR		RETTA COURTNEY ST.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N05°30'29"E	30.32'
L2	N02°28'51"W	541.19'
L3	N09°12'43"E	19.06'
L4	N02°10'46"W	688.43'
L8	N87°45'42"E	205.08'
L9	N87°28'40"E	386.77'
L10	N02°27'30"W	1070.00'
L101	N09°19'45"E	157.41'
L102	N10°02'46"W	231.33'
L103	N03°47'44"E	313.36'
L104	N05°08'38"W	48.75'
L105	N02°19'45"W	220.46'
L106	N05°30'07"W	198.32'
L110	S06°21'41"E	277.84'
L111	S05°37'17"W	257.66'
L112	S03°10'34"E	241.63'
L113	S01°45'08"E	247.67'
L114	N87°18'08"W	259.82'
L115	S66°33'48"W	166.95'
L118	N86°06'05"E	106.18'

PROJECT BENCHMARK:
CITY OF HOUSTON MONUMENT _____: SET 3/4"
ALUMINUM CAP IN CONCRETE AT RALSTON STREET AND
LUCILLE STREET.
ELEV= 45.14 FEET NAVD88, GEOID18

NOTES:

- BEARINGS AND COORDINATES BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, SOUTH CENTRAL ZONE. DISTANCES ARE SURFACE VALUES IN FEET. SURFACE = GRID / 0.999896735.
- ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), GEOID18.
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- FIELD SURVEY COMPLETED IN MAY 2025.

LANDTECH

1315 W SAM HOUSTON PKWY N
STE 100
HOUSTON, TEXAS 77043
T: 713-861-7068 F: 713-861-4131
TBPELS REGISTRATION NO. 10019100

RELEASED BY: NHUY NGUYEN, TX
RPLS #6409
DATE: 5/29/2025
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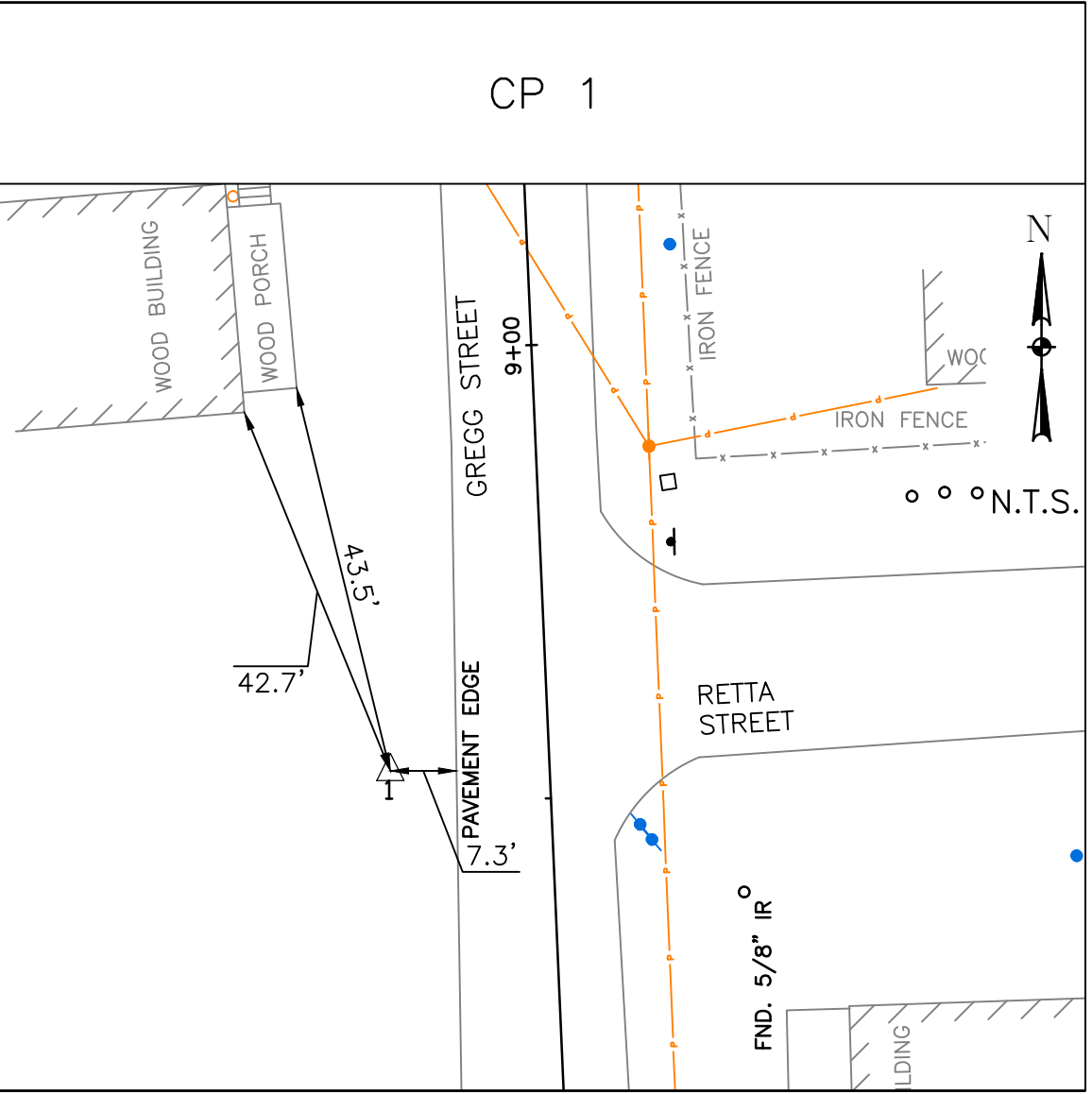
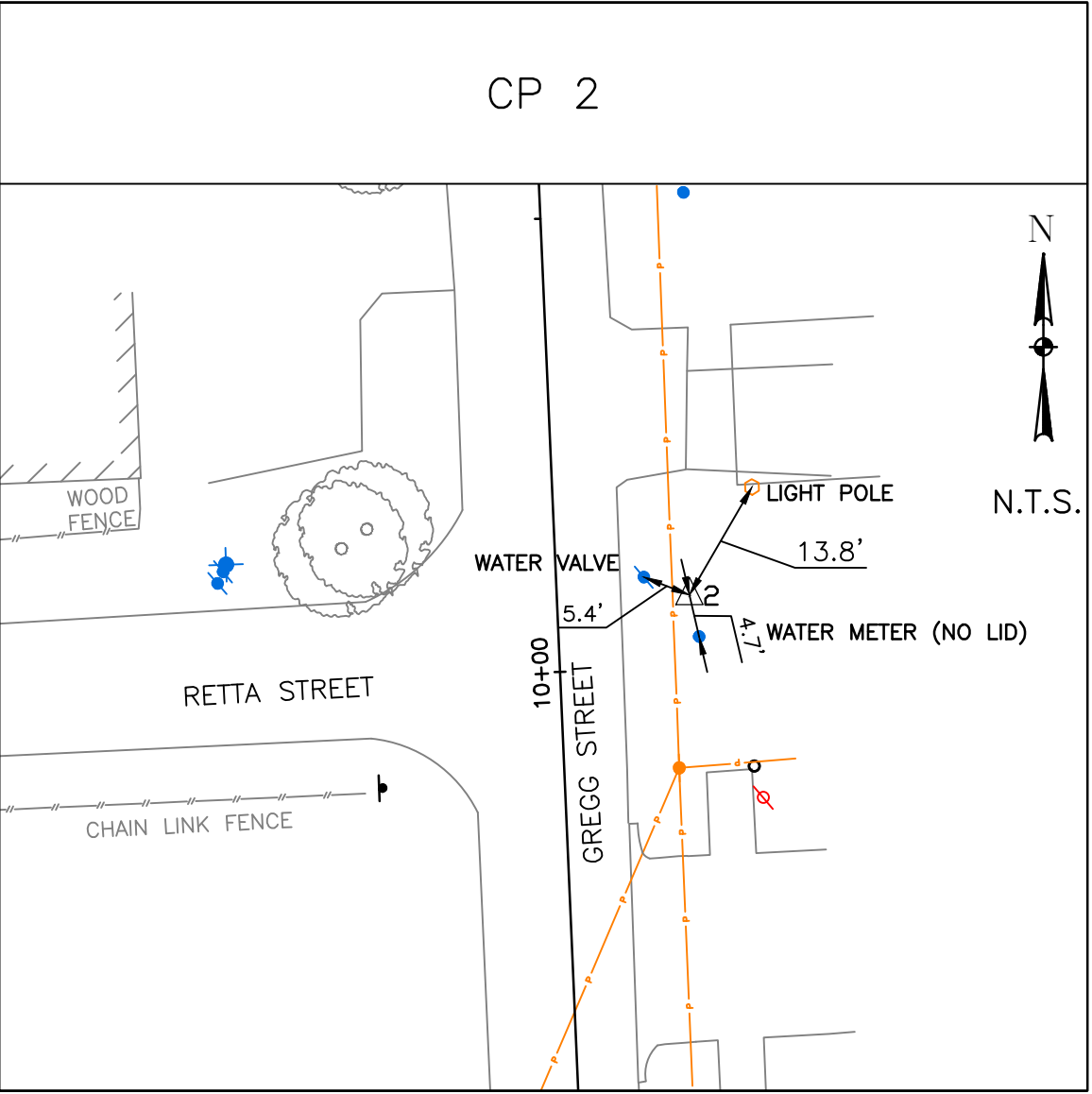
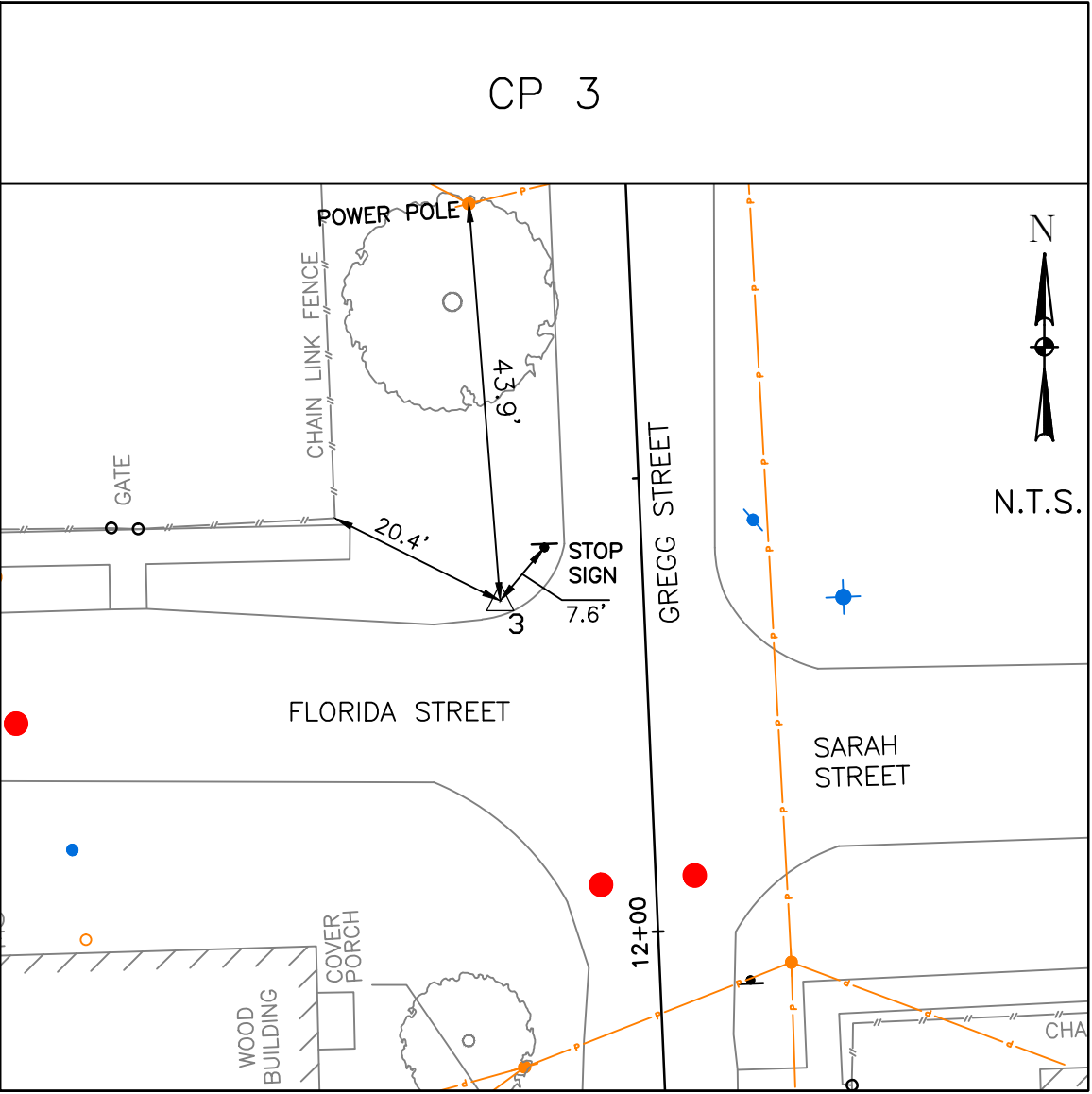
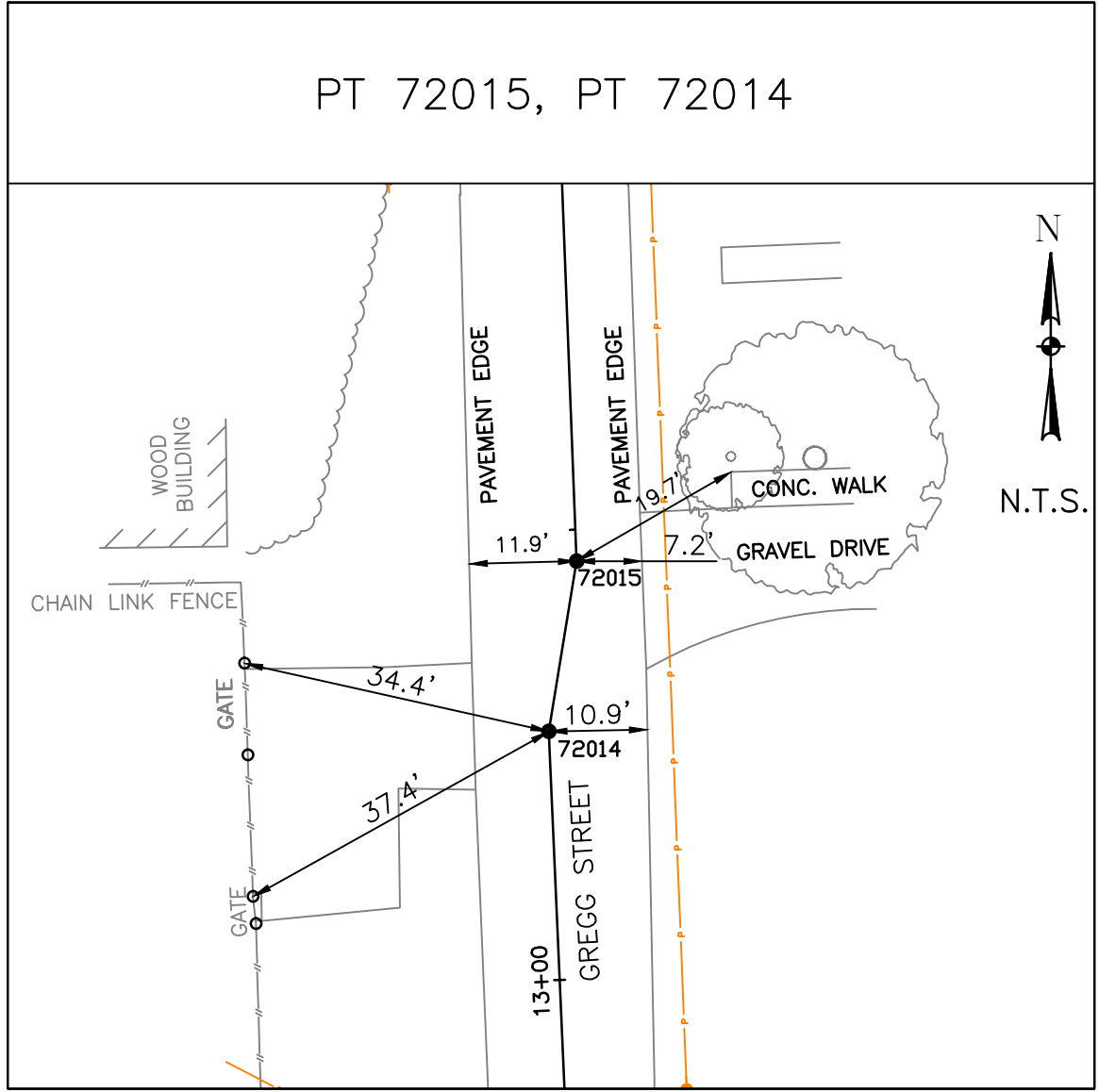
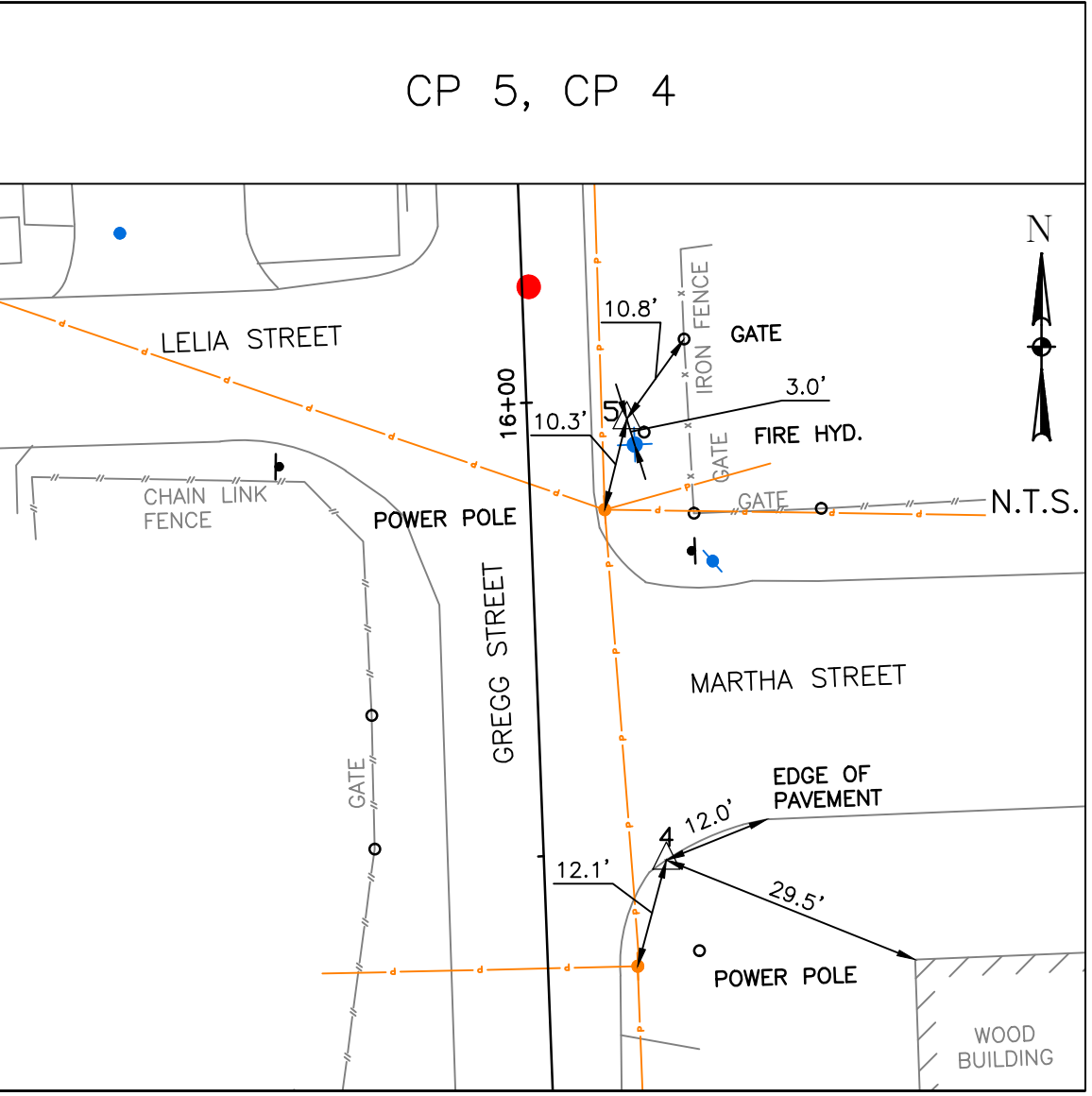
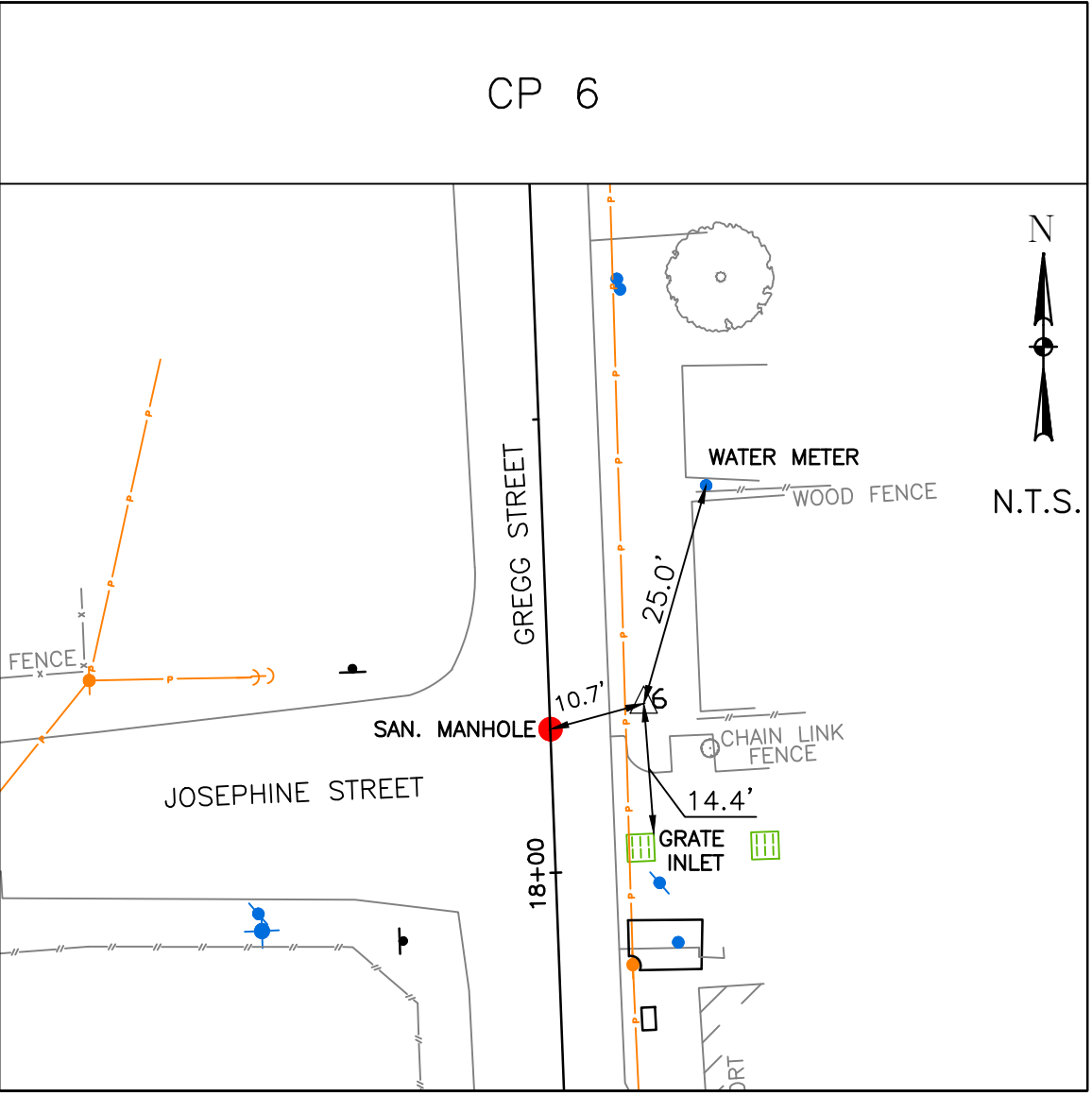
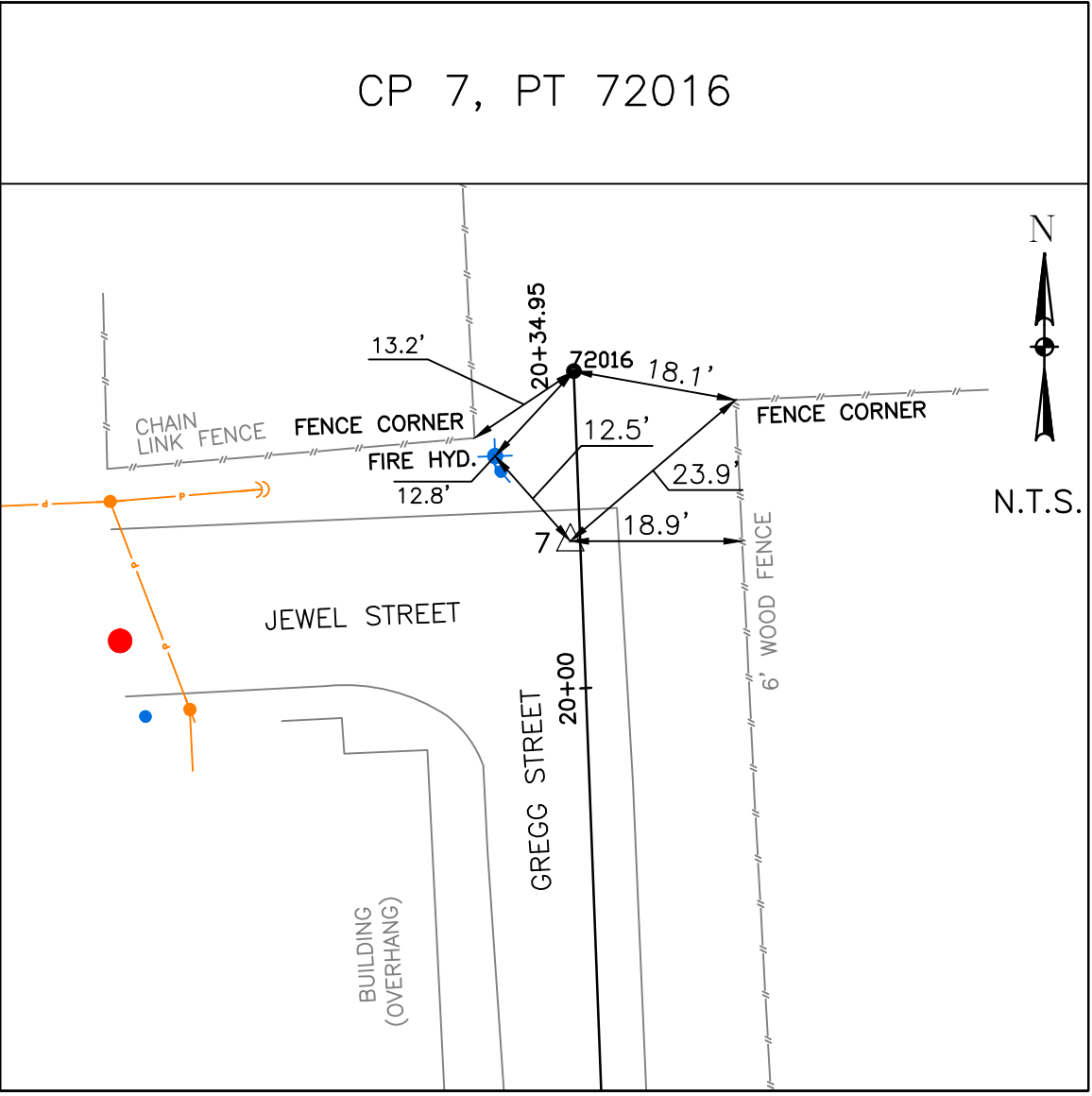
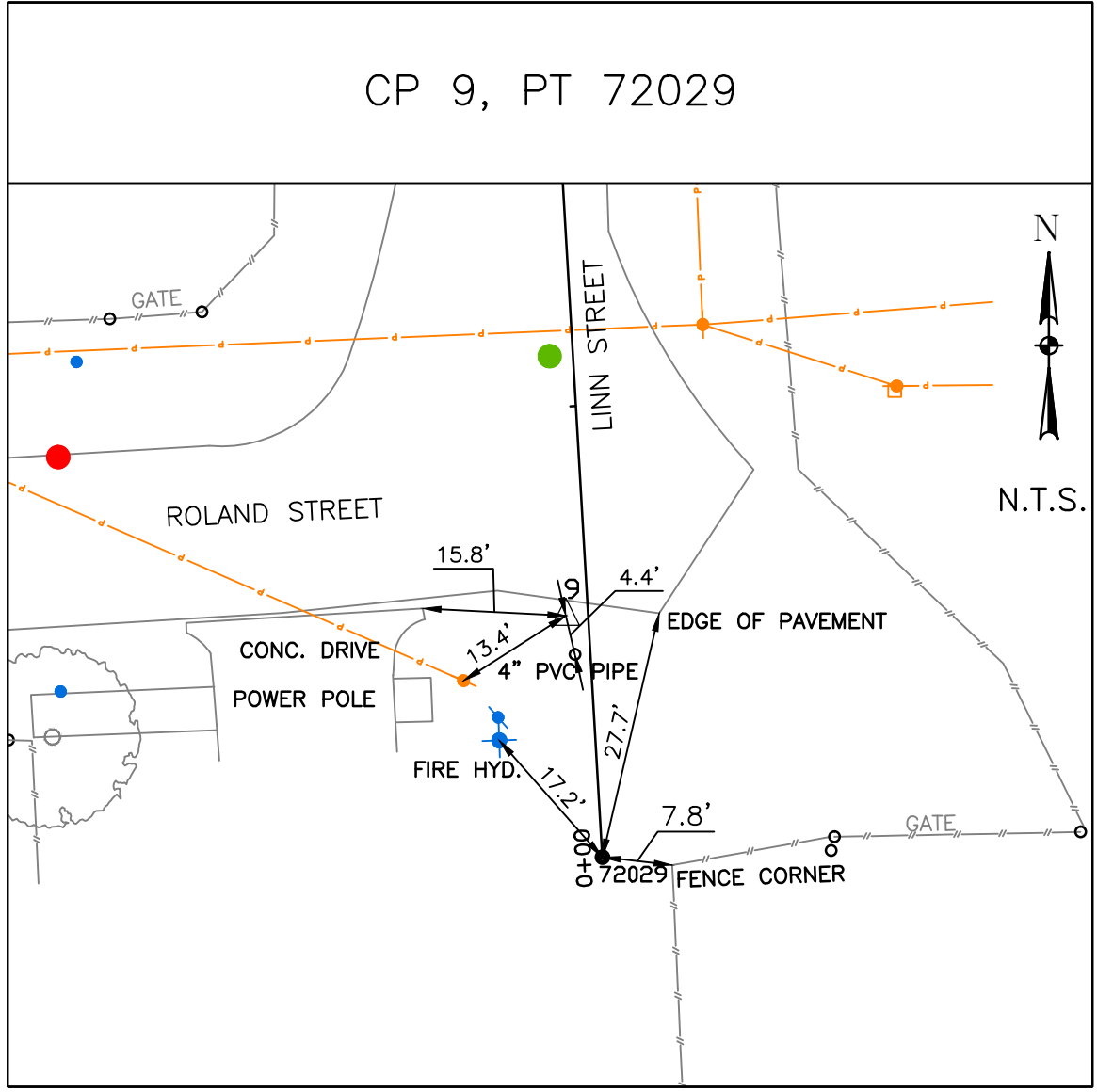
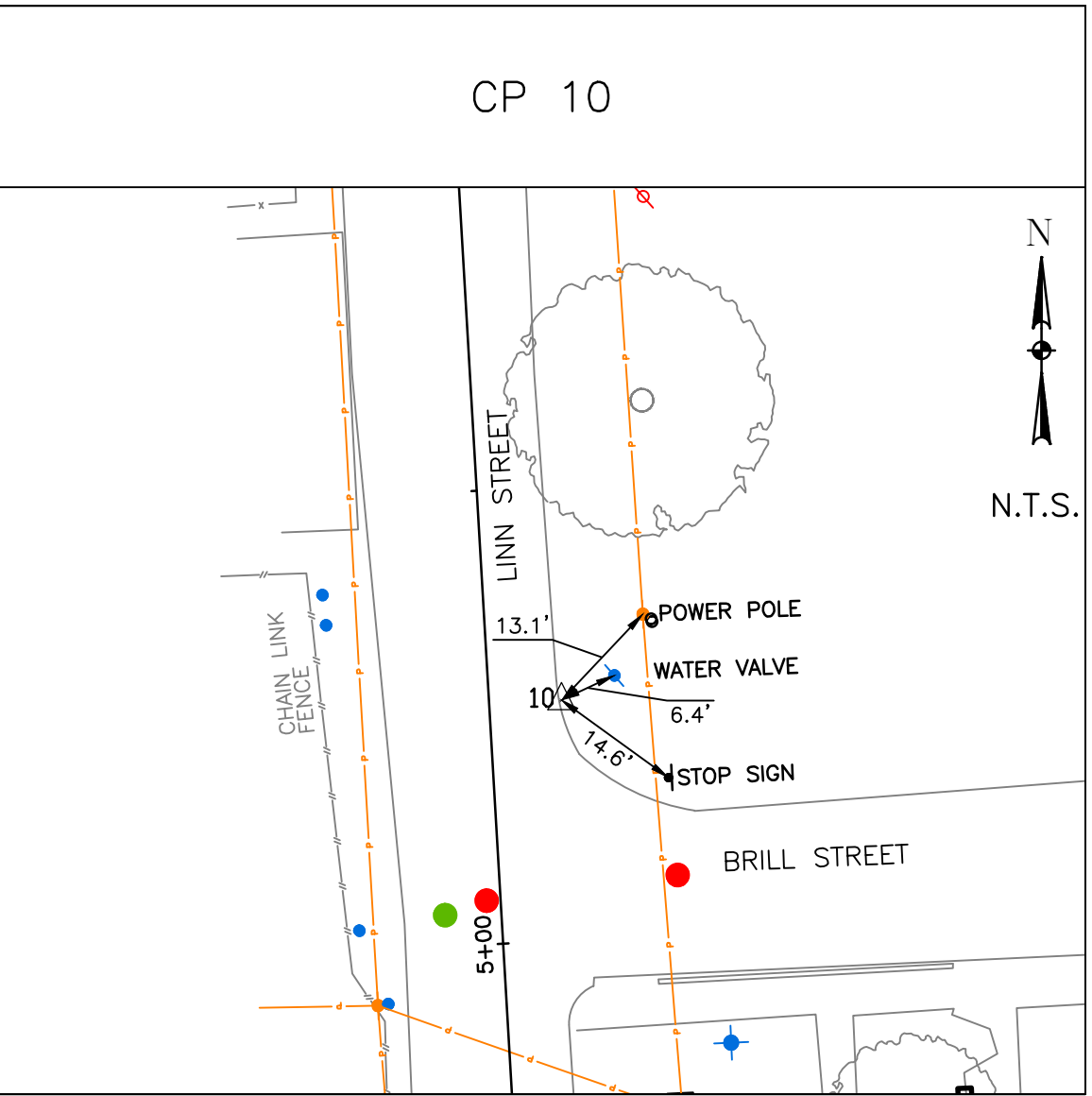
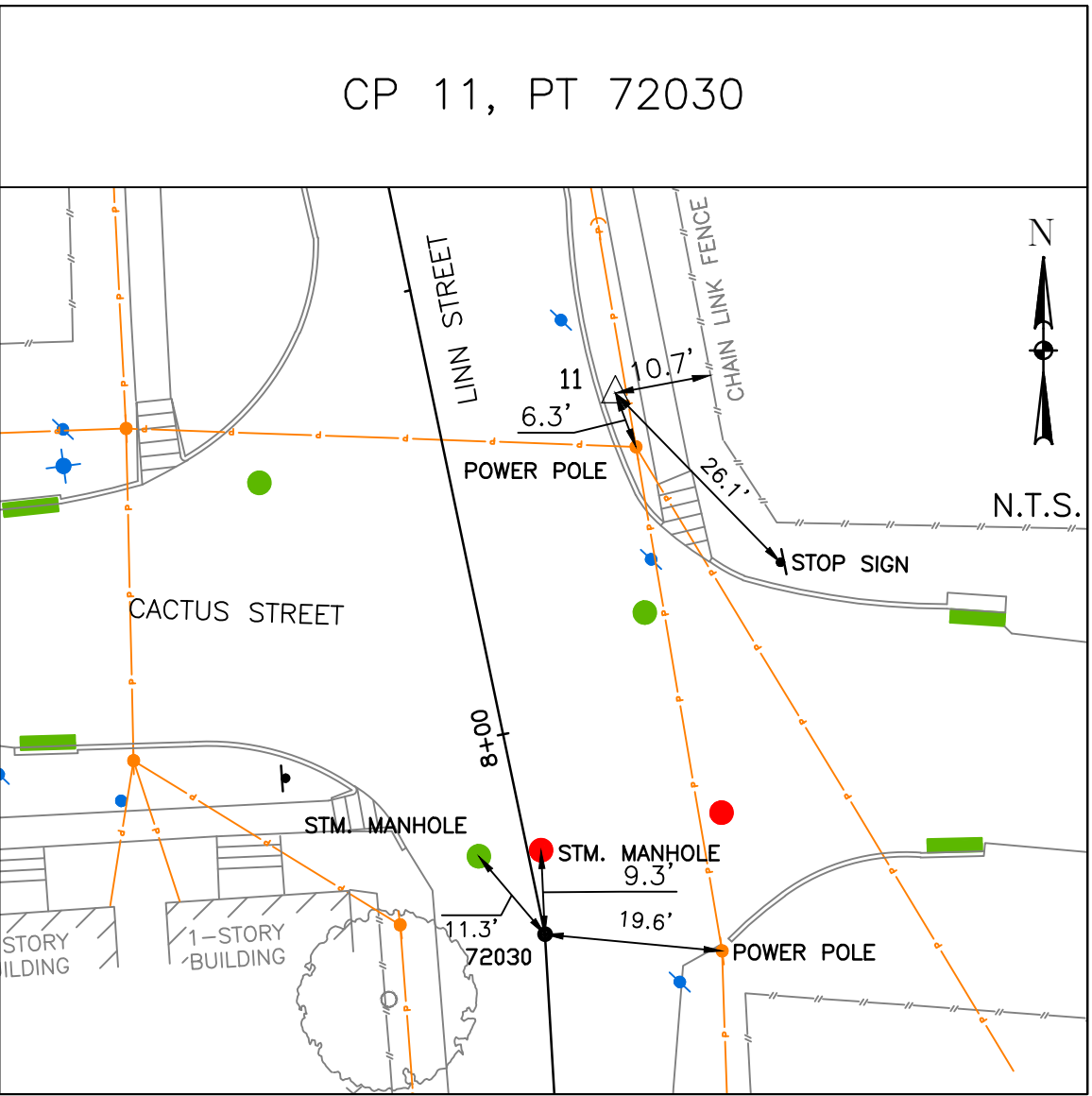
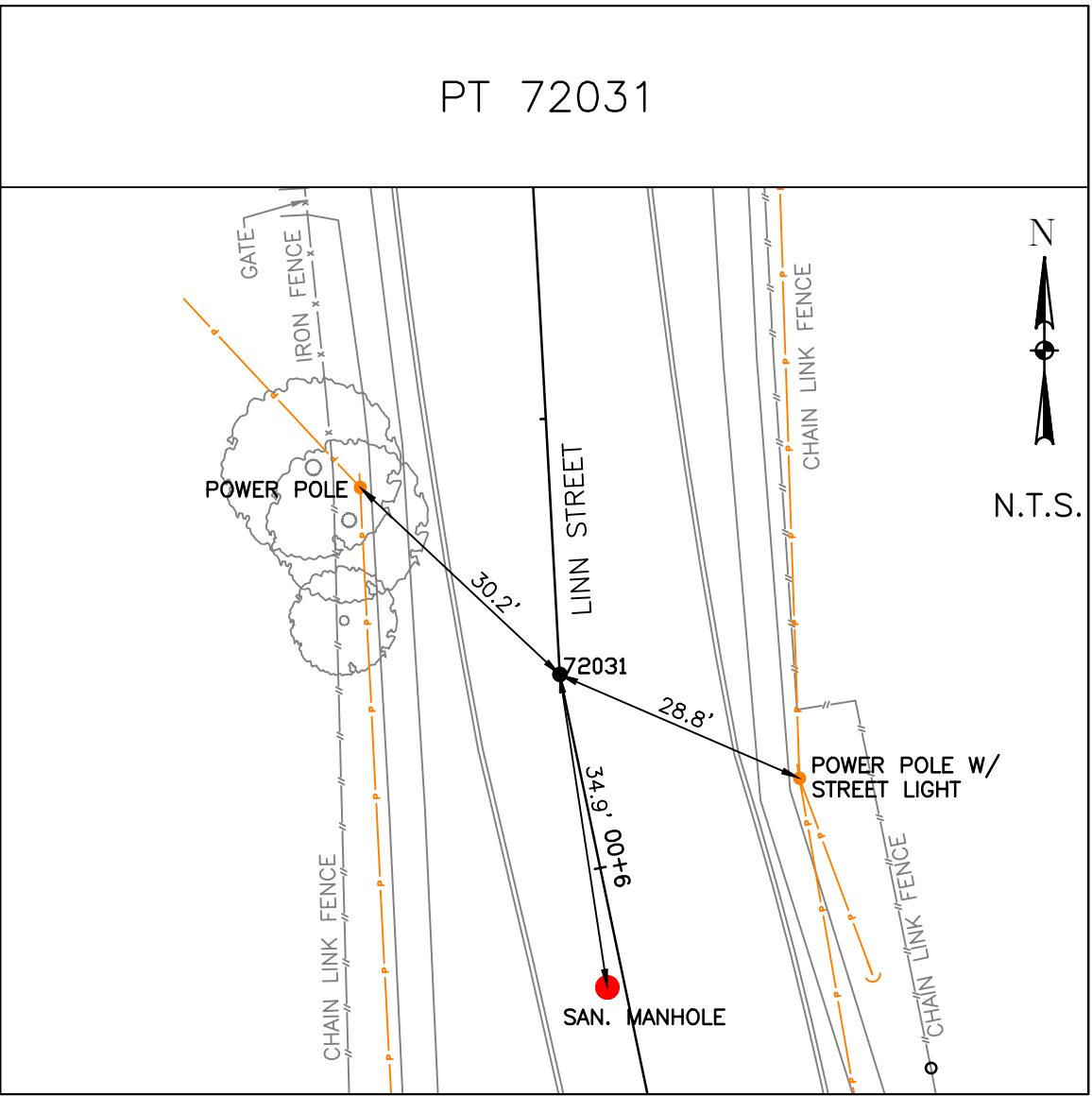
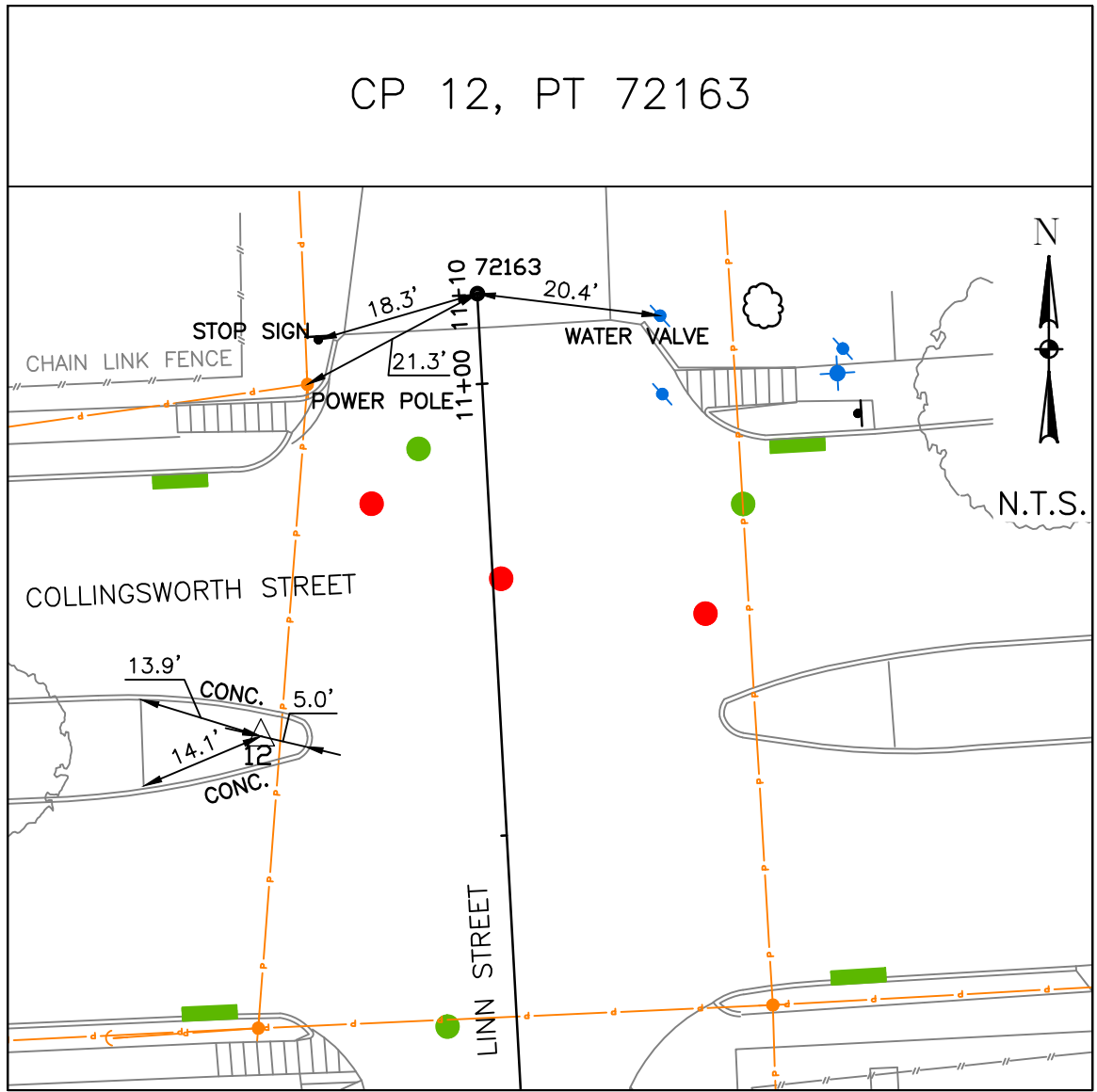
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

SURVEY CONTROL MAP
SHEET 2 OF 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
MASOUD R. MOLLAH, P.E., ENV SP	
SHEET NO. 10 OF 69	

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LANDTECH
1315 W SAM HOUSTON PKWY N
STE 100
HOUSTON, TEXAS 77043
T: 713-861-7068 F: 713-861-4131
TBPELS REGISTRATION NO. 10019100

RELEASED BY: NHUY NGUYEN, TX
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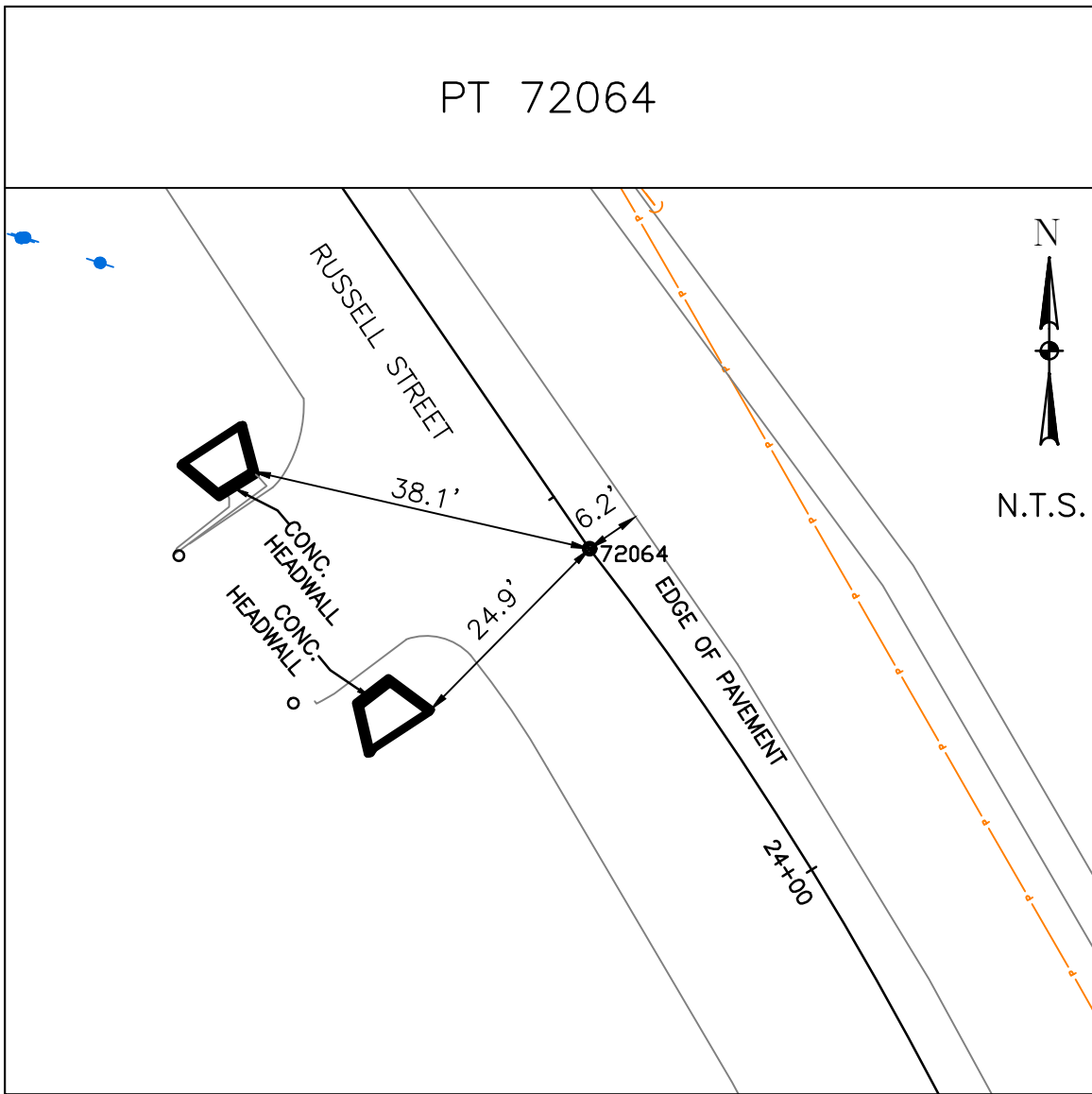
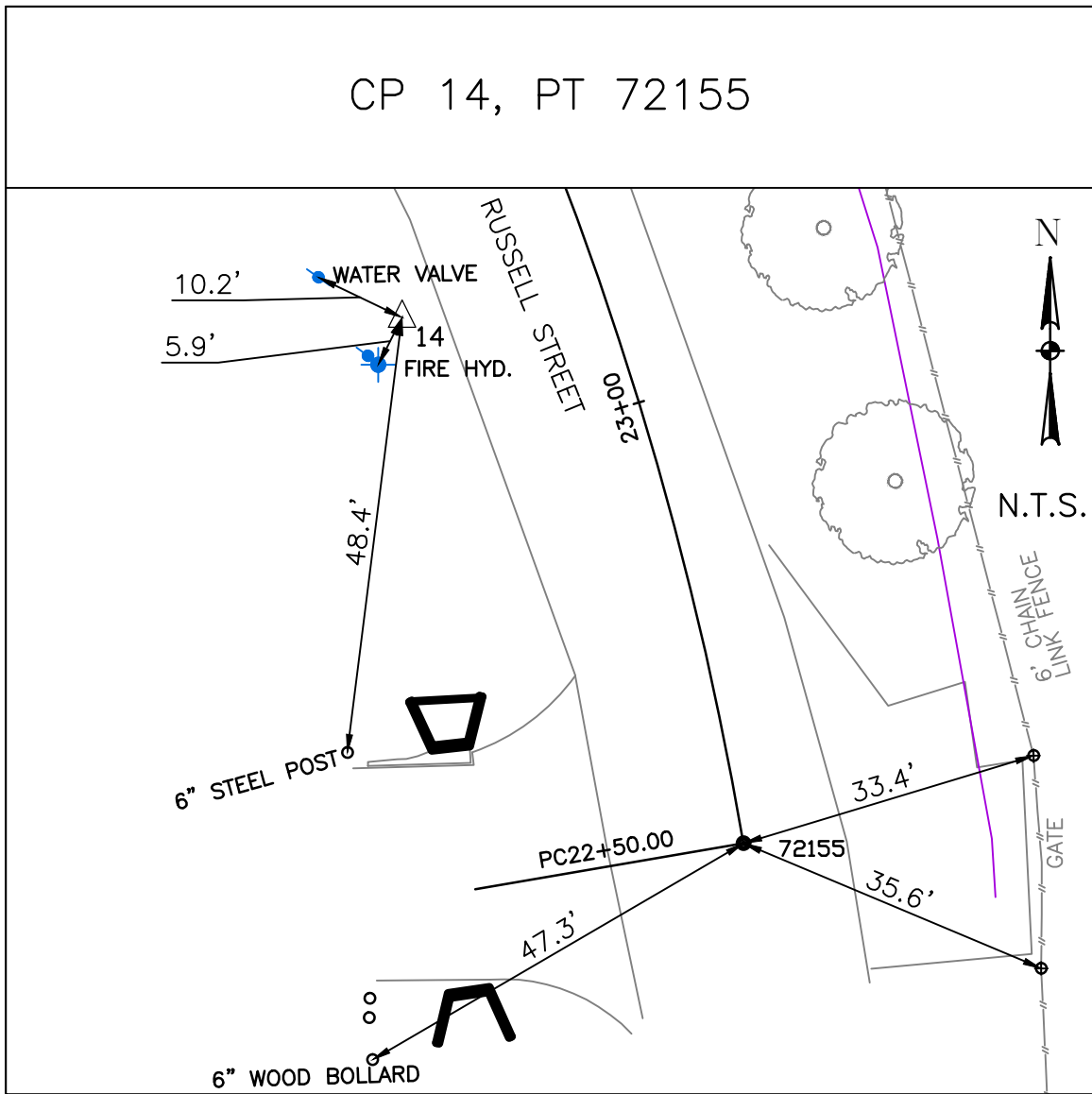
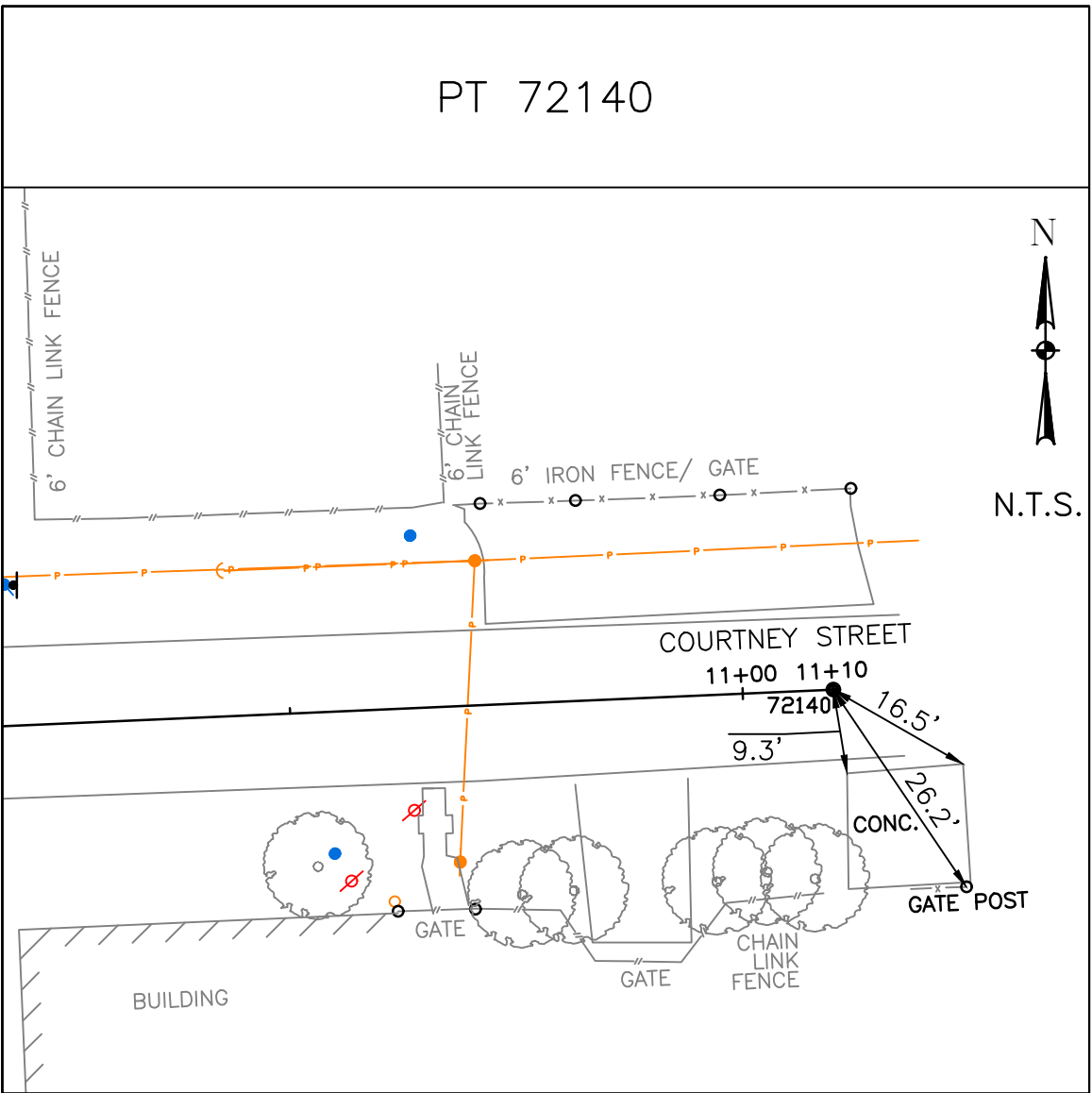
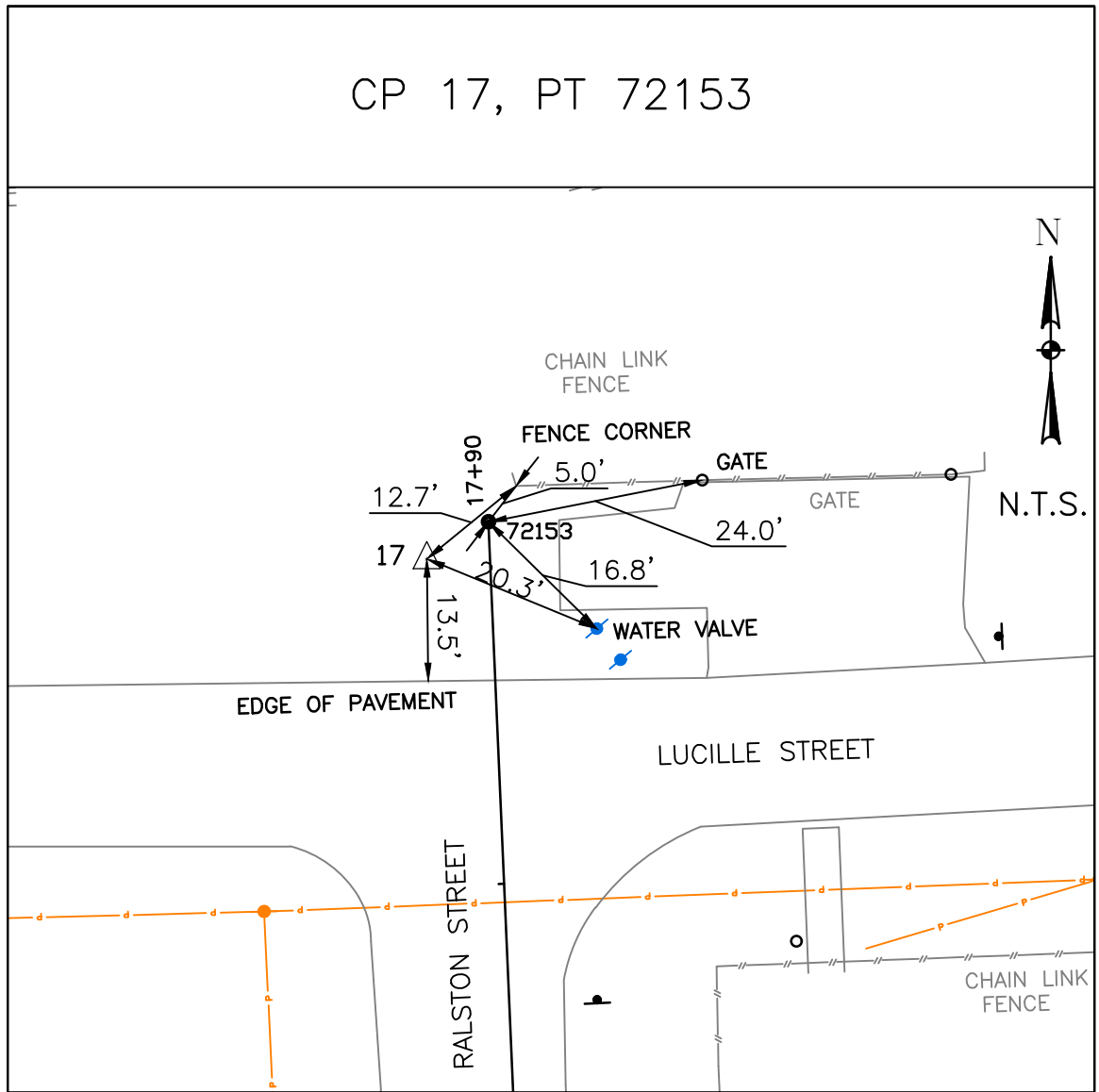
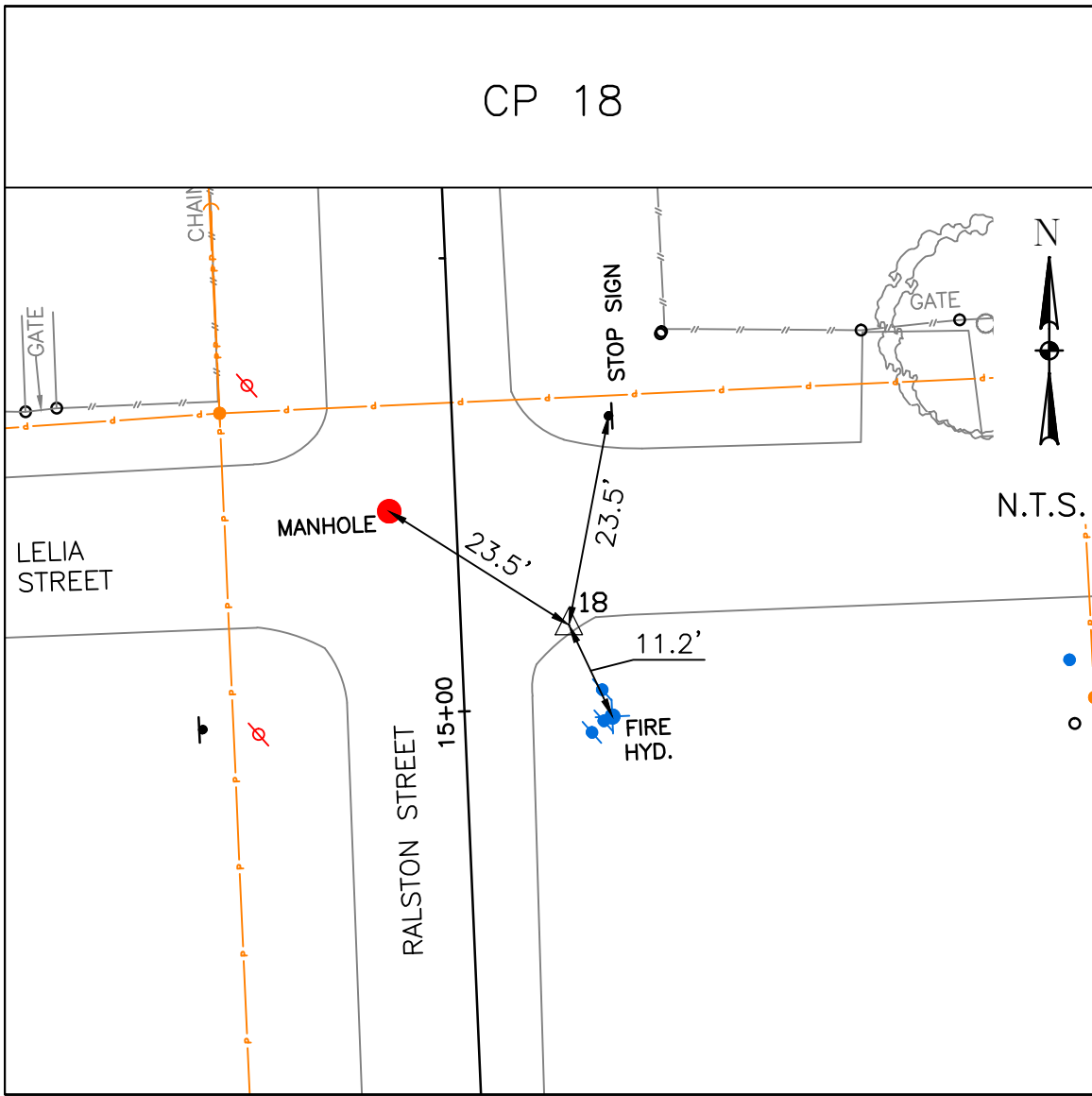
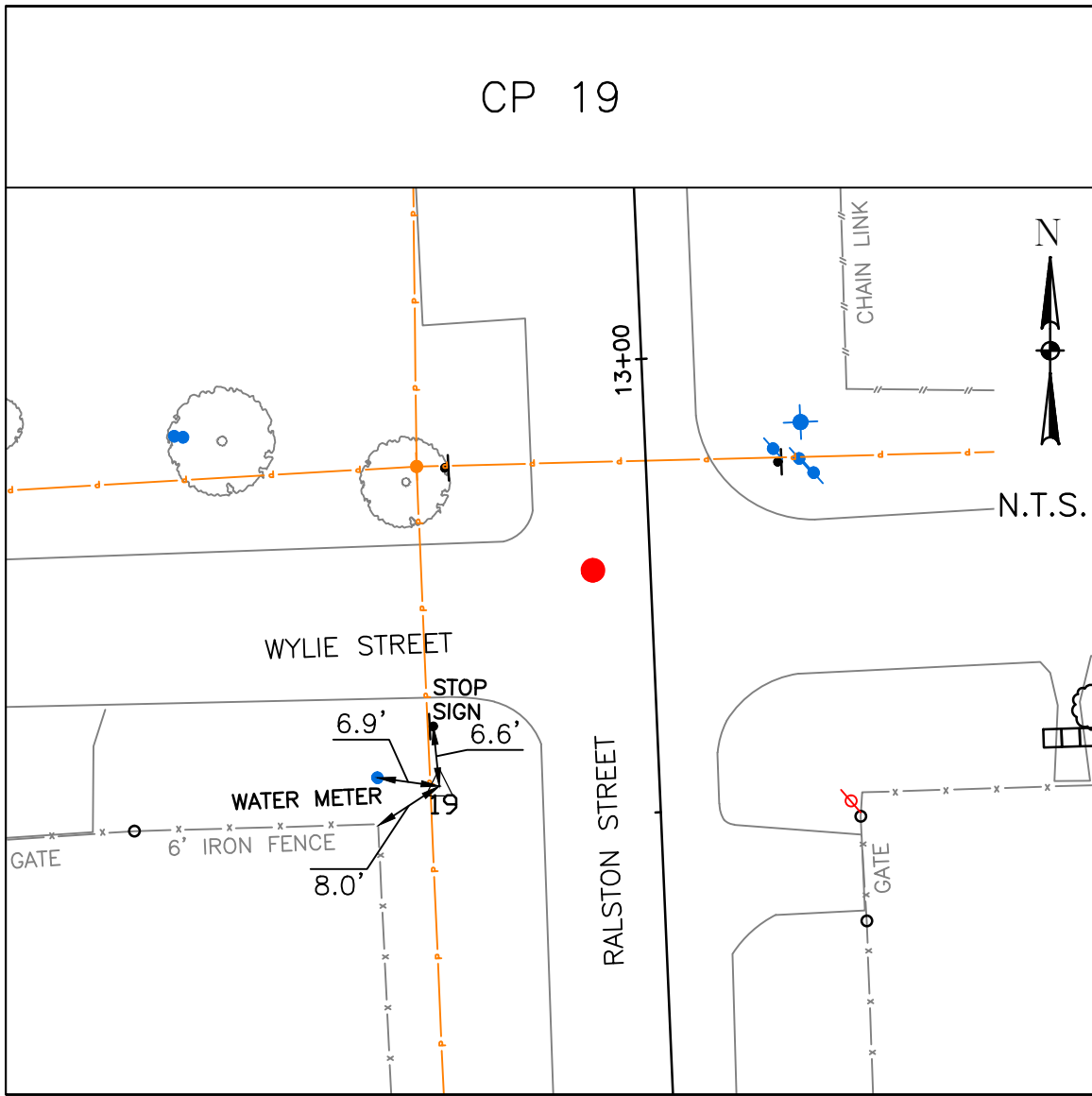
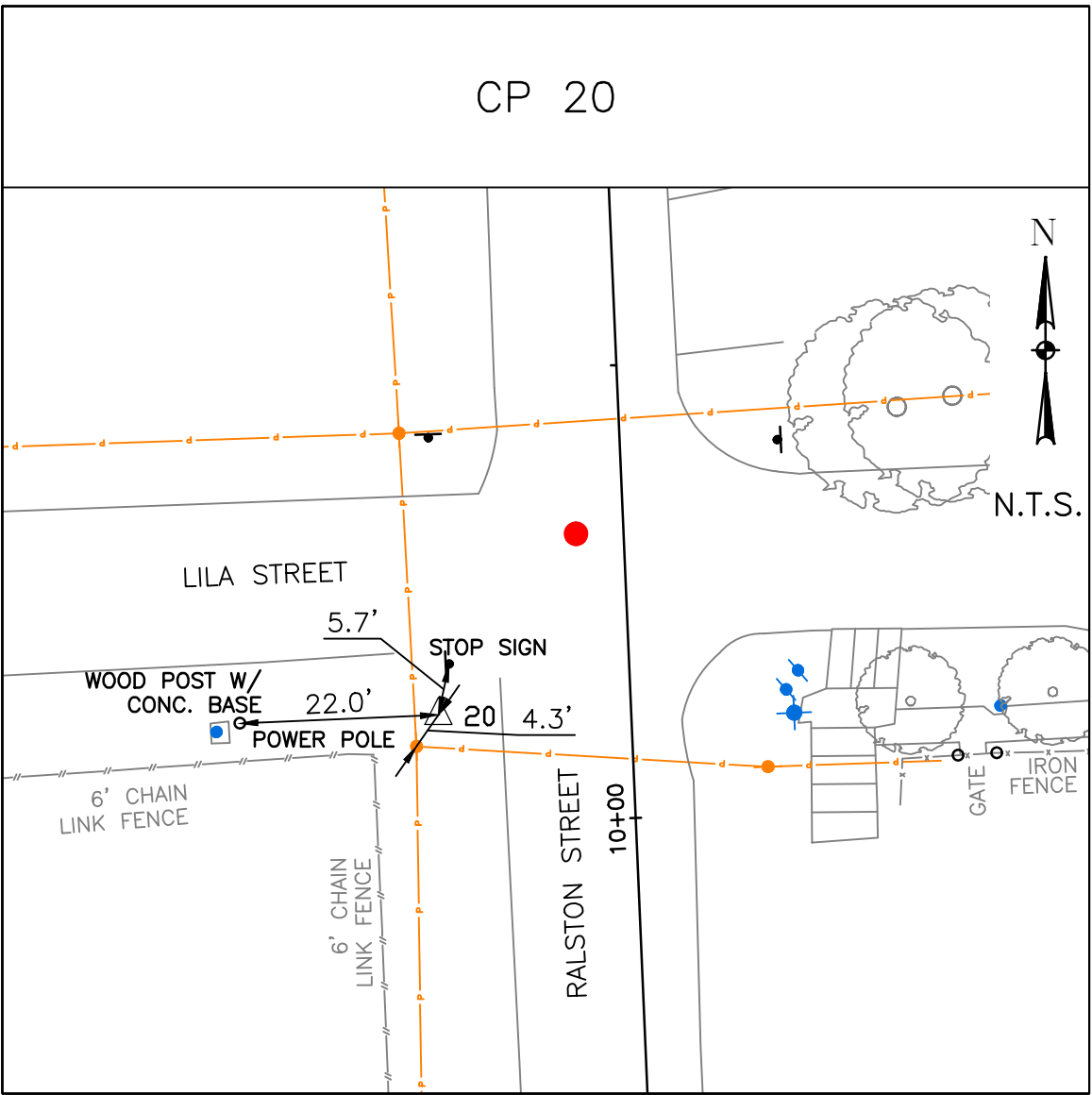
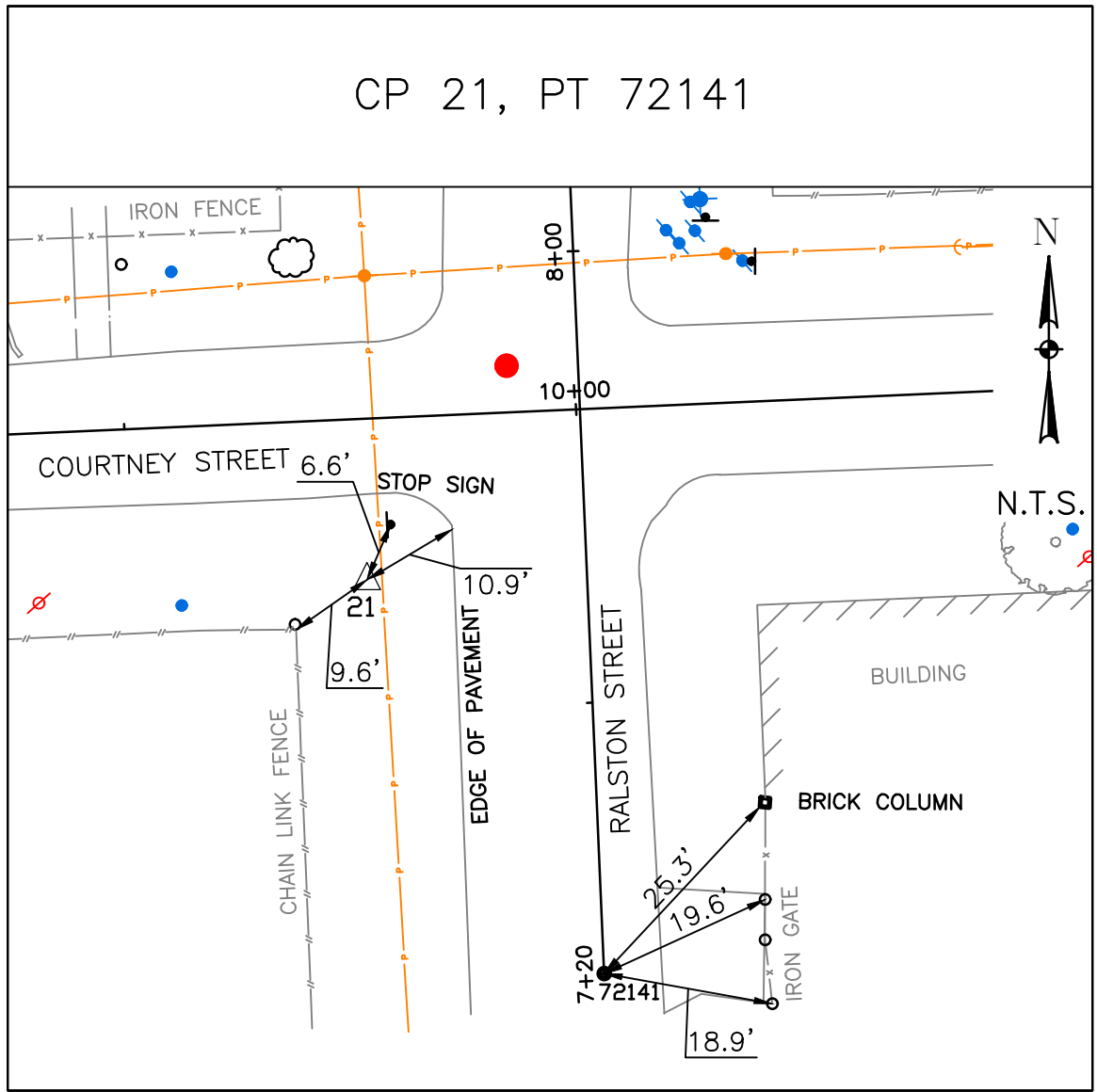
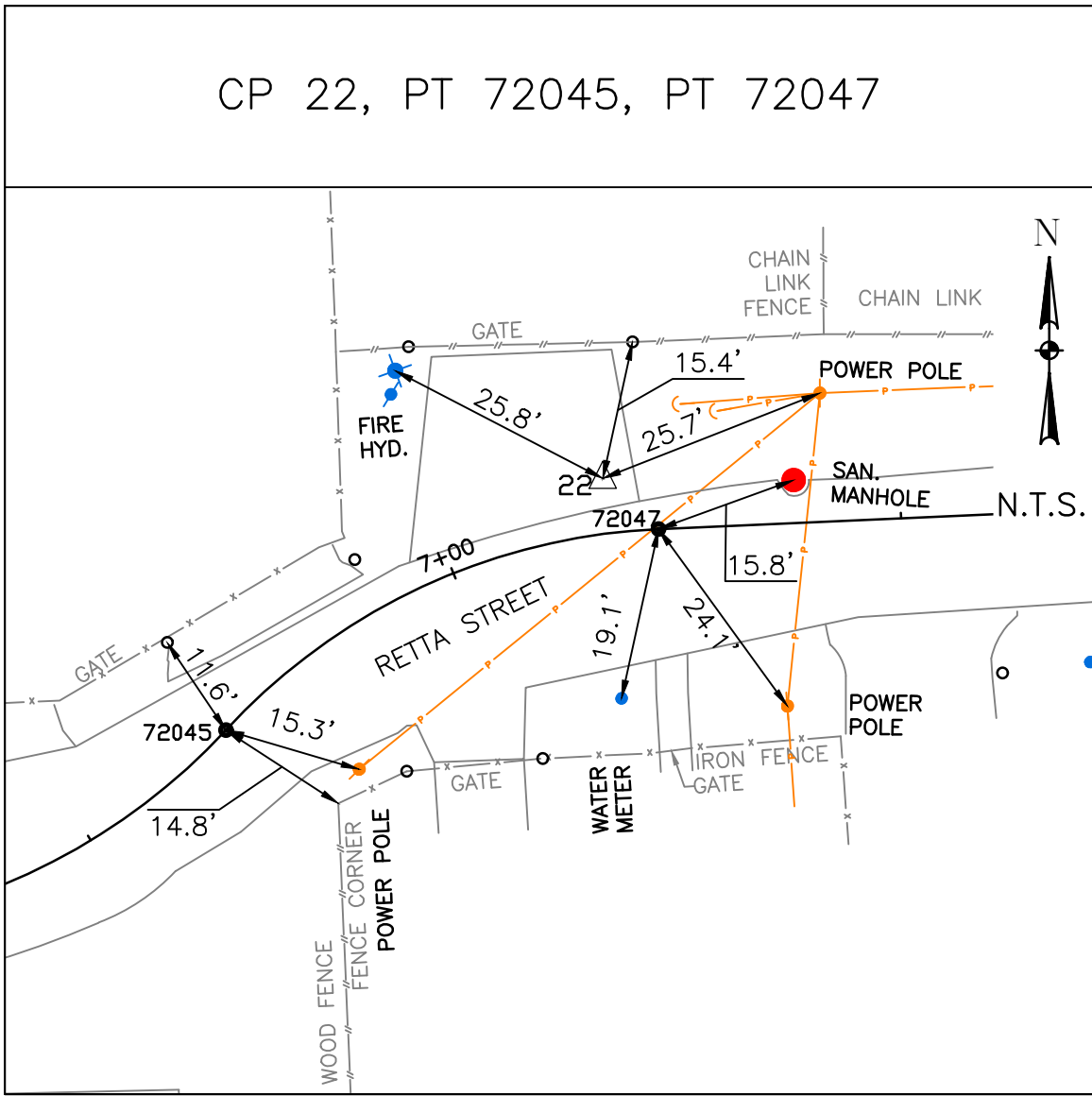
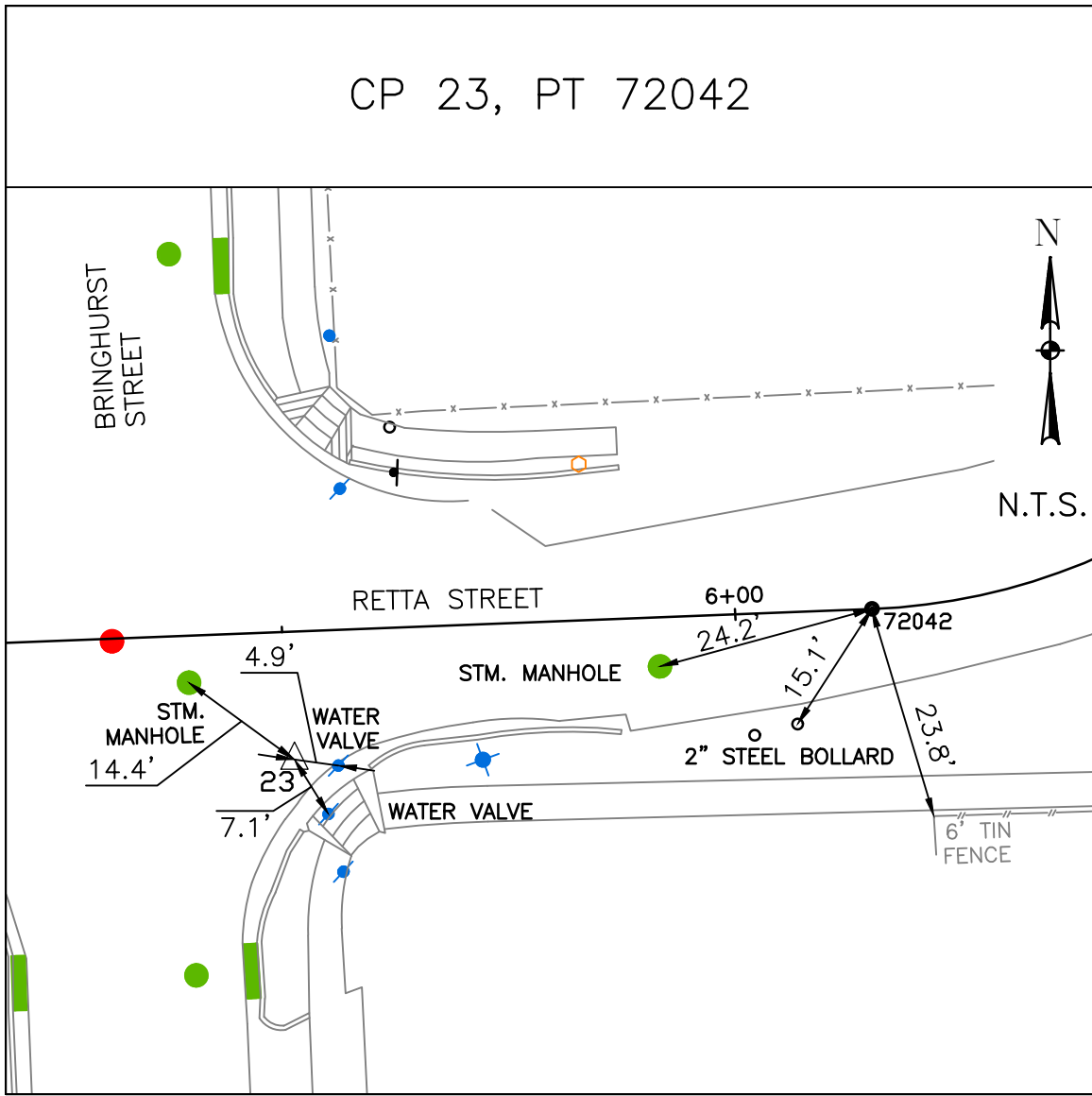
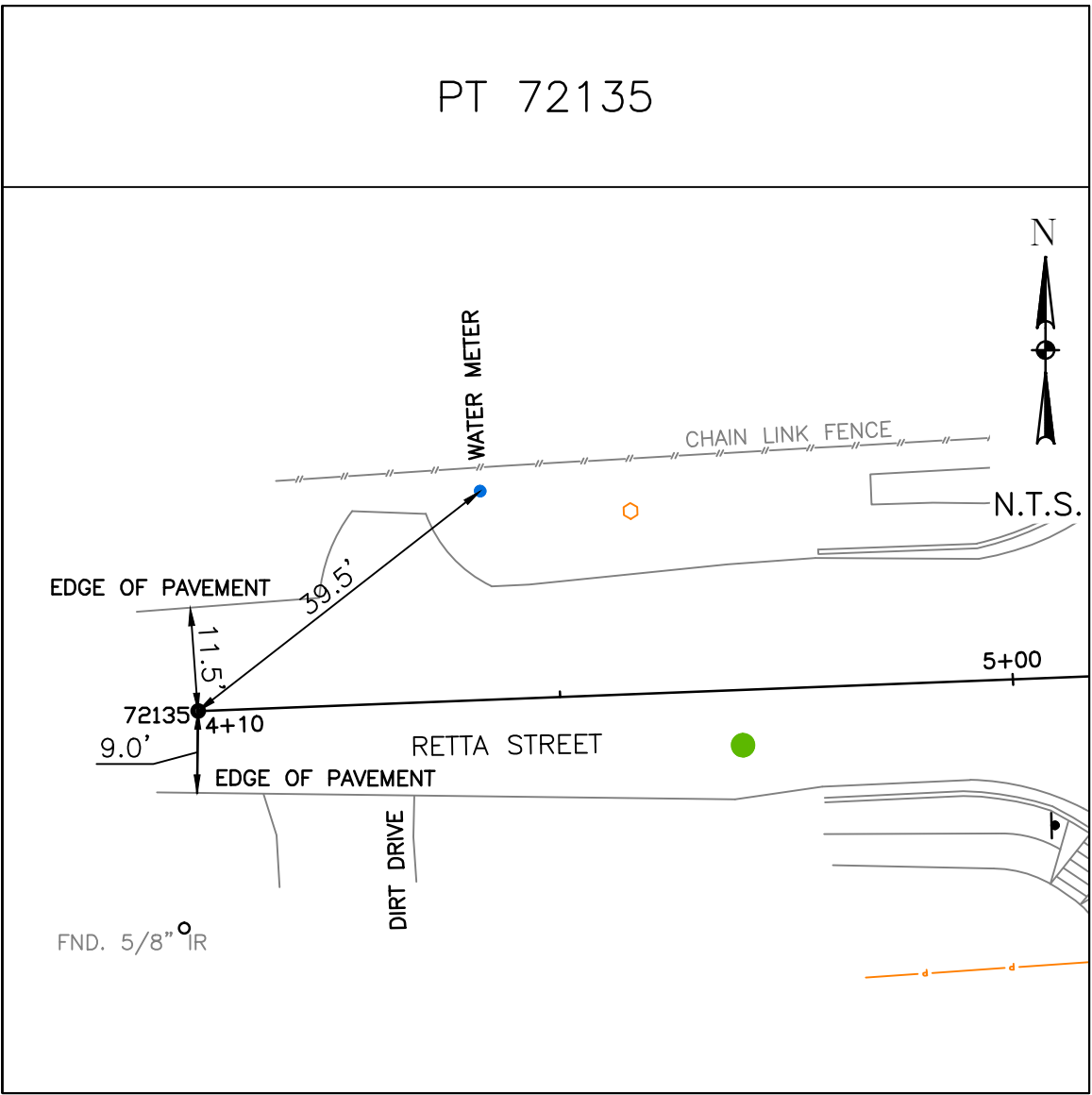
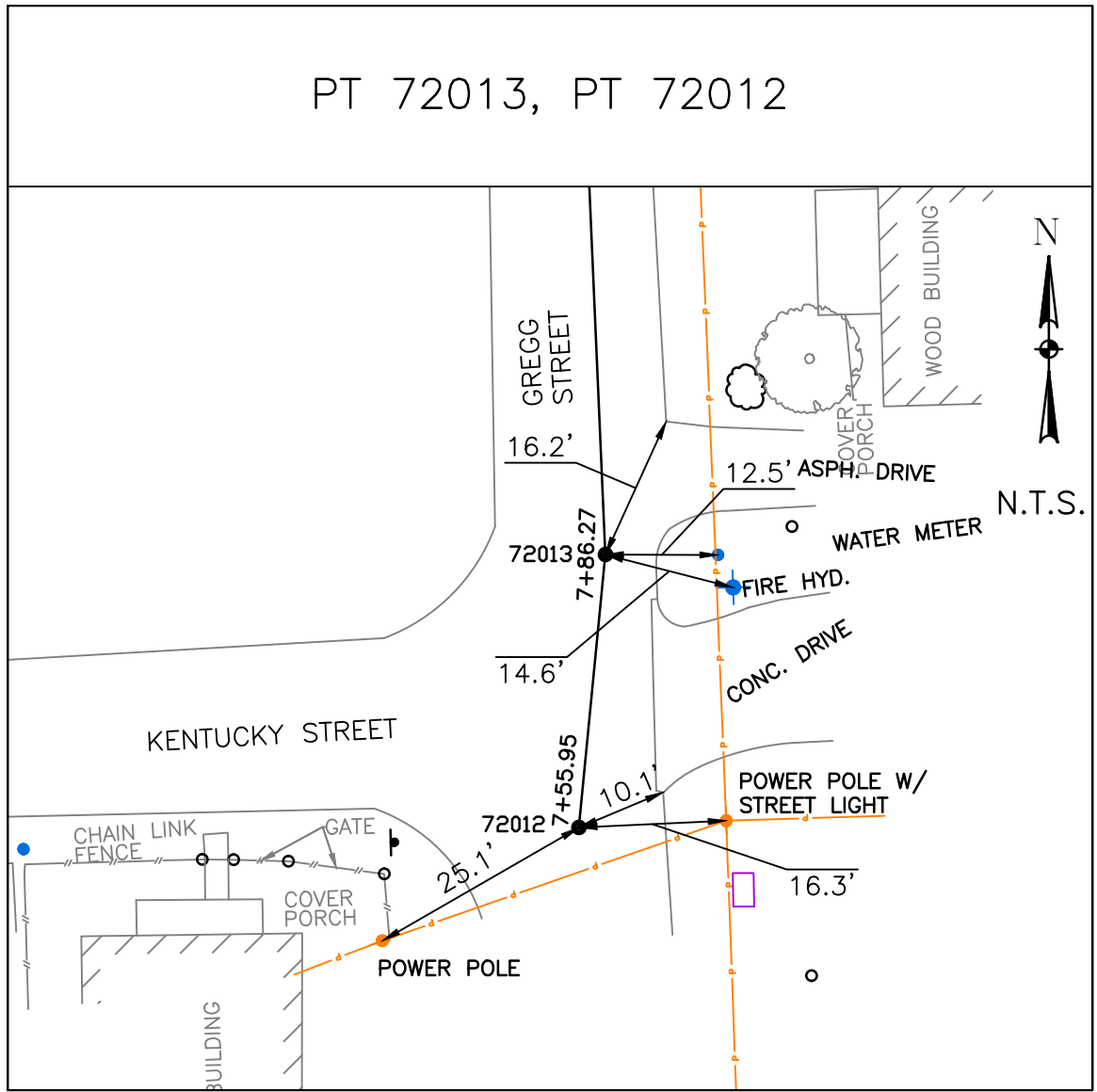
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

**FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
SWING TIES
SHEET 1 OF 3**

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 11 OF 69	

NO.	DATE	REVISION	APP.

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LANDTECH

1315 W SAM HOUSTON PKWY N
STE 100
HOUSTON, TEXAS 77043
T: 713-861-7068 F: 713-861-4131
TBPELS REGISTRATION NO. 10019100

RELEASED BY: NHUY NGUYEN, TX
RPLS #6409
DATE: 5/29/2025

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FB NO. TBD

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
SWING TIES
SHEET 2 OF 3

WBS NUMBER

M-42LHUD-0006-3

DRAWING SCALE

CITY OF HOUSTON PM

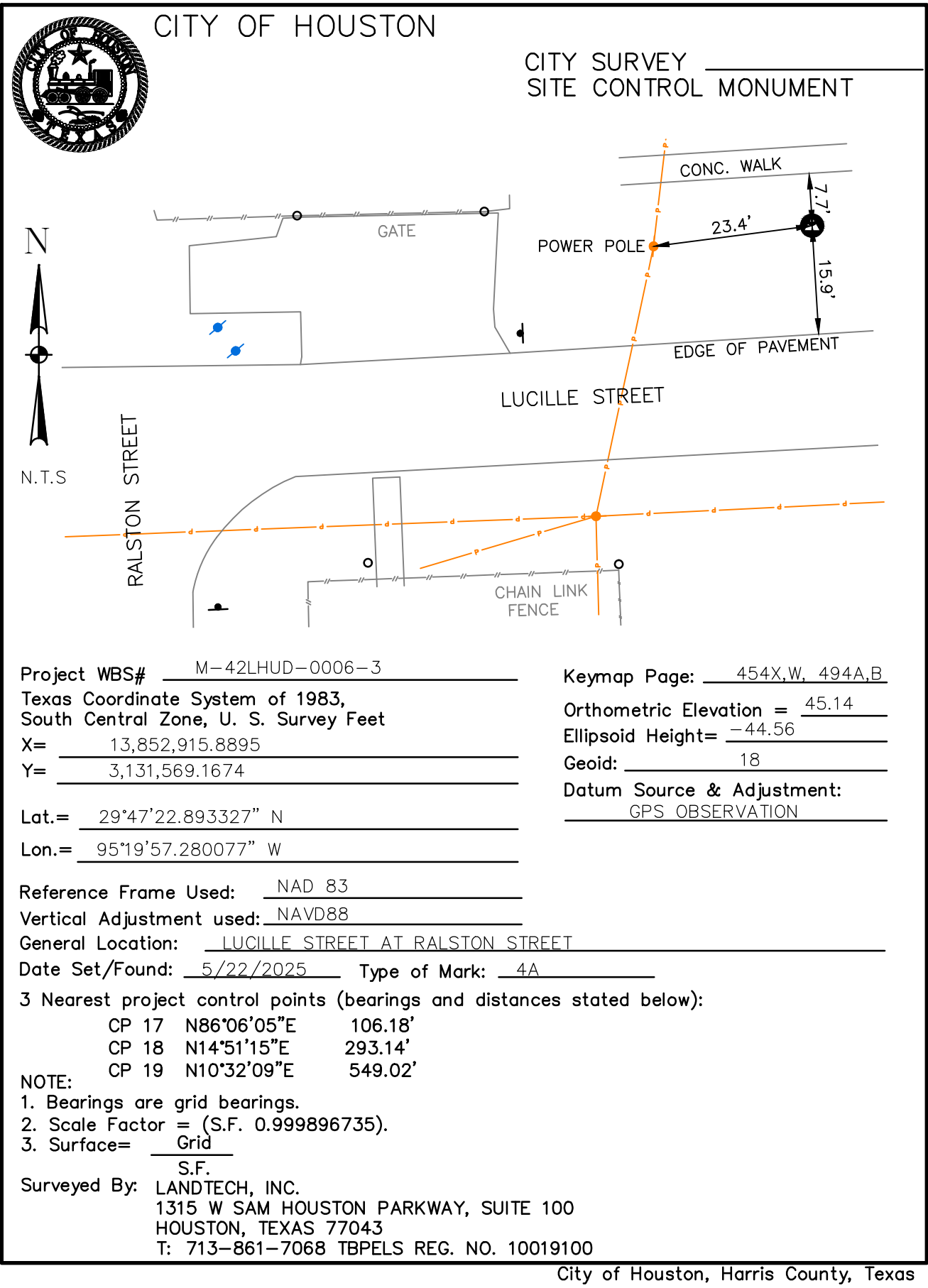
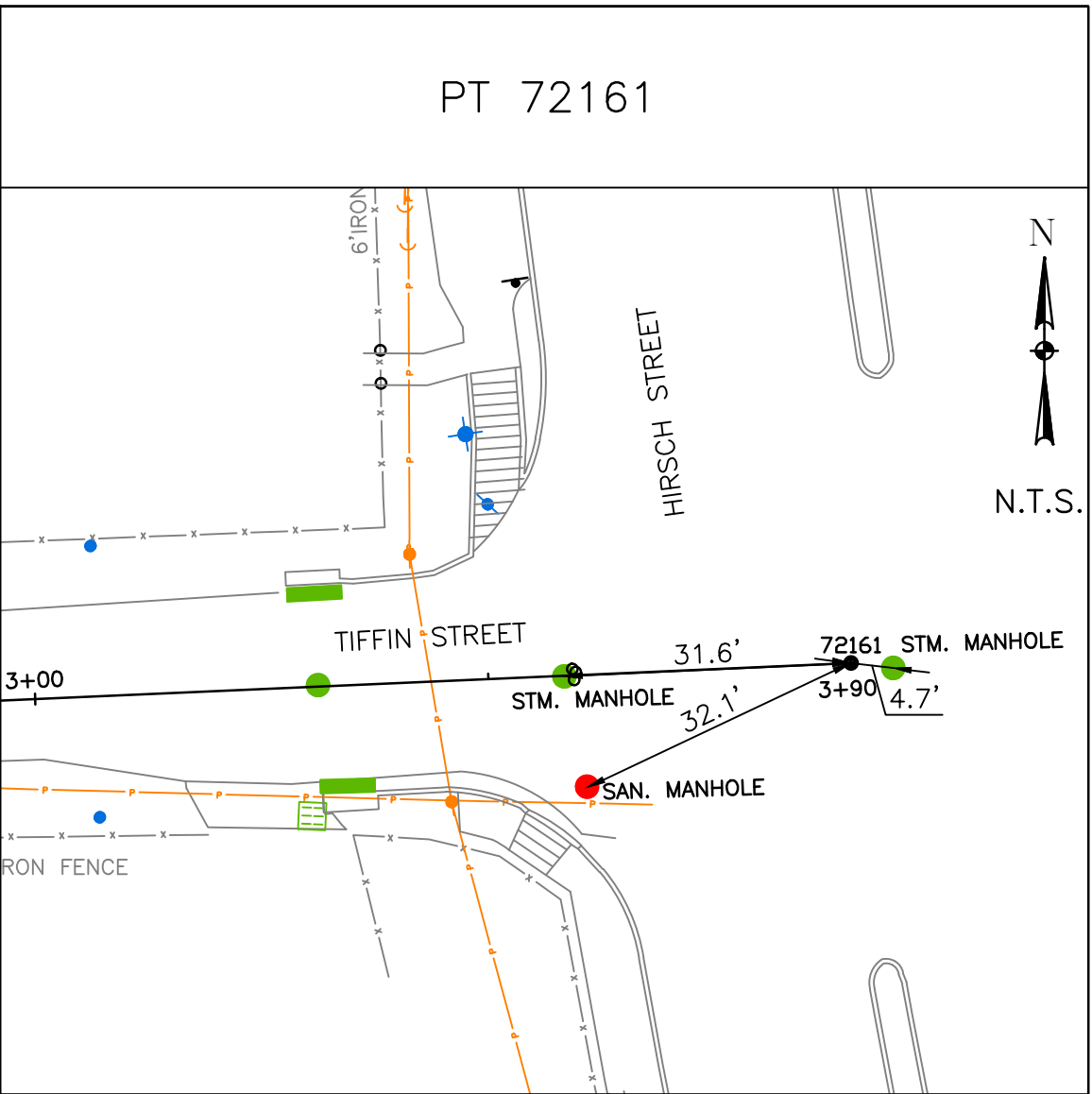
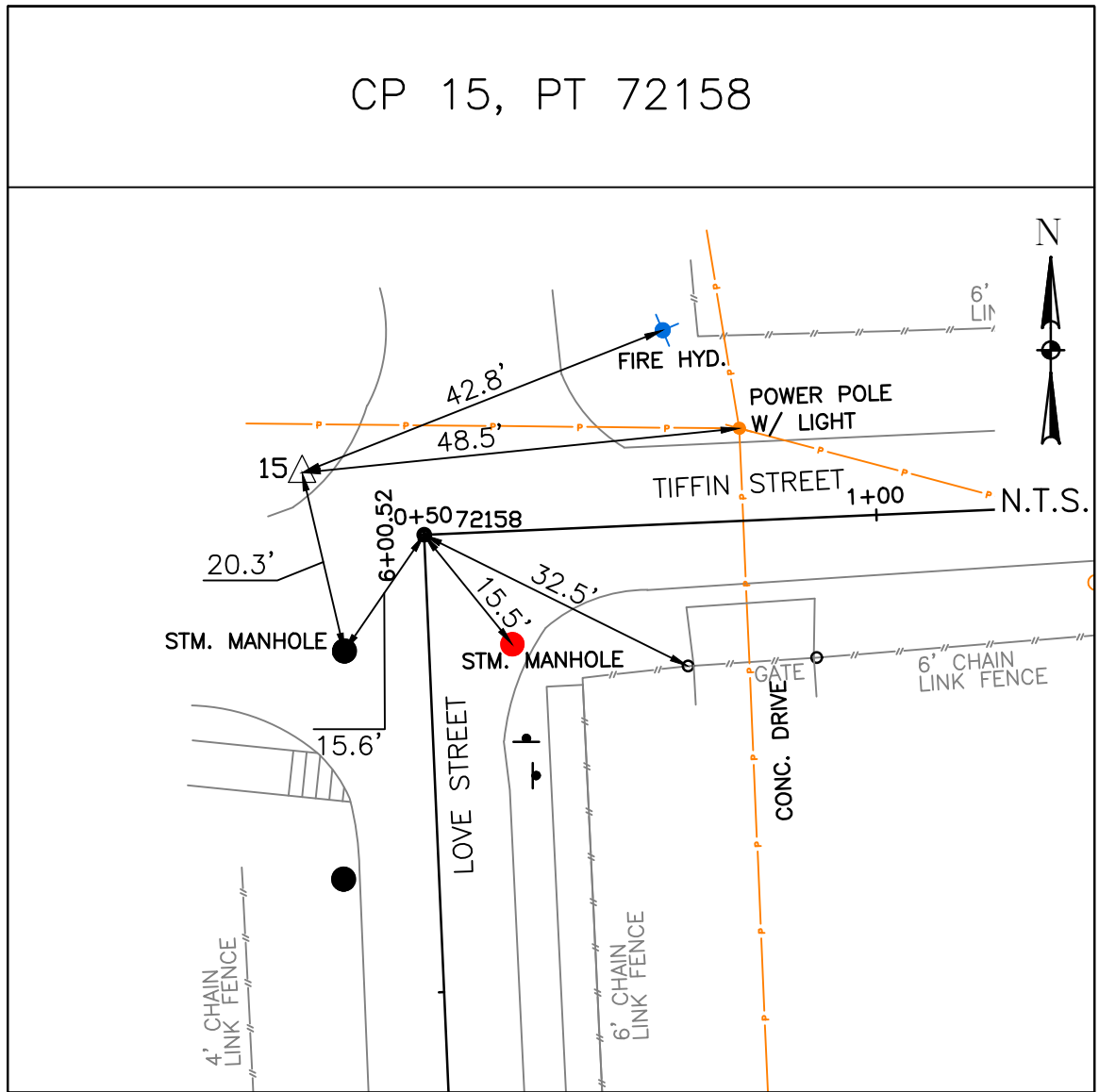
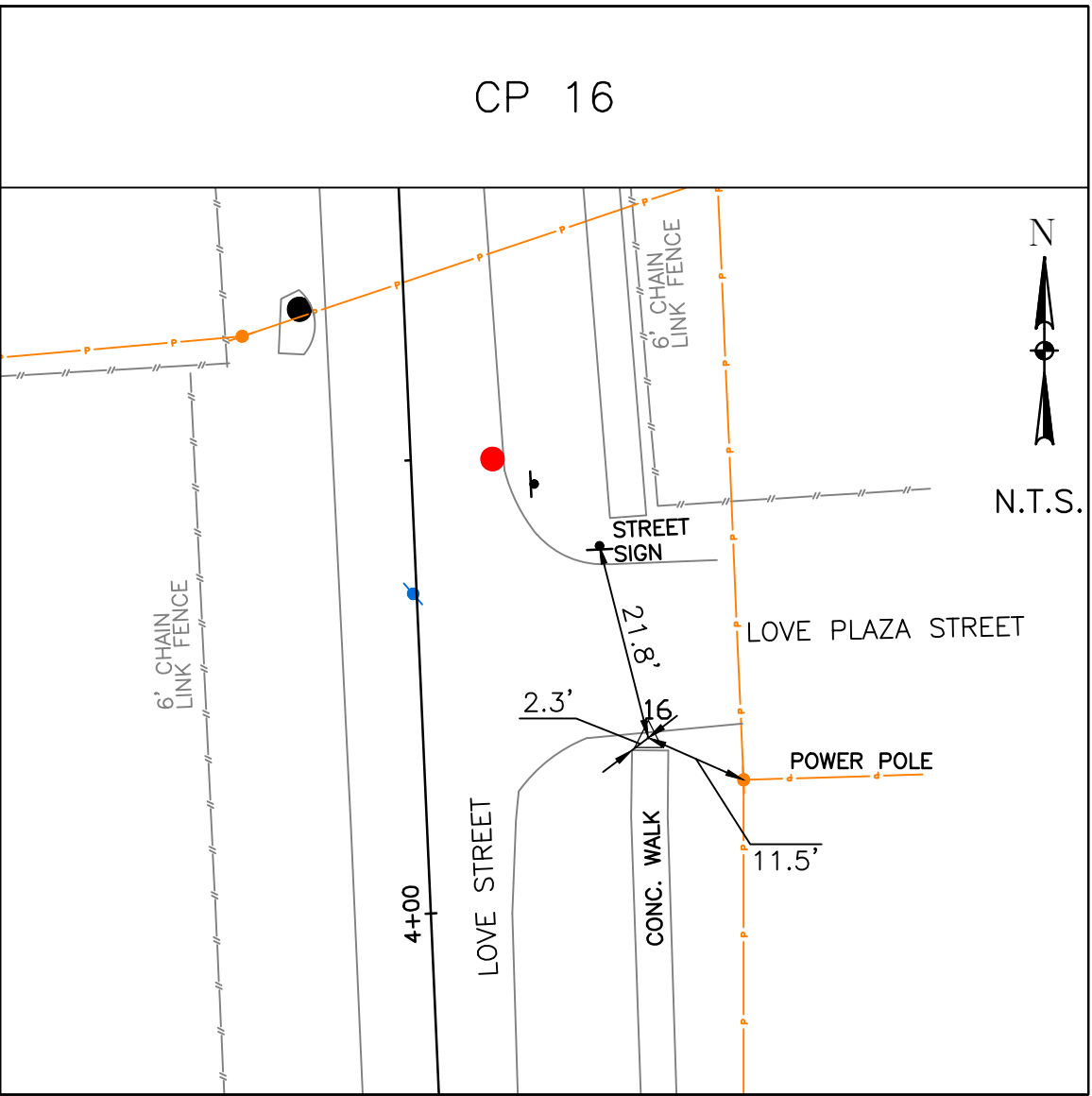
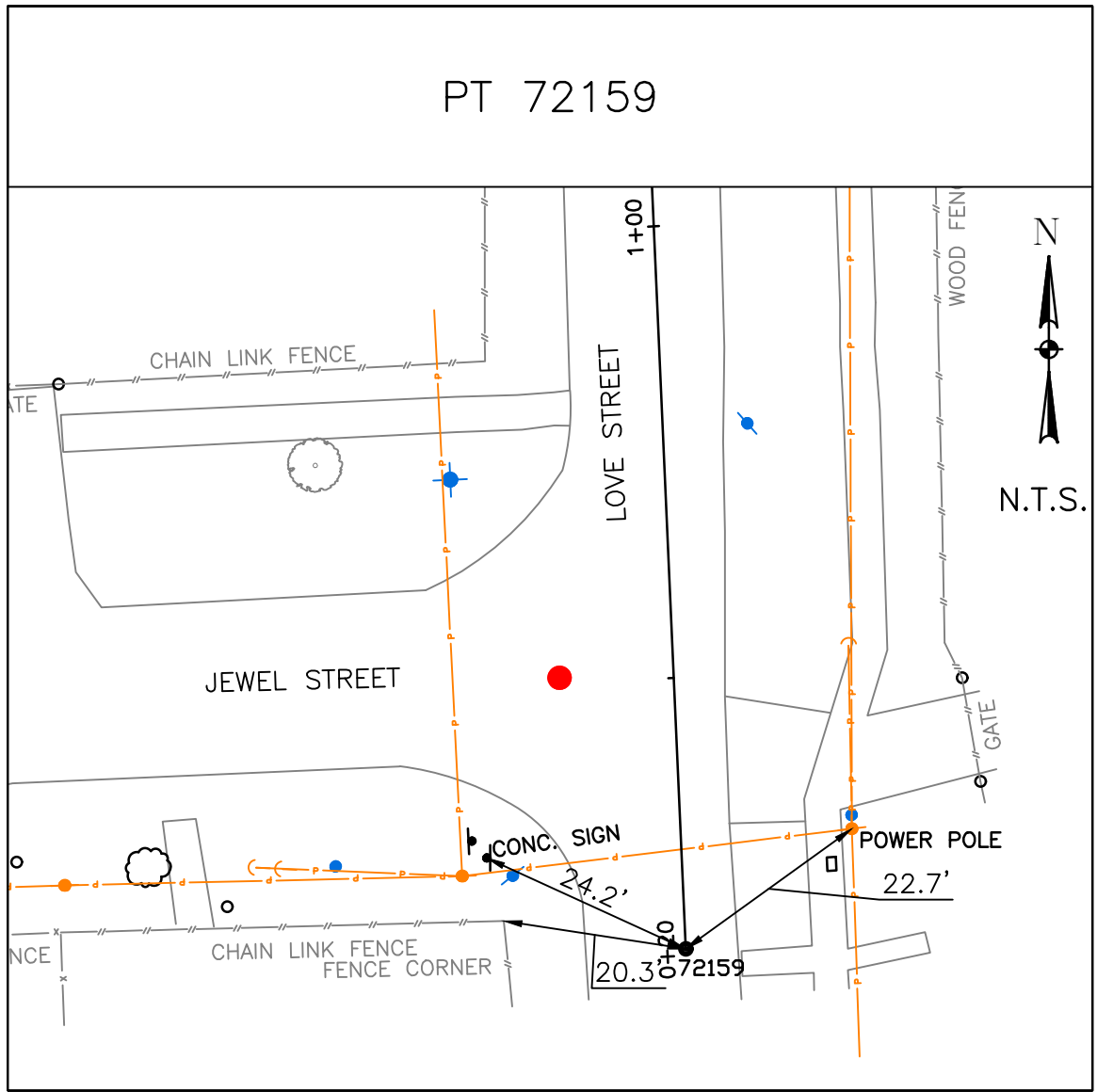
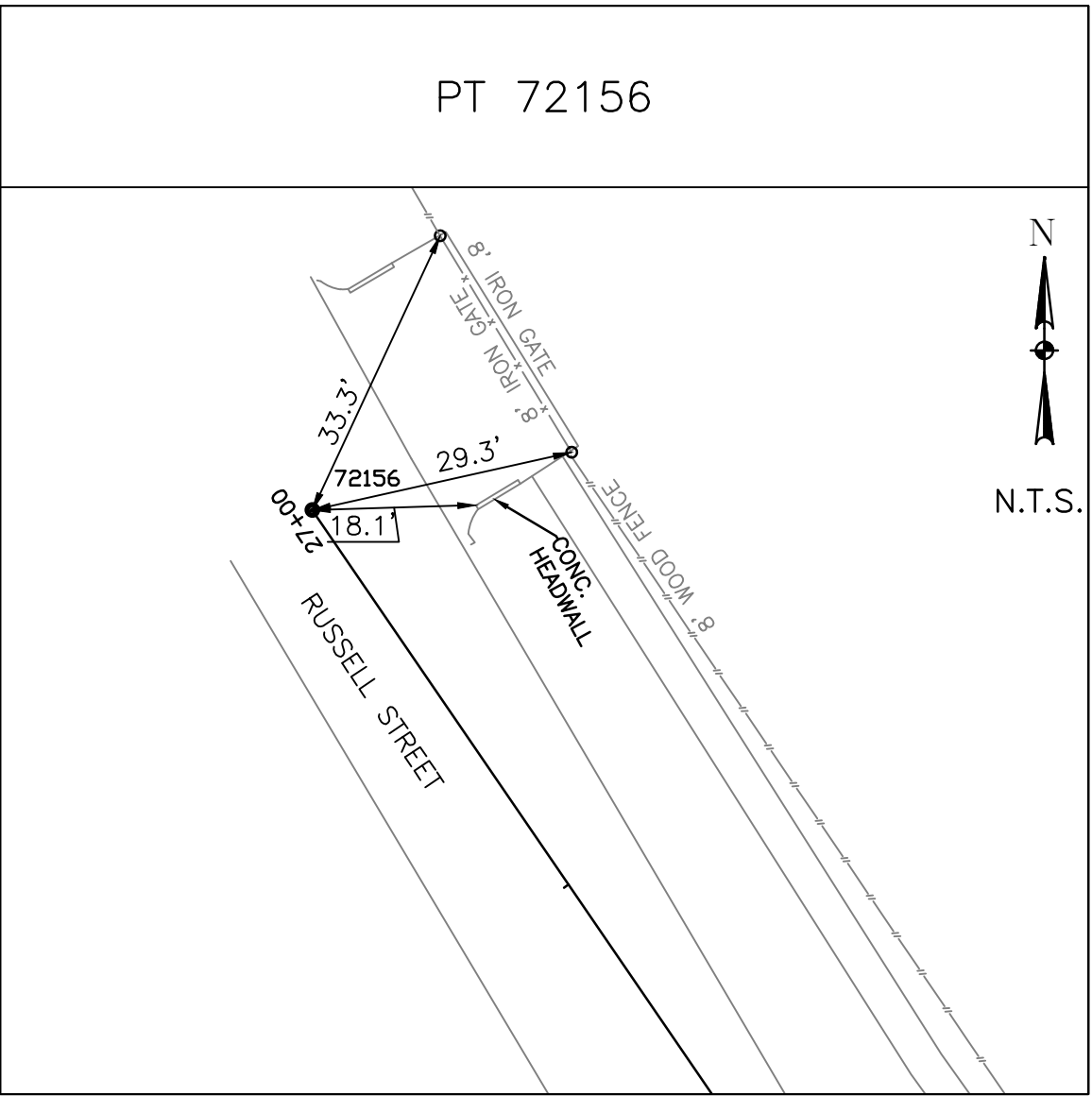
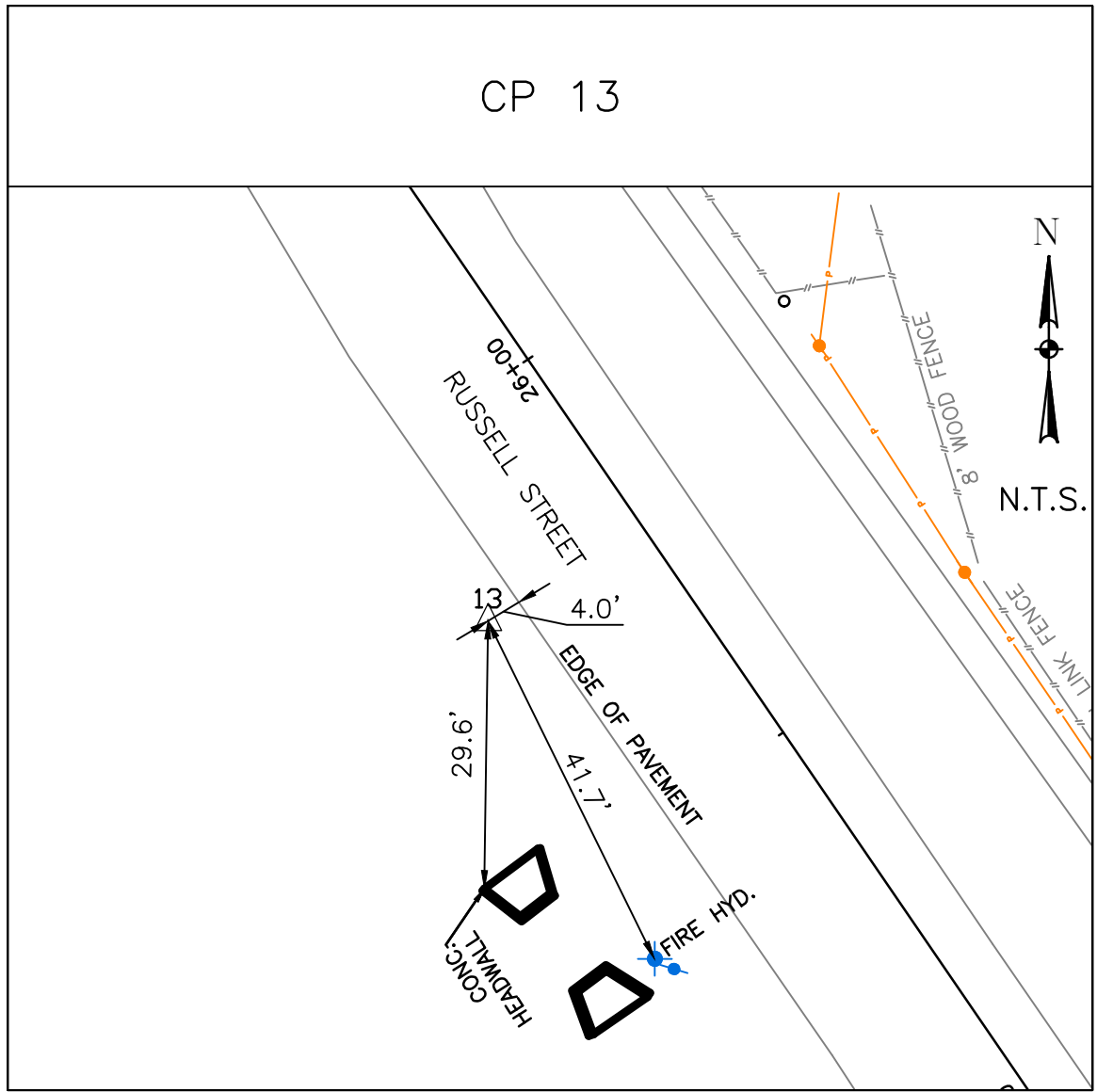
MASODUR R. MOLLAH, P.E., ENV SP

SHEET NO. 12 OF 69

FOR CITY OF HOUSTON USE ONLY

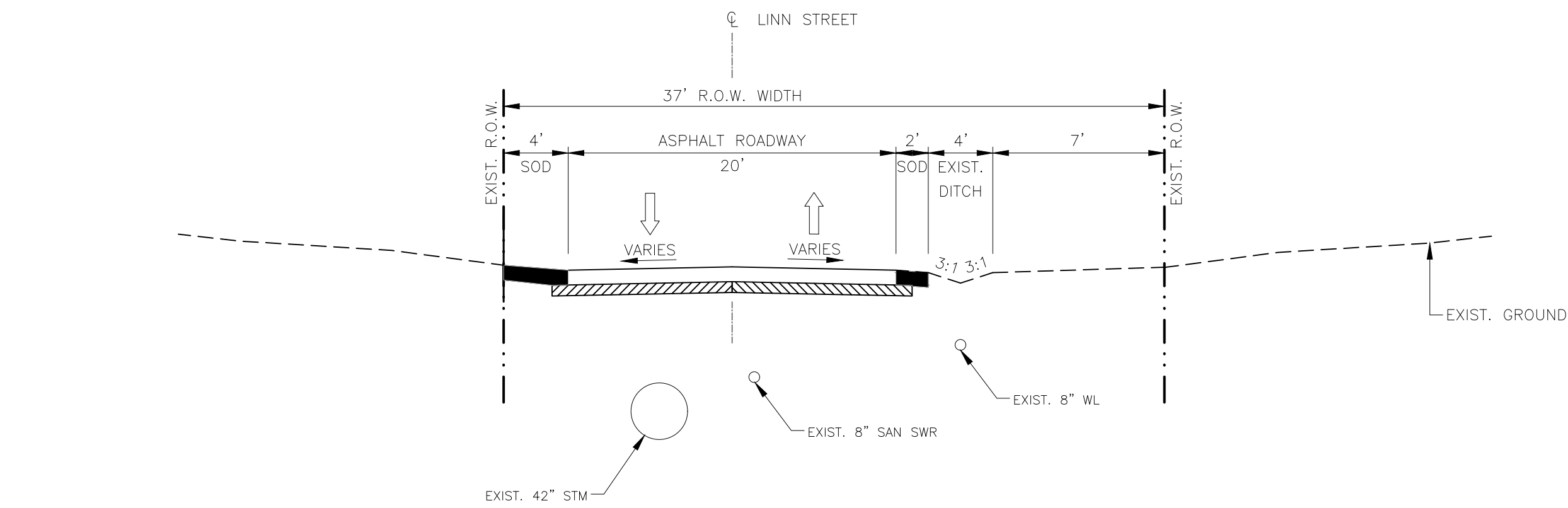
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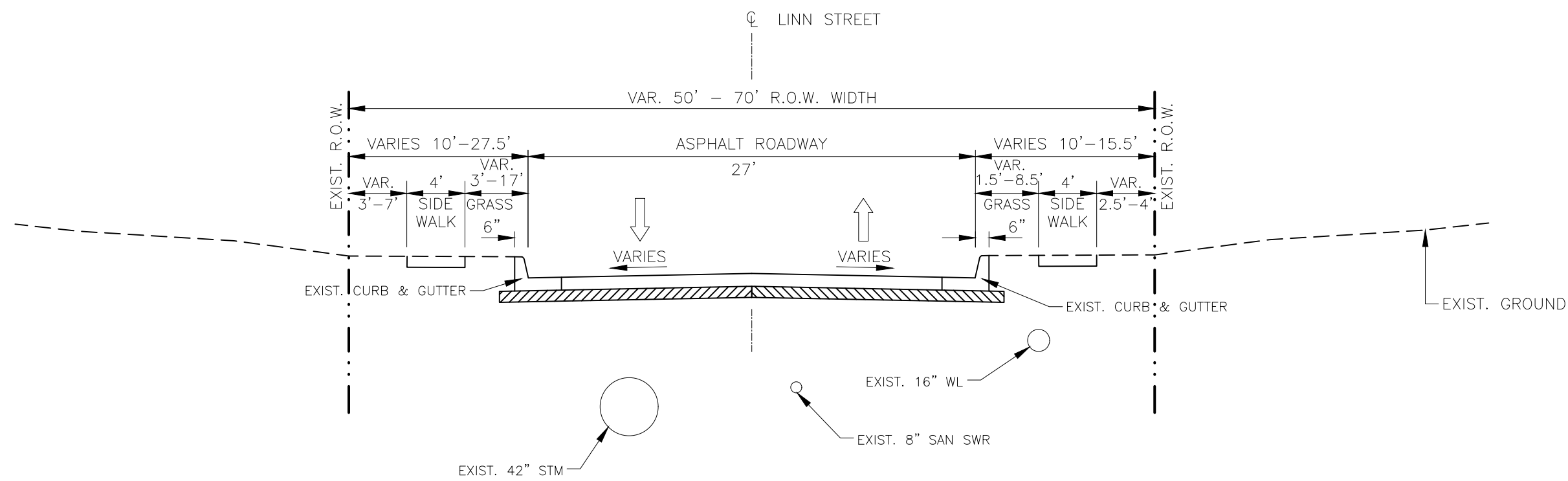


LANDTECH 1315 W SAM HOUSTON PKWY N STE 100 HOUSTON, TEXAS 77043 T: 713-861-7068 F: 713-861-4131 TPPELS REGISTRATION NO. 10019100		RELEASED BY: NHUY NGUYEN, TX RPLS #6409 DATE: 5/29/2025 PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT
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CITY OF HOUSTON HOUSTON PUBLIC WORKS		
FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS SWING TIES SHEET 3 OF 3		
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY	
M-42LHUD-0006-3		
DRAWING SCALE		
CITY OF HOUSTON PM		
MASODUR R. MOLLAH, P.E., ENV SP		
SHEET NO. 13 OF 69		

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EXISTING TYPICAL ROADWAY SECTION-1
N.T.S.
LINN STREET STA. 6+00



EXISTING TYPICAL ROADWAY SECTION-2
N.T.S.
LINN STREET STA. 9+50

NO.	DATE	REVISION	APP.

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3151 Briarpark Drive, Ste. 275
Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

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BOWMAN ENGINEERING & CONSULTING, INC.
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

60% SUBMITTAL

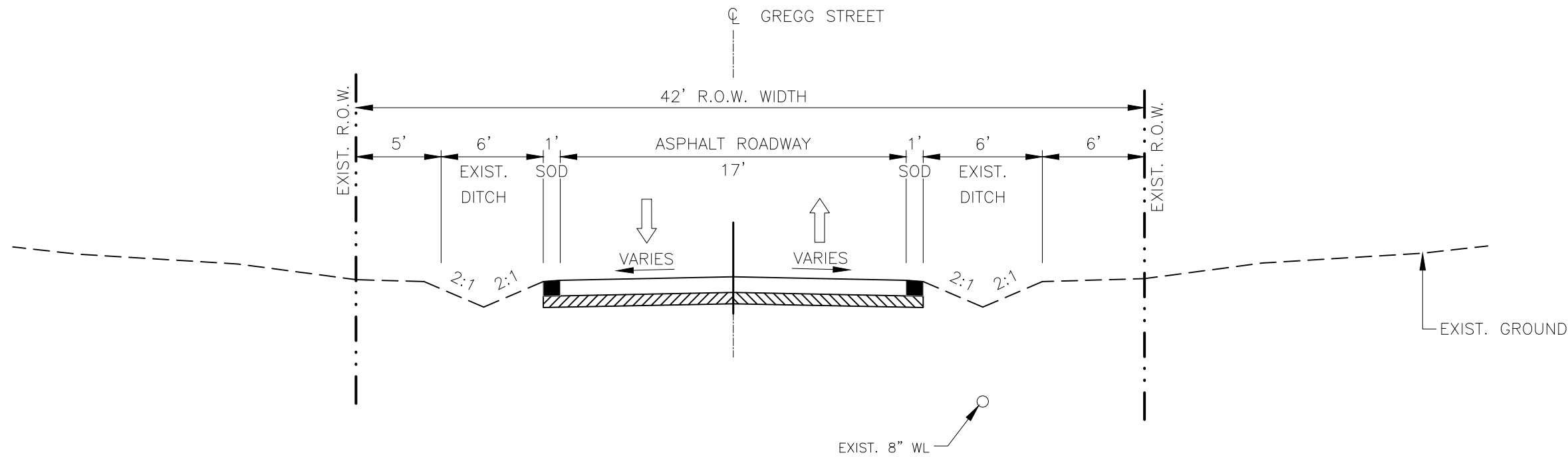
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HOUSTON PUBLIC WORKS

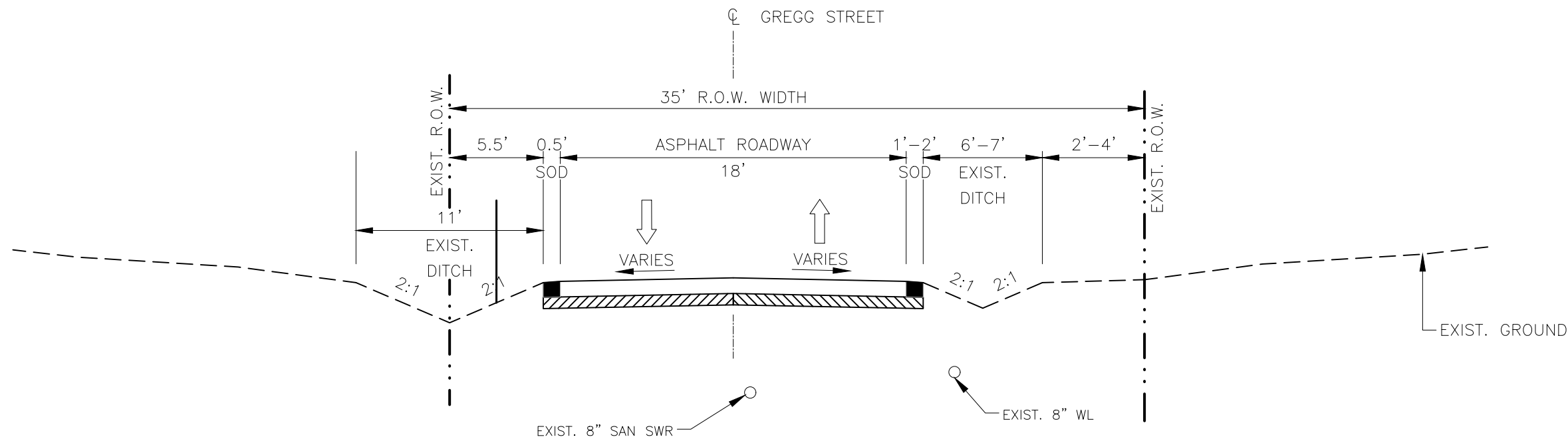
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
EXISTING TYPICAL SECTIONS
LINN STREET
STA. 6+00 & STA. 9+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. N.T.S. VERT. N.T.S.	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 14 OF 69	

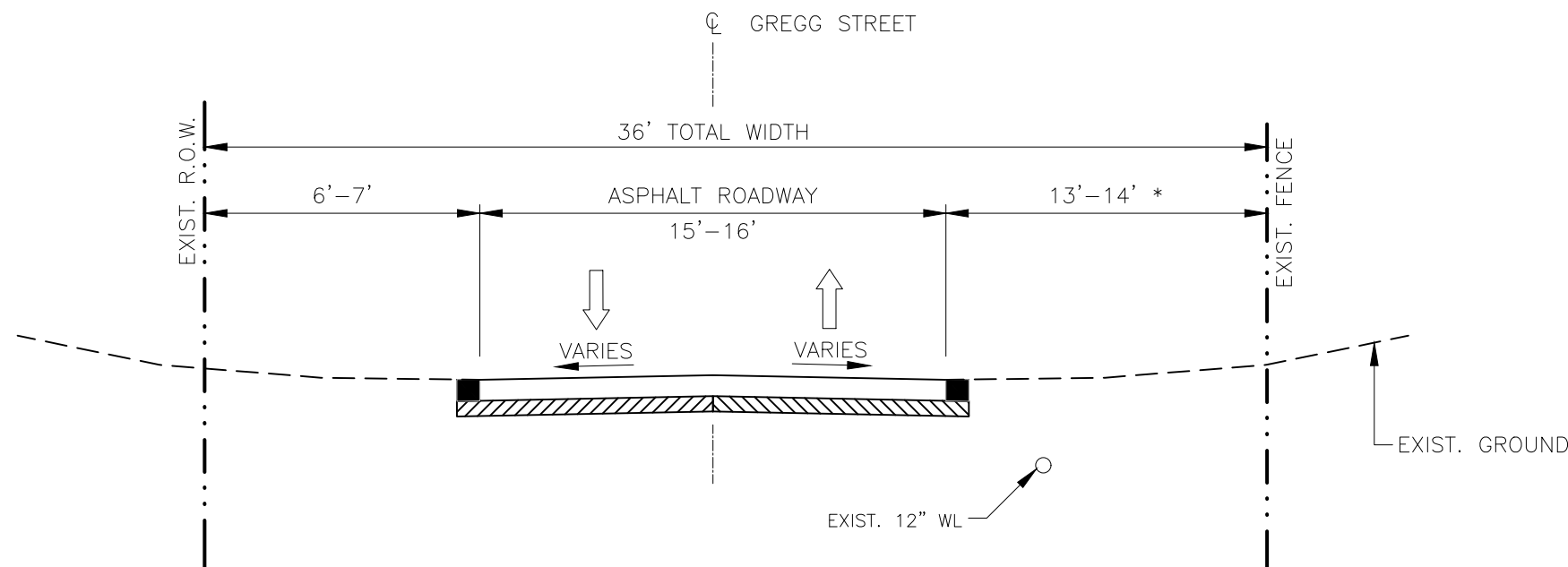
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EXISTING TYPICAL ROADWAY SECTION-3
N.T.S.
GREGG STREET STA. 10+50



EXISTING TYPICAL ROADWAY SECTION-4
N.T.S.
GREGG STREET STA. 15+20



*ROW LOCATION UNKNOWN ON EAST SIDE OF GREGG STREET AT THIS LOCATION

EXISTING TYPICAL ROADWAY SECTION-5
N.T.S.
GREGG STREET STA. 19+60

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BOWMAN
ENGINEERING/CONSULTING INC.

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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

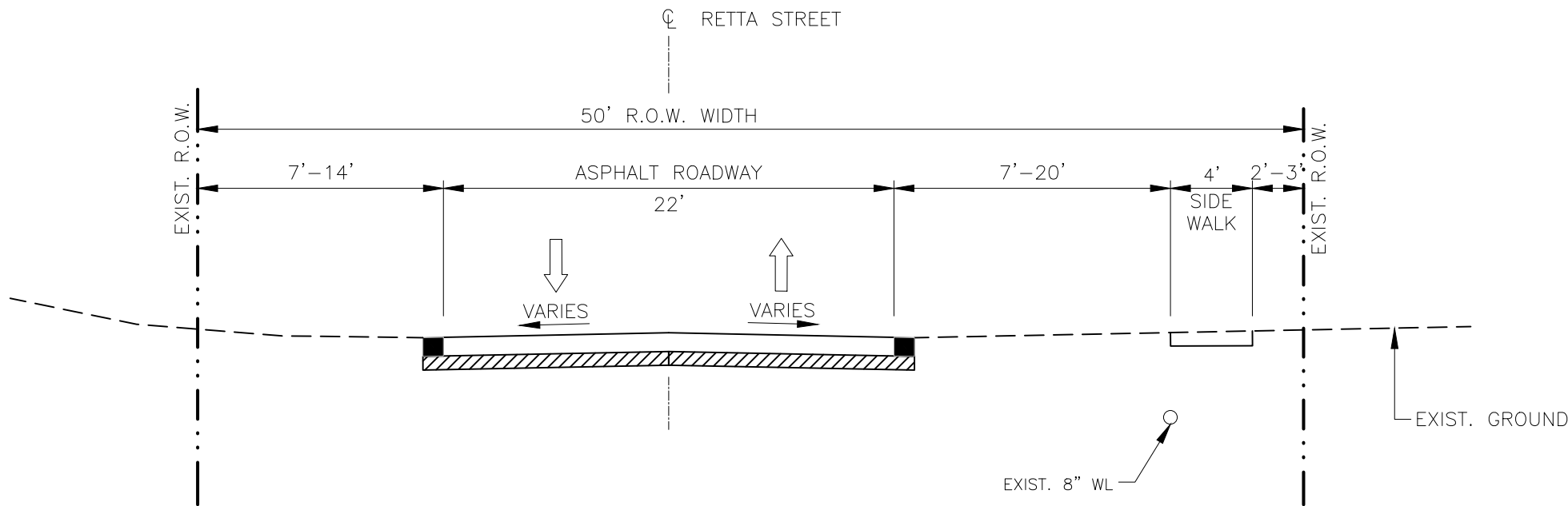
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HOUSTON PUBLIC WORKS

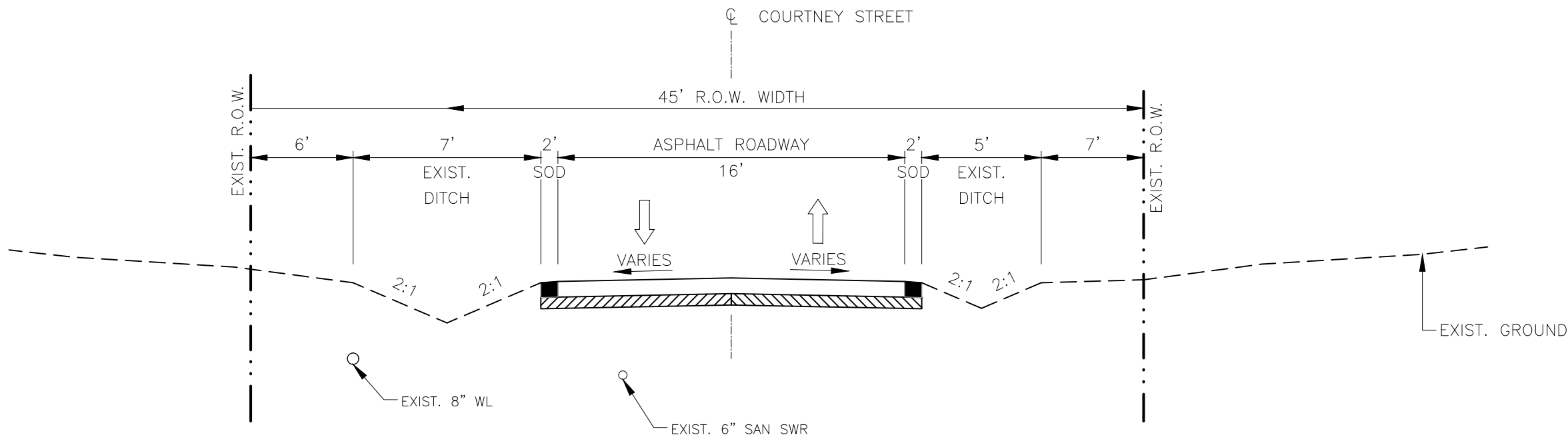
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
EXISTING TYPICAL SECTIONS
GREGG STREET
STA. 9+40 TO STA. 19+60

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. N.T.S. VERT. N.T.S.	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 15 OF 69	

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EXISTING TYPICAL ROADWAY SECTION-6
N.T.S.
RETТА STREET STA. 6+25



EXISTING TYPICAL ROADWAY SECTION-7
N.T.S.
COURTNEY STREET STA. 8+65

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Jun 02,2025

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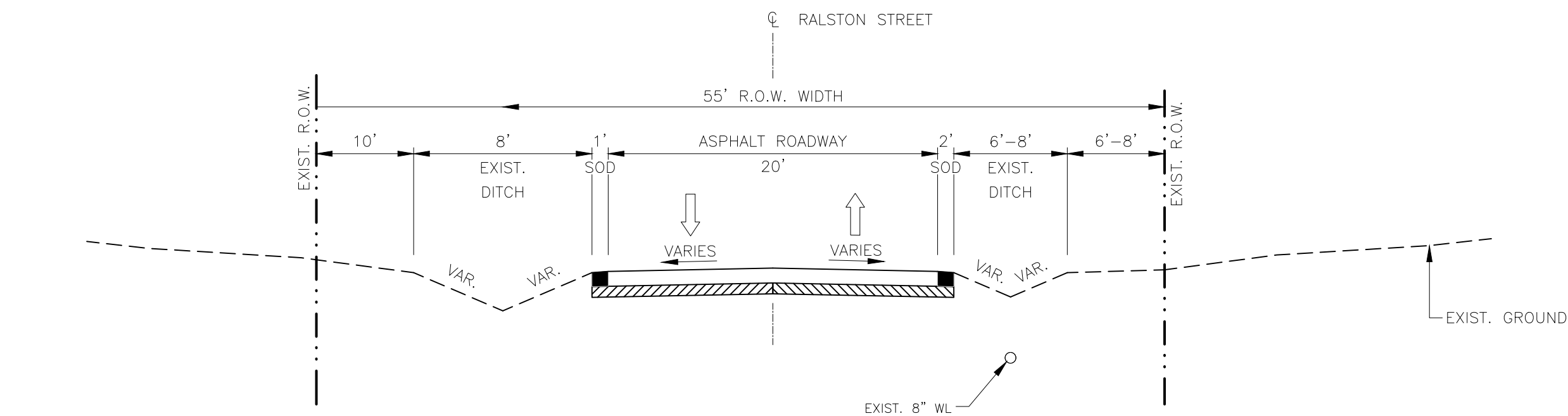
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HOUSTON PUBLIC WORKS

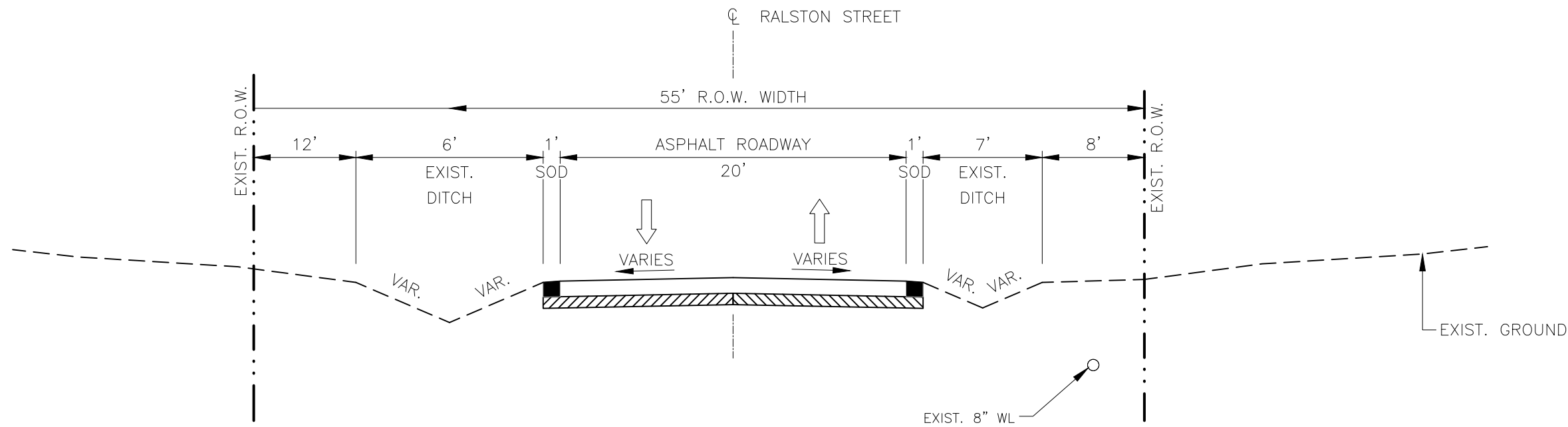
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
EXISTING TYPICAL SECTIONS
RETТА ST & COURTNEY ST
STA. 6+25 & STA. 8+65

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. N.T.S. VERT. N.T.S.	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 16 OF 69	

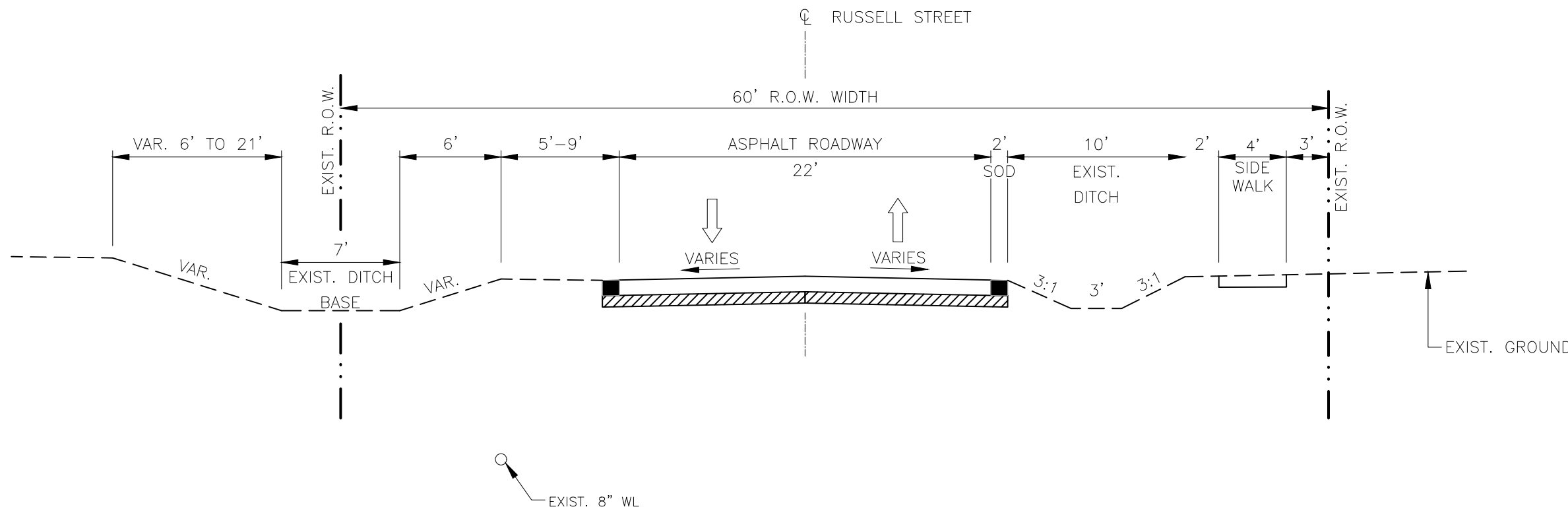
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EXISTING TYPICAL ROADWAY SECTION-8
N.T.S.
RALSTON STREET STA. 8+65



EXISTING TYPICAL ROADWAY SECTION-9
N.T.S.
RALSTON STREET STA. 13+70



EXISTING TYPICAL ROADWAY SECTION-10
N.T.S.
RUSSELL STREET STA. 25+75

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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

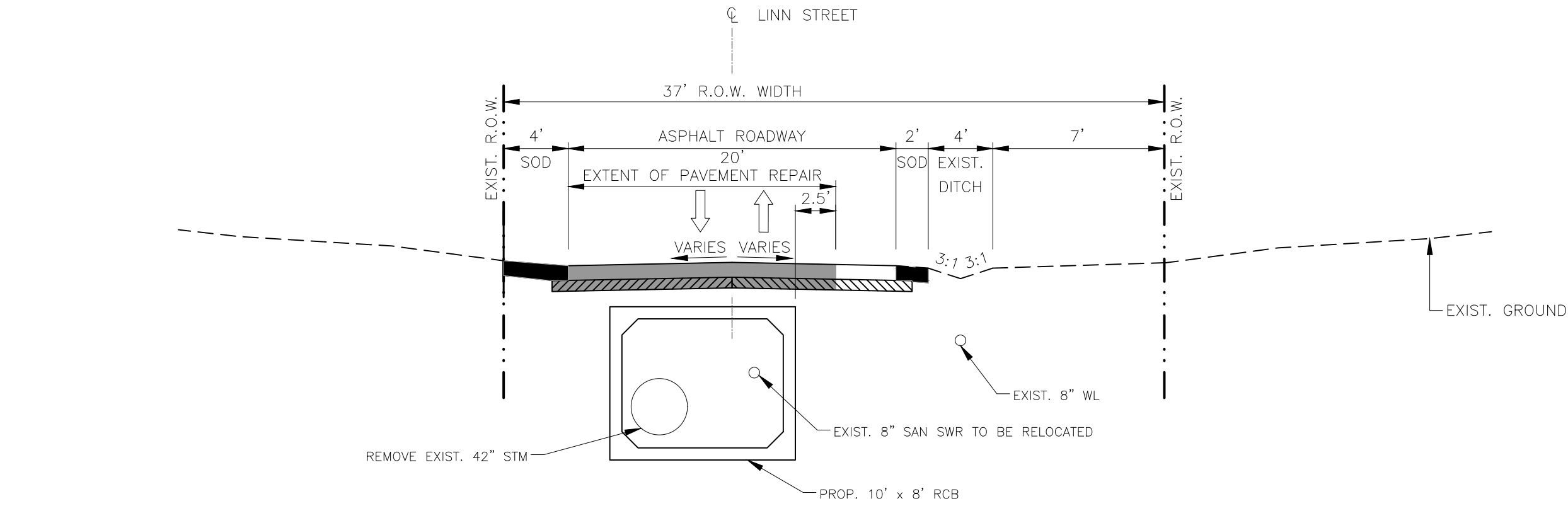
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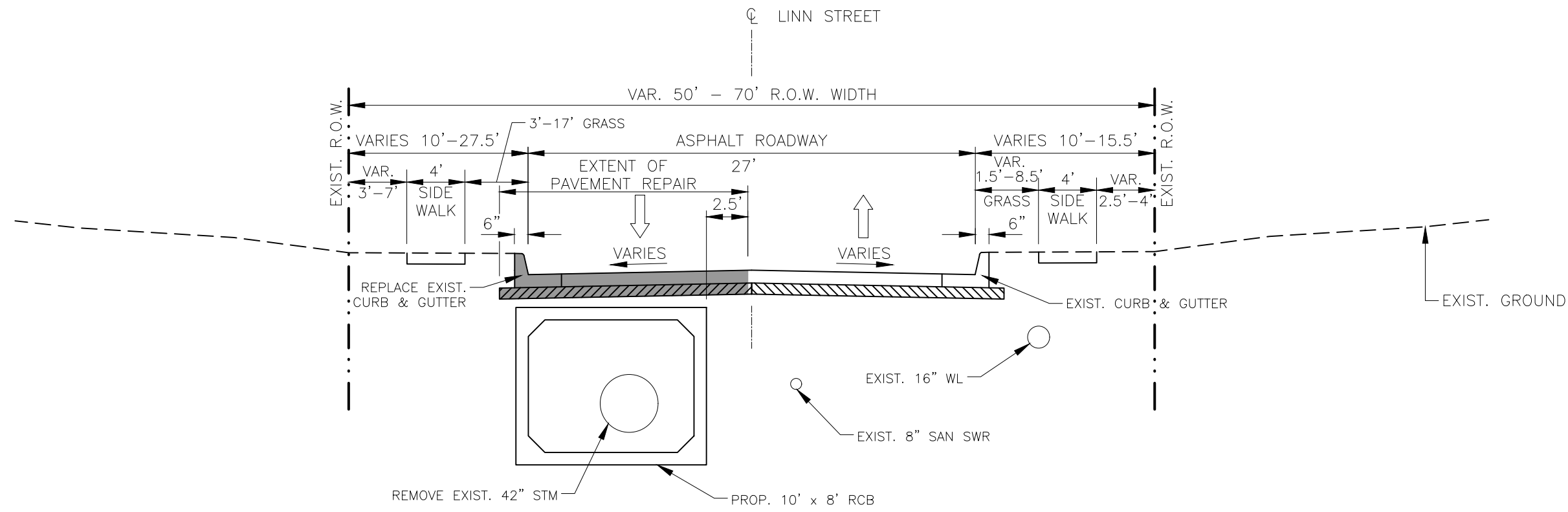
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
EXISTING TYPICAL SECTIONS
RALSTON ST & RUSSELL ST
STA. 8+65, STA. 13+70 & STA. 25+75

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. N.T.S. VERT. N.T.S.	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 17 OF 69	

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PROPOSED TYPICAL ROADWAY SECTION-1
N.T.S.
LINN STREET STA. 6+00



PROPOSED TYPICAL ROADWAY SECTION-2
N.T.S.
LINN STREET STA. 9+50

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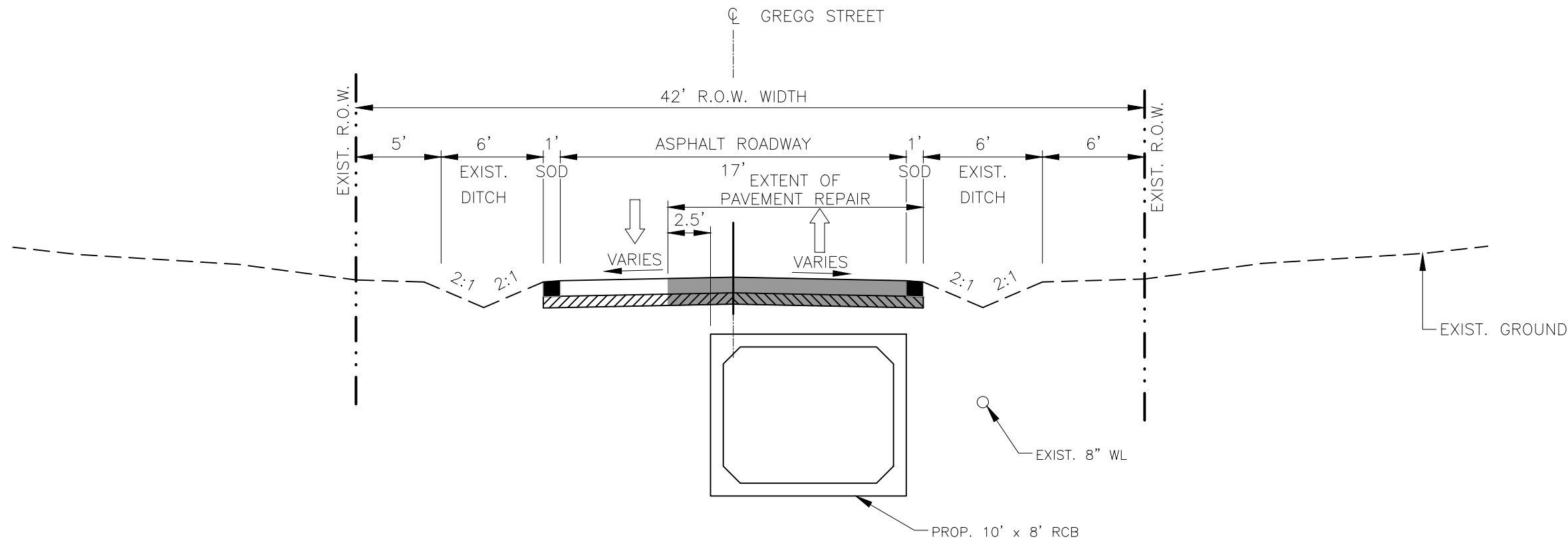
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Jun 02,2025

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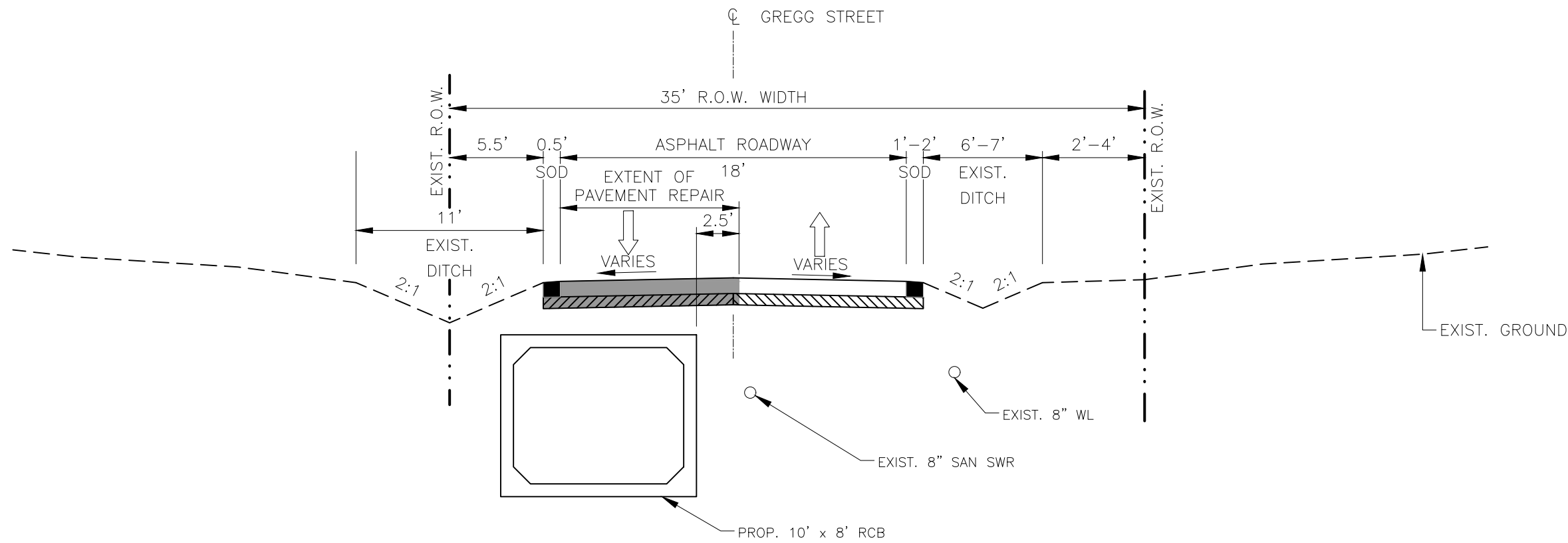
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CITY OF HOUSTON	
HOUSTON PUBLIC WORKS	
FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS PROPOSED TYPICAL SECTIONS LINN STREET STA. 6+00 & STA. 9+50	
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. N.T.S. VERT. N.T.S.	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 18 OF 69	

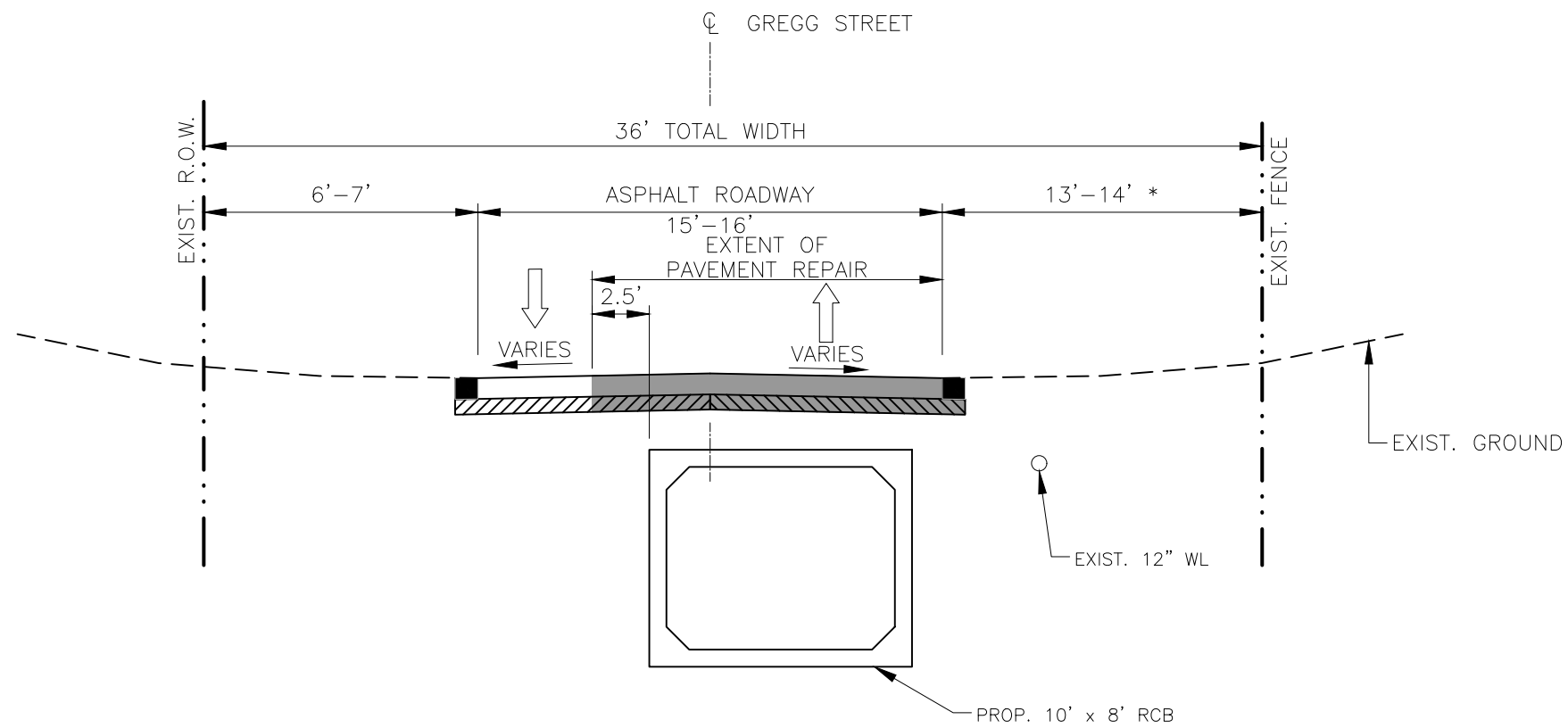
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PROPOSED TYPICAL ROADWAY SECTION-3
N.T.S.
GREGG STREET STA. 10+50



PROPOSED TYPICAL ROADWAY SECTION-4
N.T.S.
GREGG STREET STA. 15+20



*ROW LOCATION UNKNOWN ON EAST SIDE OF GREGG STREET AT THIS LOCATION

PROPOSED TYPICAL ROADWAY SECTION-5
N.T.S.
GREGG STREET STA. 19+60

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Jun 02,2025

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HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PROPOSED TYPICAL SECTIONS
GREGG STREET
STA. 9+40 TO STA. 19+60

WBS NUMBER

M-42LHUD-0006-3

DRAWING SCALE

HORIZ. N.T.S.

VERT. N.T.S.

CITY OF HOUSTON PM

MASODUR R. MOLLAH, P.E., ENV SP

SHEET NO. 19 OF 69

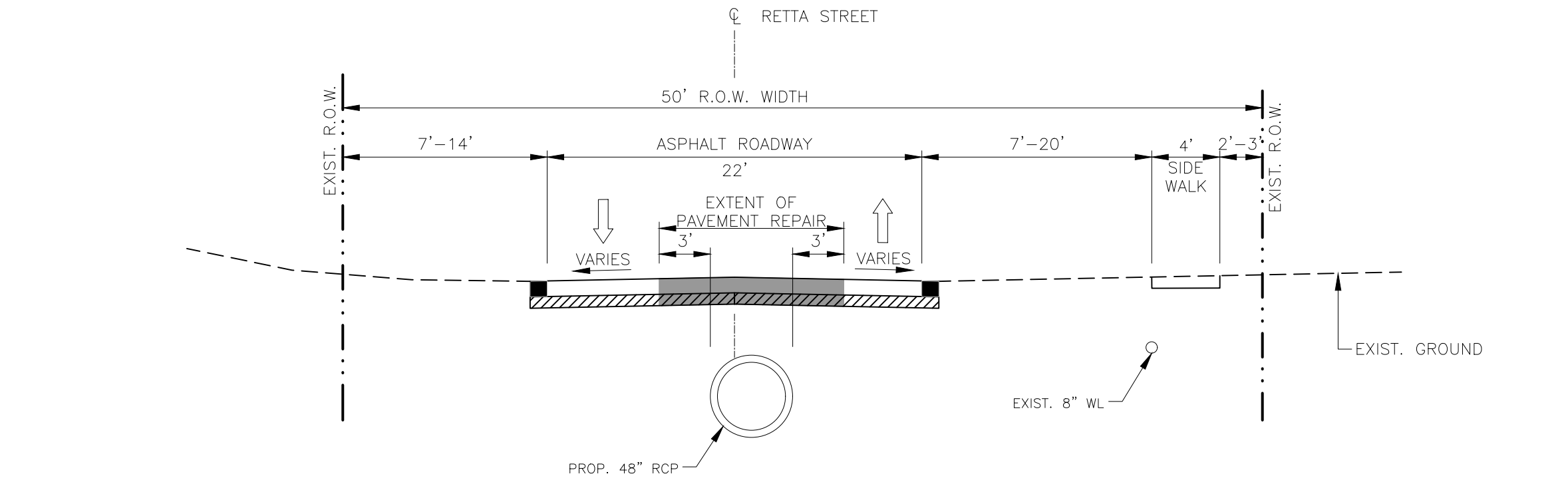
FOR CITY OF HOUSTON USE ONLY

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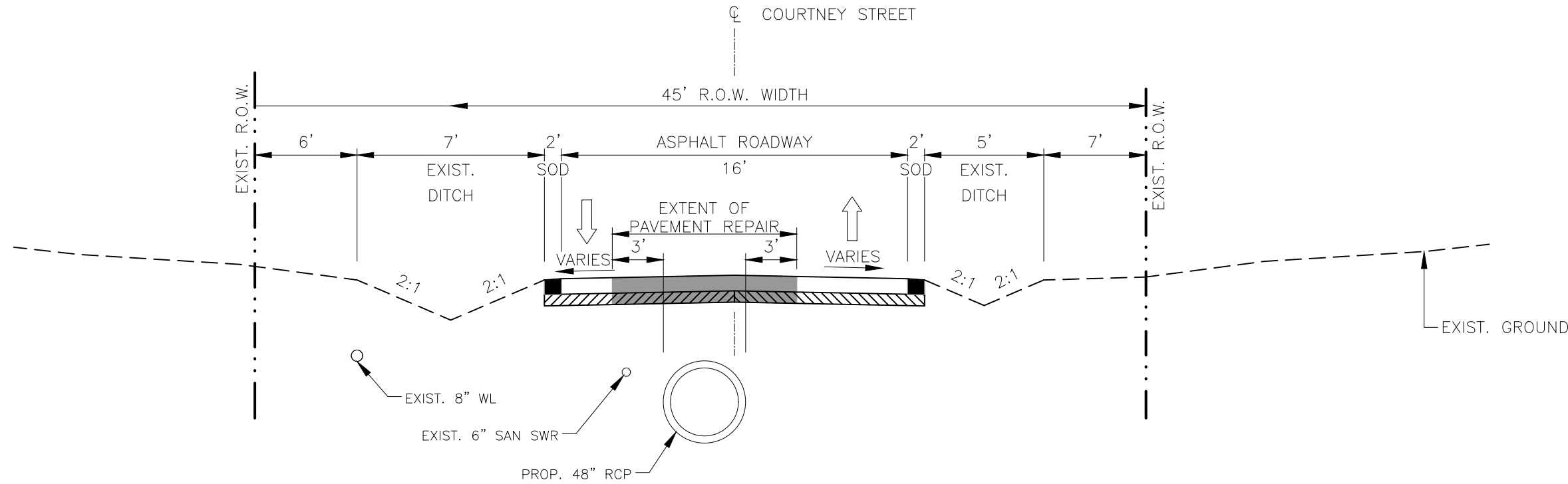
REVISION

NO. DATE

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PROPOSED TYPICAL ROADWAY SECTION-6
N.T.S.
RETТА STREET STA. 6+25



PROPOSED TYPICAL ROADWAY SECTION-7
N.T.S.
COURTNEY STREET STA. 8+65

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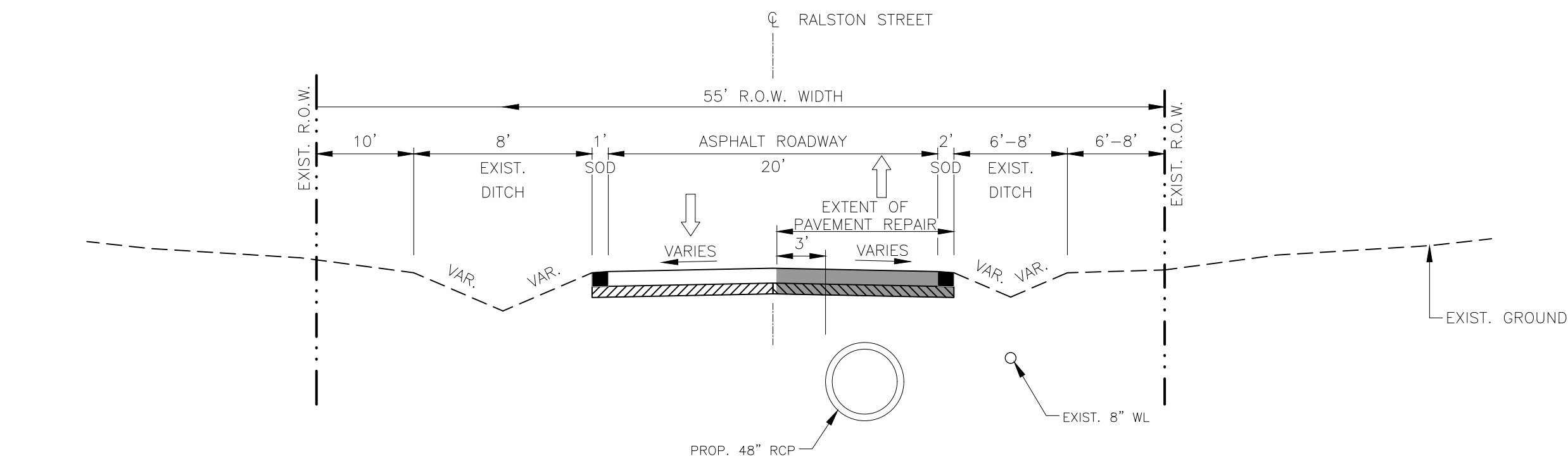
 3151 Briarpark Drive, Ste. 275 Houston, TX 77042 713.779.2990 TBPELS Registration No. F-9245	THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES. RESPONSIBLE ENGINEER: BOWMAN ENGINEERING & CONSULTING, INC. WILLIE V. BROWN, P.E. TEXAS REGISTRATION NO. 85396 Jun 02,2025 60% SUBMITTAL
SURVEYED BY: FB NO. 000000	

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

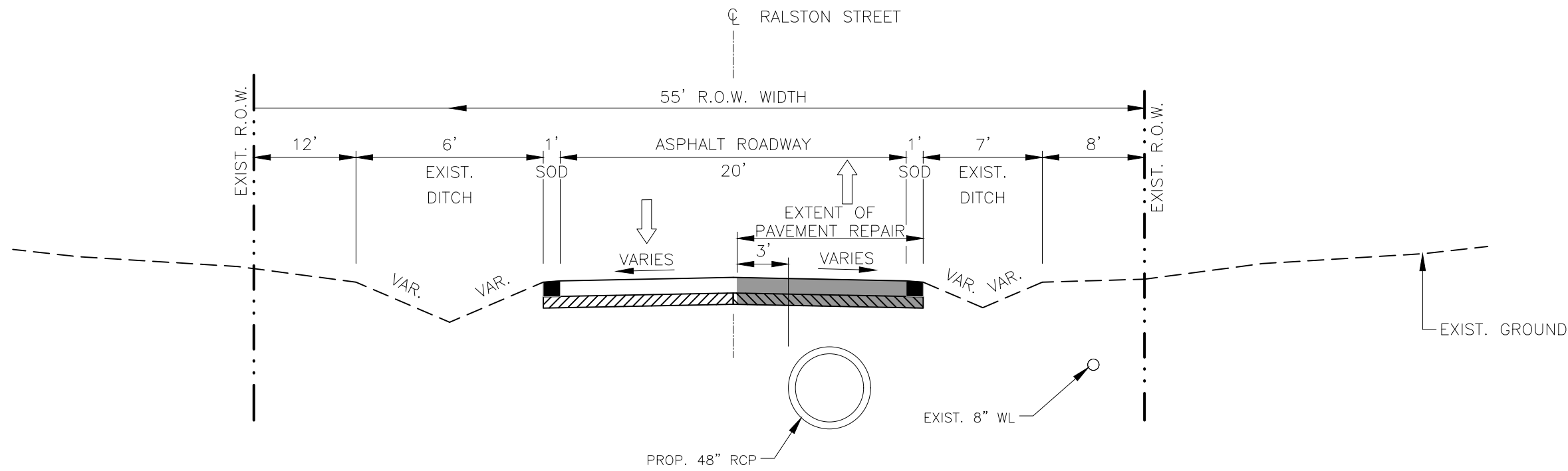
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PROPOSED TYPICAL SECTIONS
RETТА ST & COURTNEY ST
STA. 6+25 & STA. 8+65

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. N.T.S. VERT. N.T.S.	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 20 OF 69	

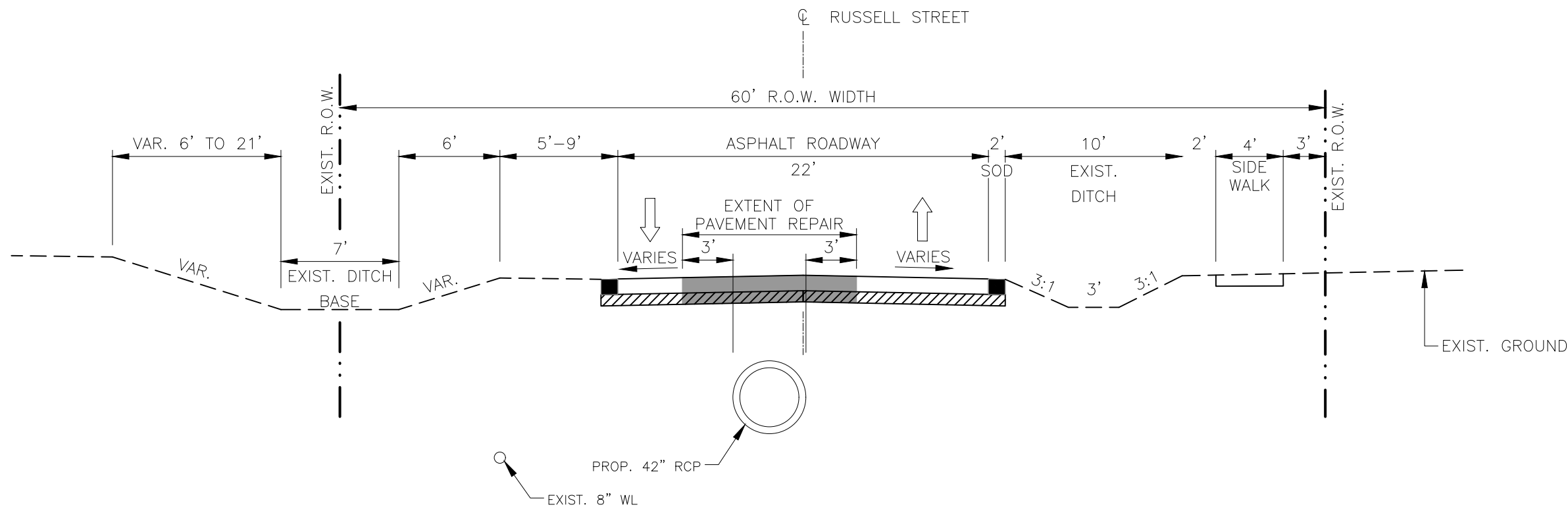
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PROPOSED TYPICAL ROADWAY SECTION-8
N.T.S.
RALSTON STREET STA. 8+65



PROPOSED TYPICAL ROADWAY SECTION-9
N.T.S.
RALSTON STREET STA. 13+70



PROPOSED TYPICAL ROADWAY SECTION-10
N.T.S.
RUSSELL STREET STA. 25+75

NOTICE:
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VERIFICATION OF PRIVATE UTILITY LINES

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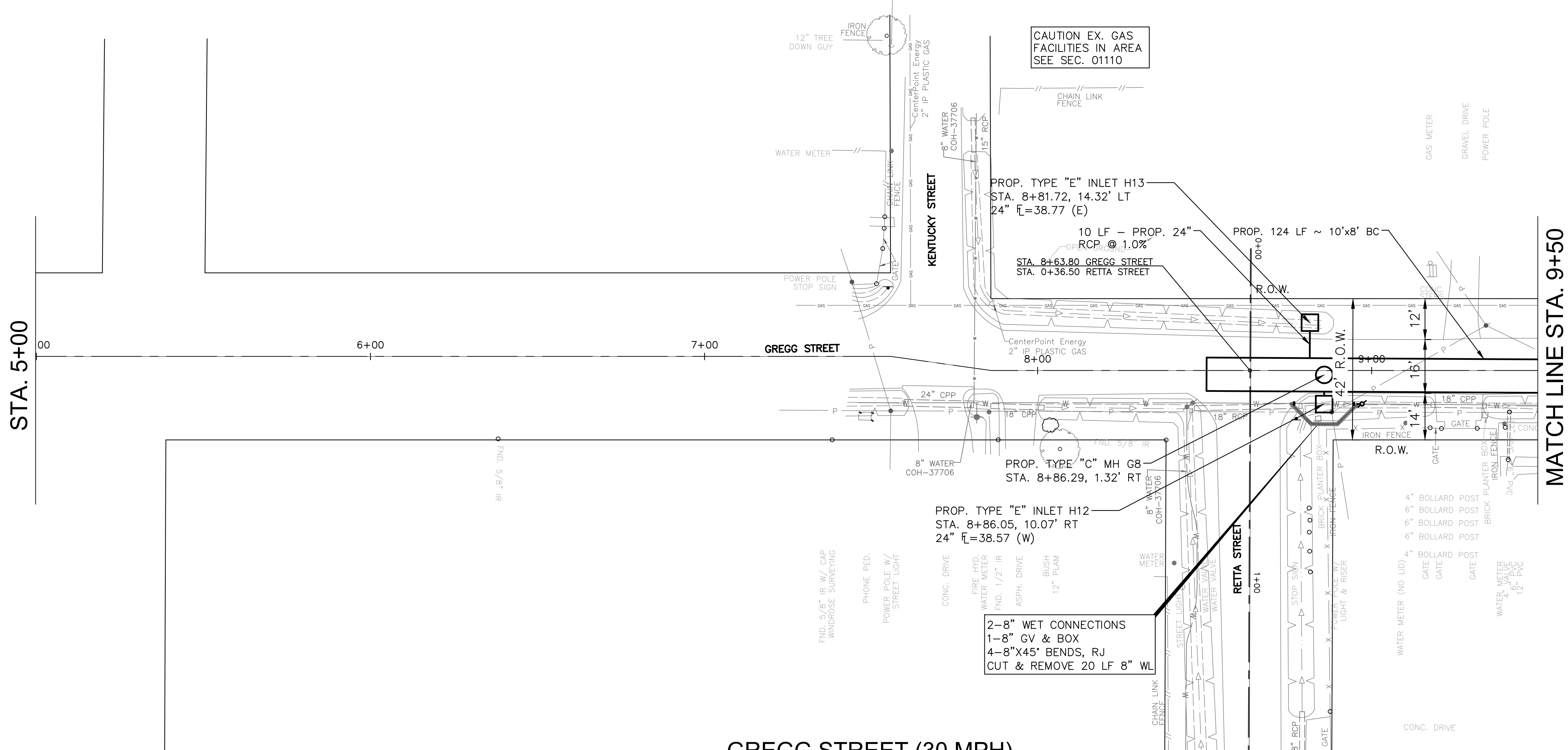
 3151 Briarpark Drive, Ste. 275 Houston, TX 77042 713.779.2990 TBPELS Registration No. F-9245	THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES. RESPONSIBLE ENGINEER: BOWMAN ENGINEERING & CONSULTING, INC. WILLIE V. BROWN, P.E. TEXAS REGISTRATION NO. 85396 Jun 02,2025 60% SUBMITTAL
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

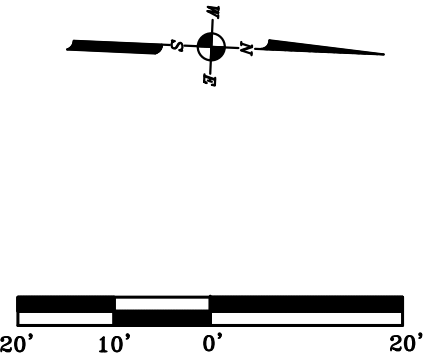
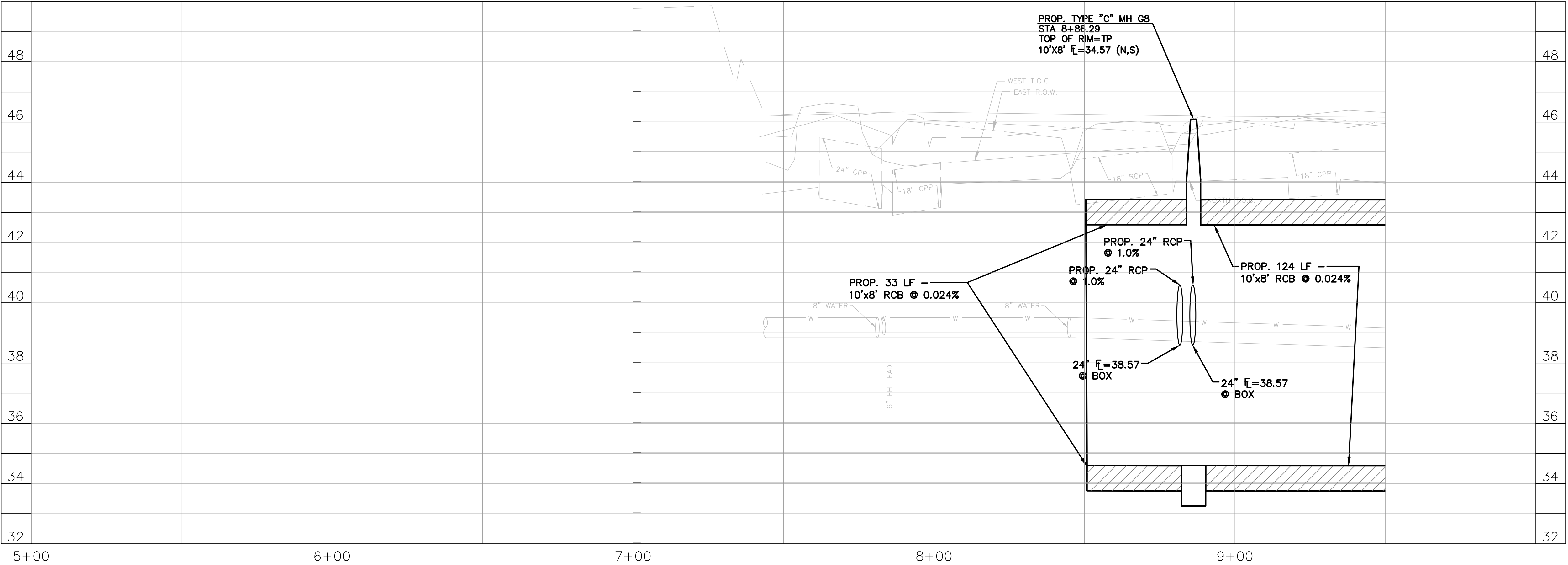
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PROPOSED TYPICAL SECTIONS
RALSTON ST & RUSSELL ST
STA. 8+65, STA. 13+70 & STA. 25+75

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. N.T.S. VERT. N.T.S.	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 21 OF 69	

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GREGG STREET (30 MPH)



NO.	DATE	REVISION	APP.

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713.779.2990
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BOWMAN ENGINEERING & CONSULTING, INC.
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

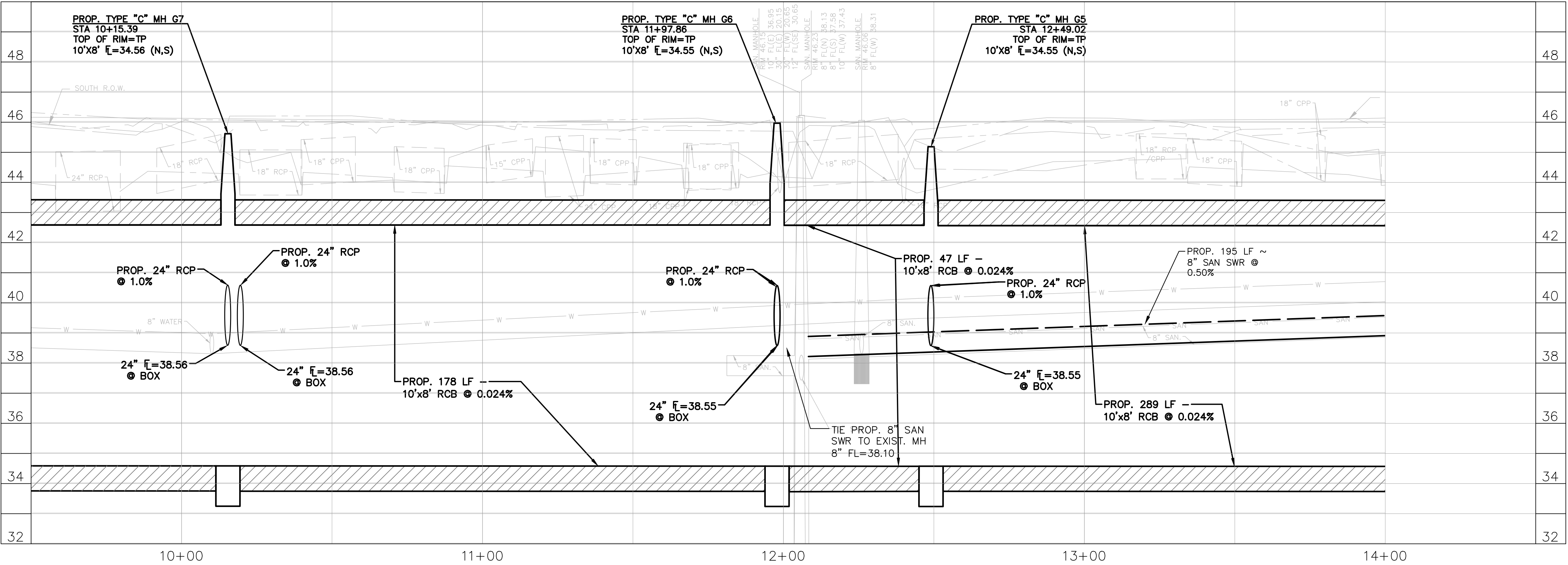
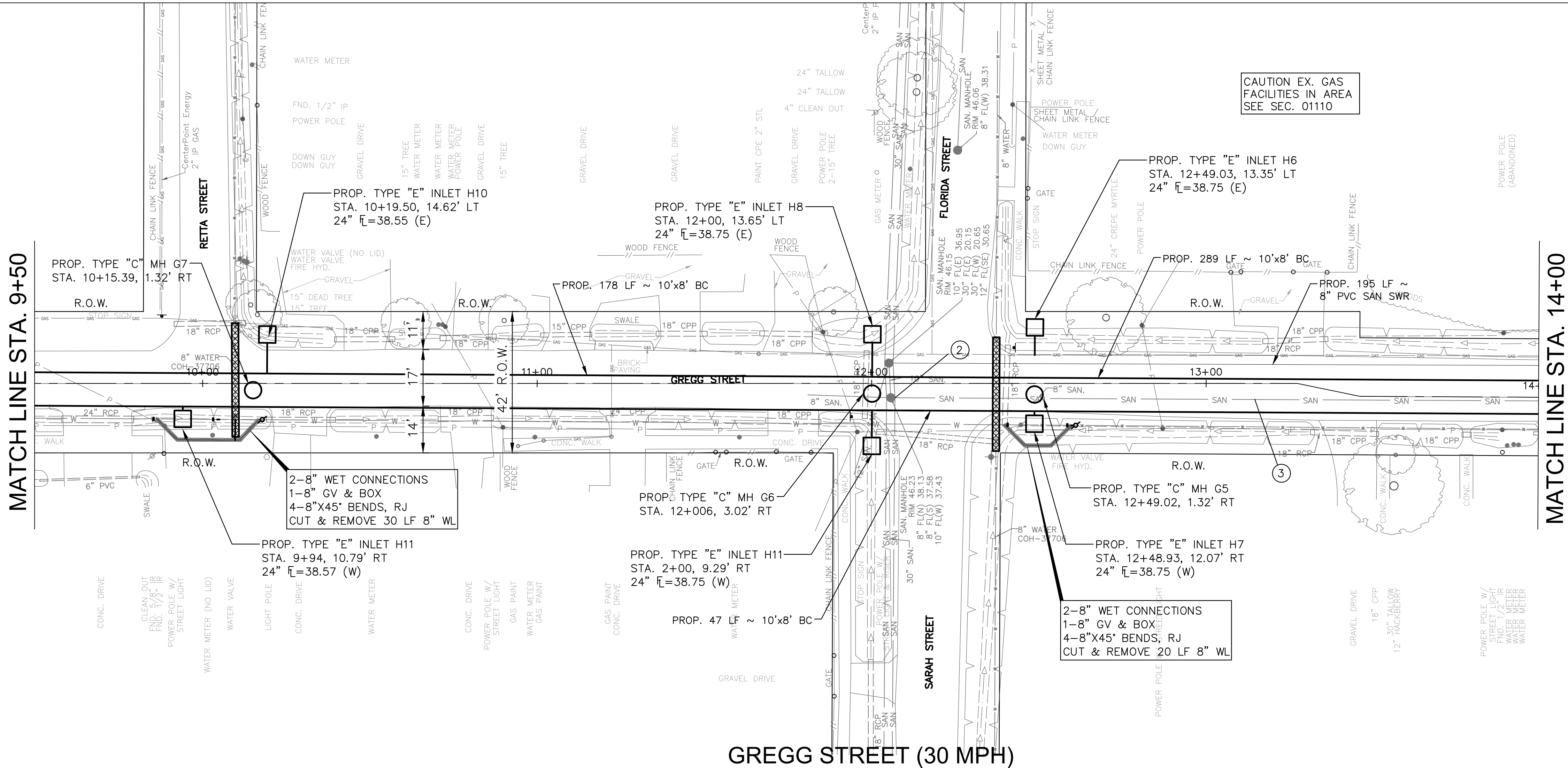
60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
GREGG STREET
STA. 5+00 TO STA. 9+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 22 OF 69	

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Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

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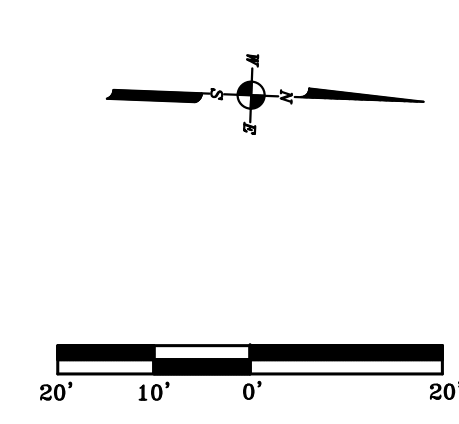
RESPONSIBLE ENGINEER:
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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02/2025

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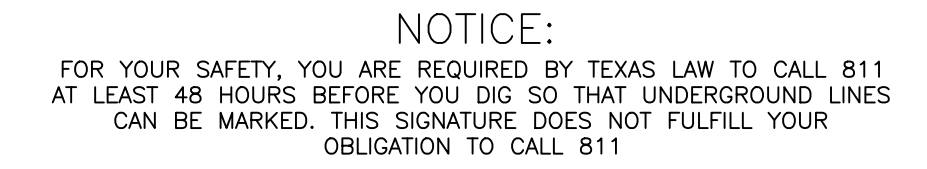
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

**FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
GREGG STREET
STA. 9+50 TO STA. 14+00**

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASOUDUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 23 OF 69	



	NO. DATE	REVISION	APP.



VERIFICATION OF PRIVATE UTILITY LINES

Date _____

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BOWMAN
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Houston, TX 77042
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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02/2025

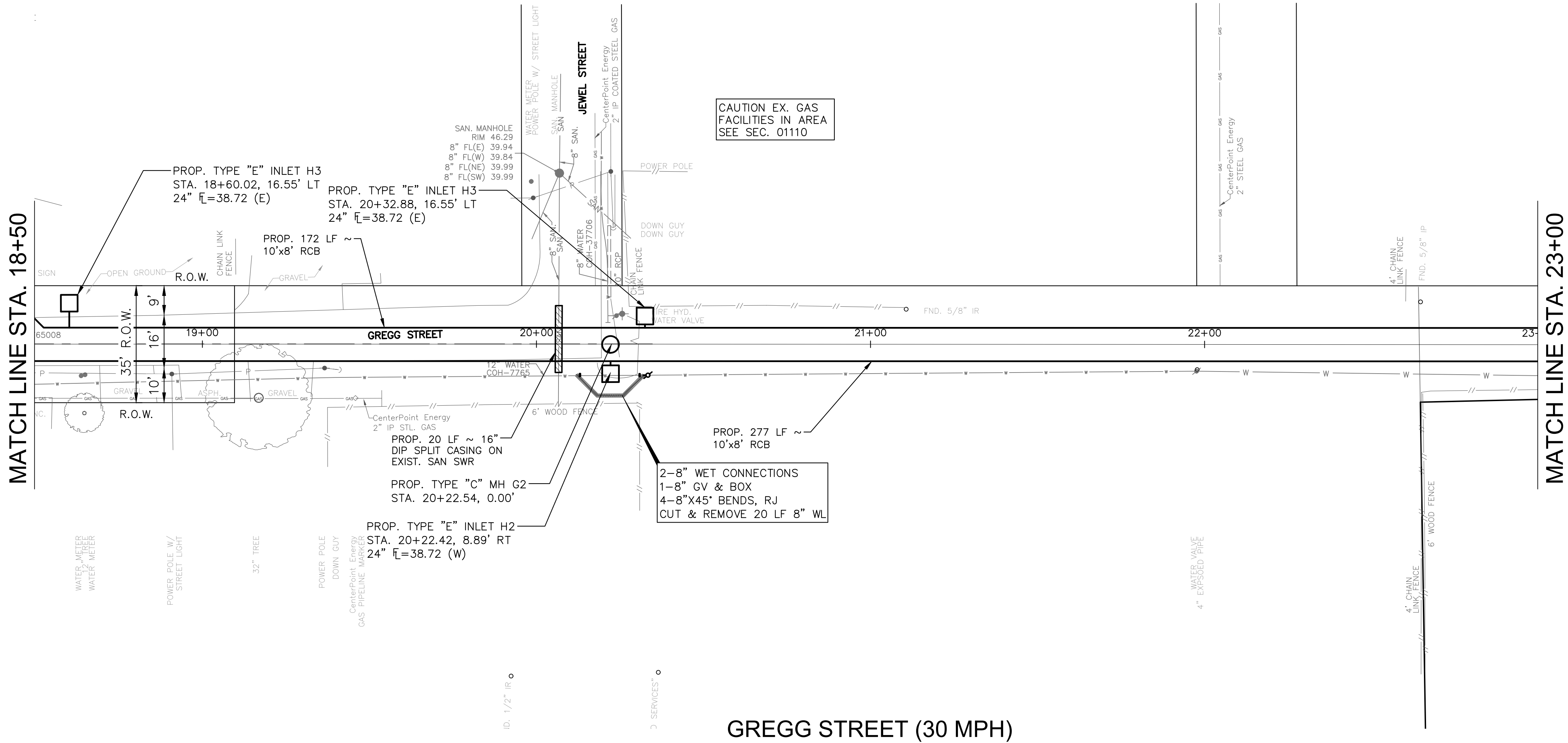
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

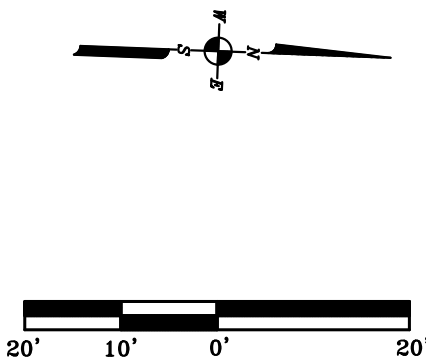
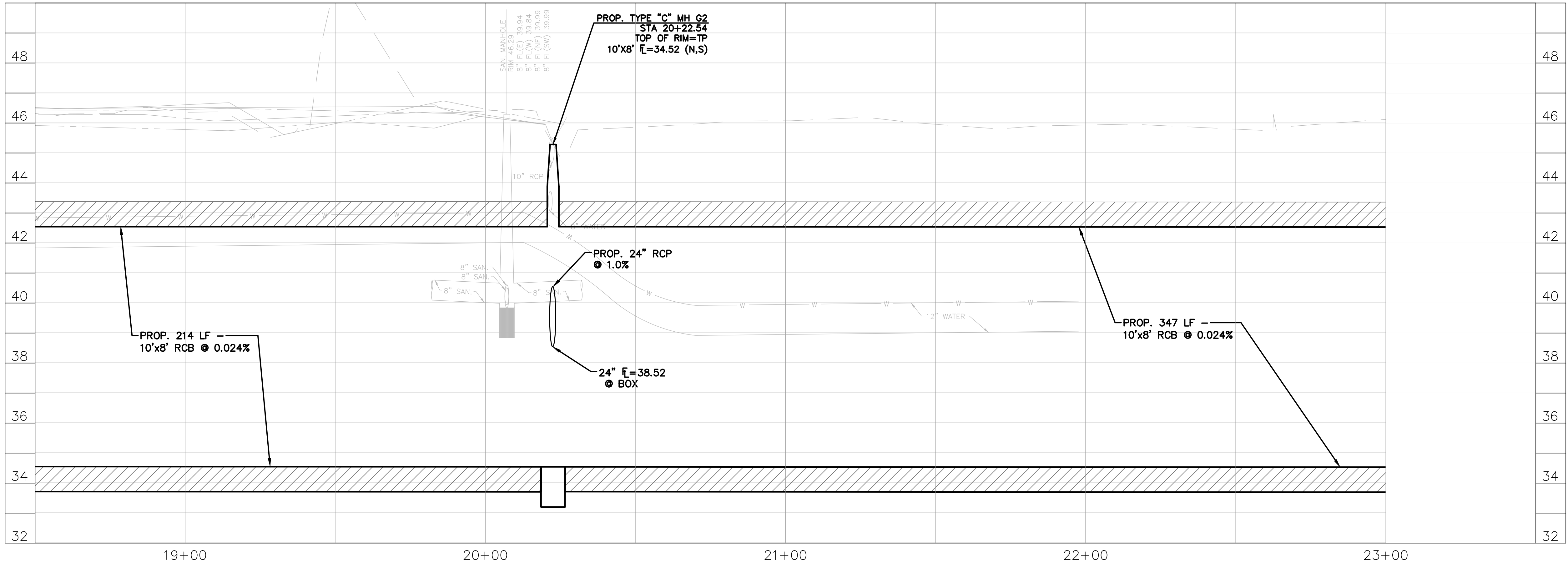
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
GREGG STREET
STA. 14+00 TO STA. 18+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 24 OF 69	

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GREGG STREET (30 MPH)



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Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

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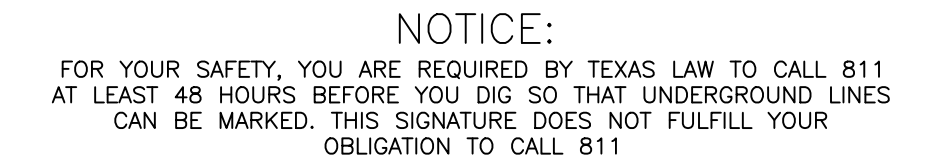
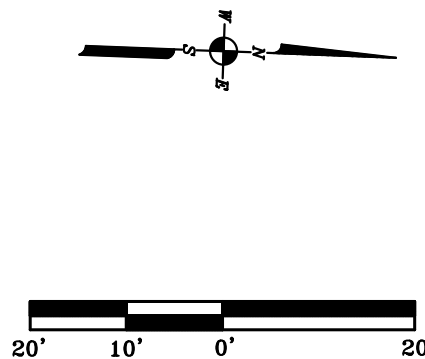
RESPONSIBLE ENGINEER:
BOWMAN ENGINEERING & CONSULTING, INC.
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02, 2025

60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
GREGG STREET
STA. 18+50 TO STA. 23+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASOUDUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 25 OF 69	





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Jun 02,2025

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Houston, TX 77042
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BOWMAN ENGINEERING & CONSULTING, INC.

FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS

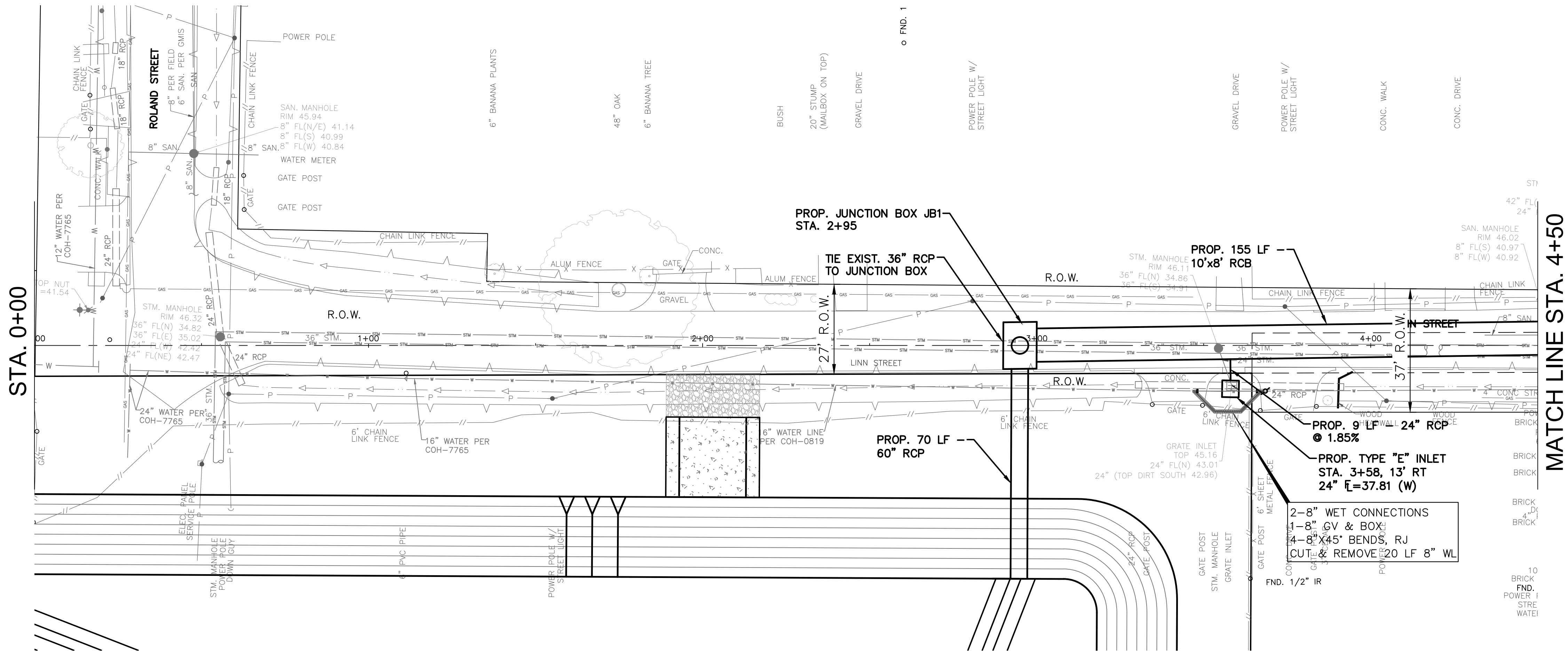
PLAN & PROFILE

GREGG STREET

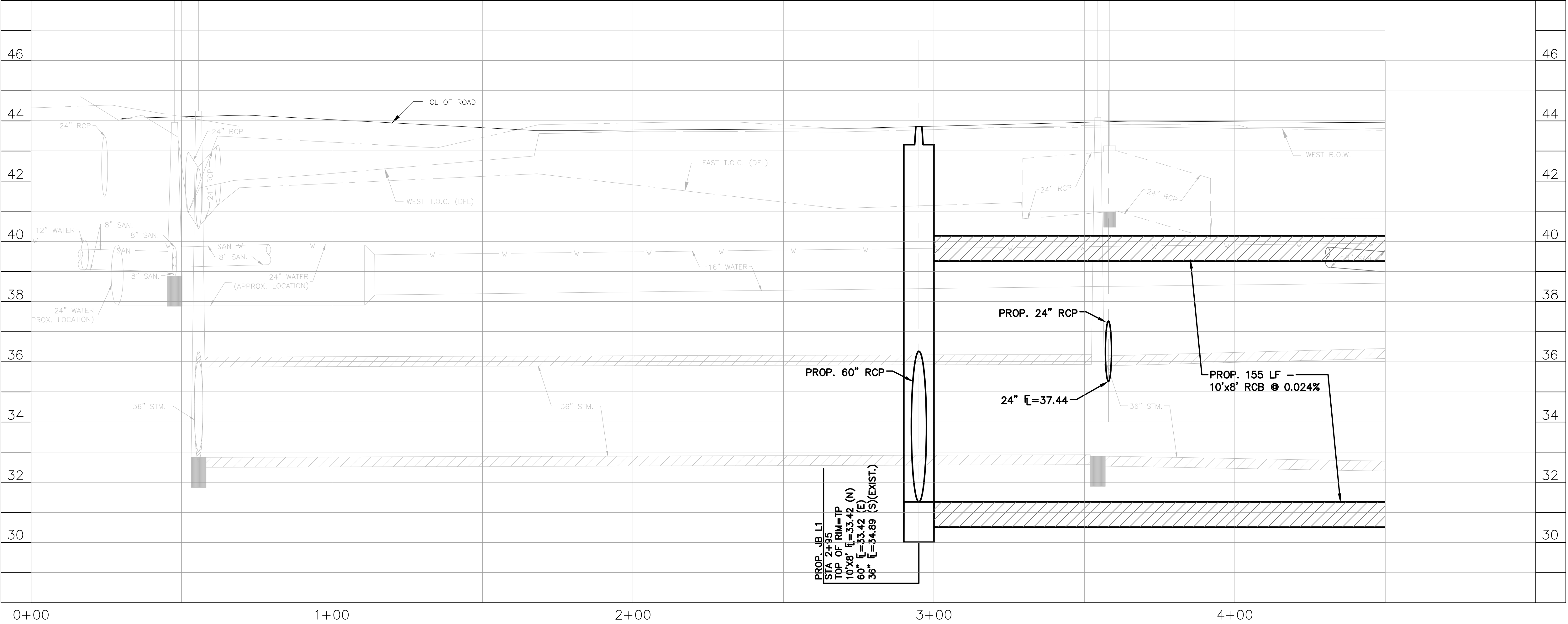
STA. 18+50 TO STA. 23+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20'	
VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 26 OF 69	

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LINN STREET (30 MPH)



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Houston, TX 77042
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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02/2025
60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
LINN STREET
STA. 0+00 TO STA. 4+50

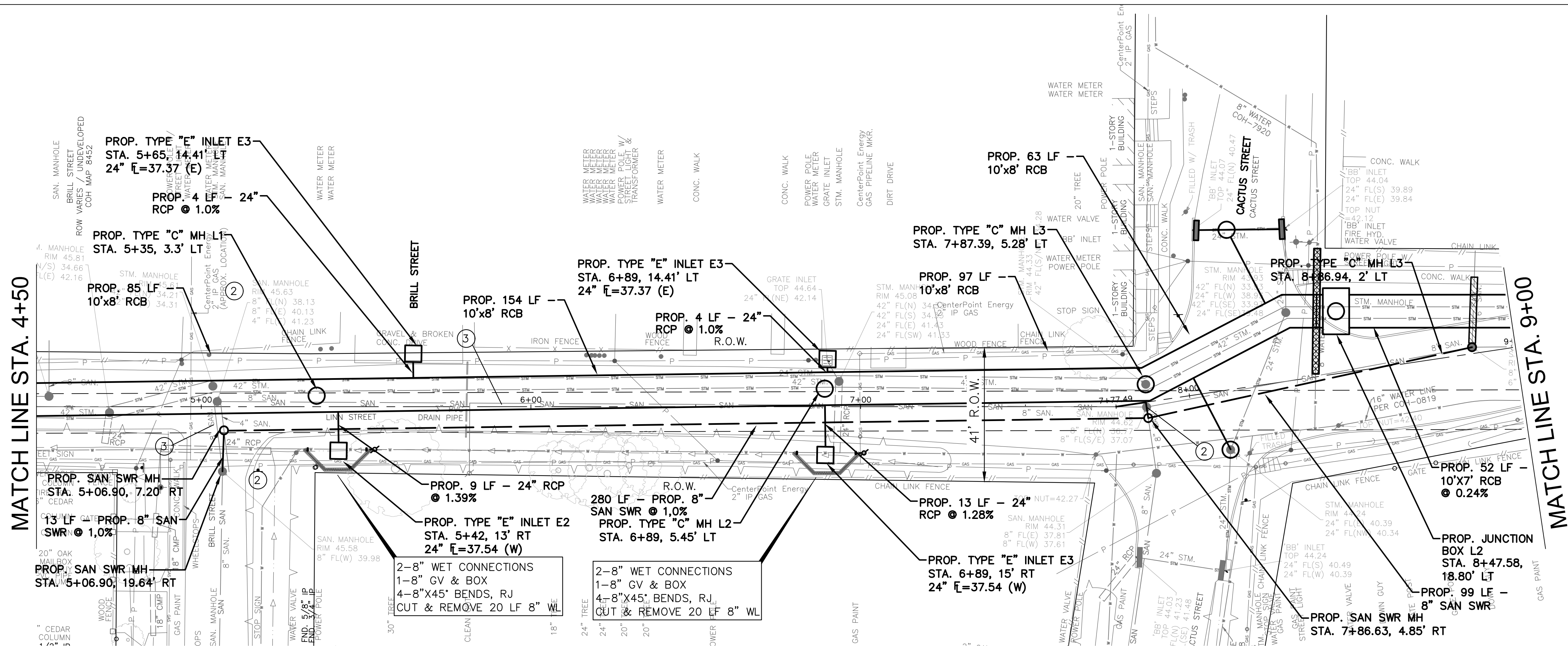
WBS NUMBER
M-42LHUD-0006-3

DRAWING SCALE
HORIZ. 1"=20'
VERT. 1"=2'

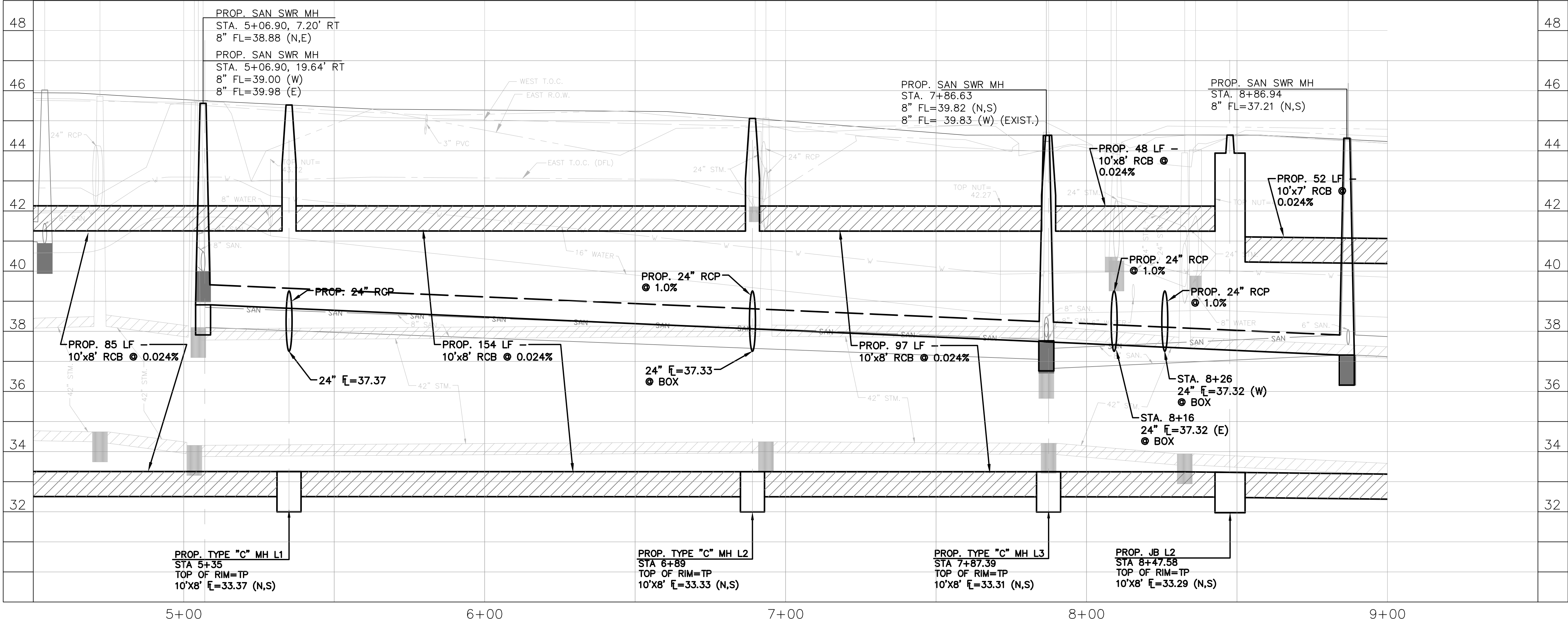
CITY OF HOUSTON PM
MASOUD R. MOLLAH, P.E., ENV SP

SHEET NO. 27 OF 69

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LINN STREET (30 MPH)



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TEXAS REGISTRATION NO. 85396
Jun 02/2025

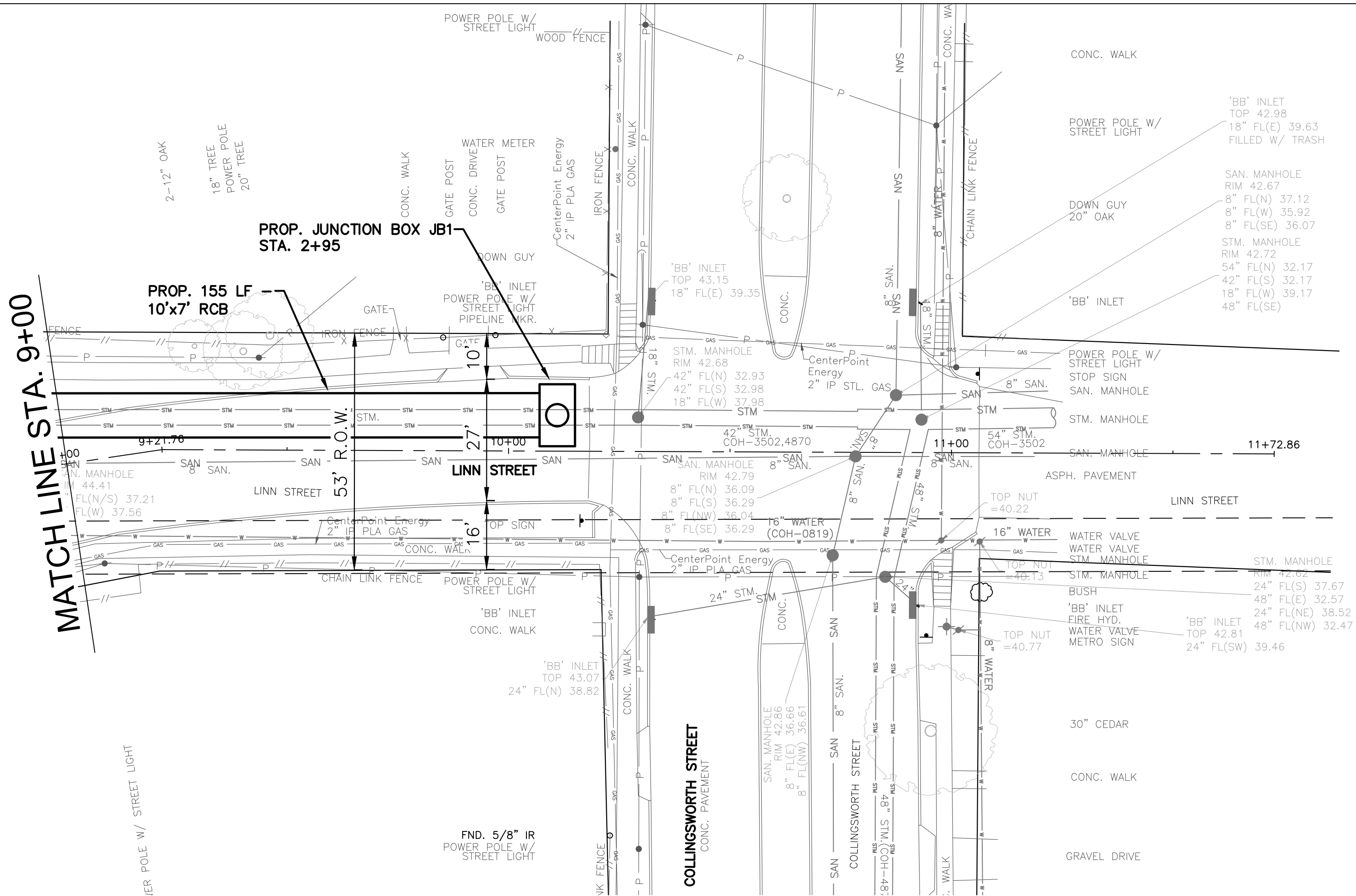
60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
LINN STREET
STA. 4+50 TO STA. 9+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASOUD R. MOLLAH, P.E., ENV SP	
SHEET NO. 28 OF 69	

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LINN STREET (30 MPH)



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TEXAS REGISTRATION NO. 85396
Jun 02, 2025

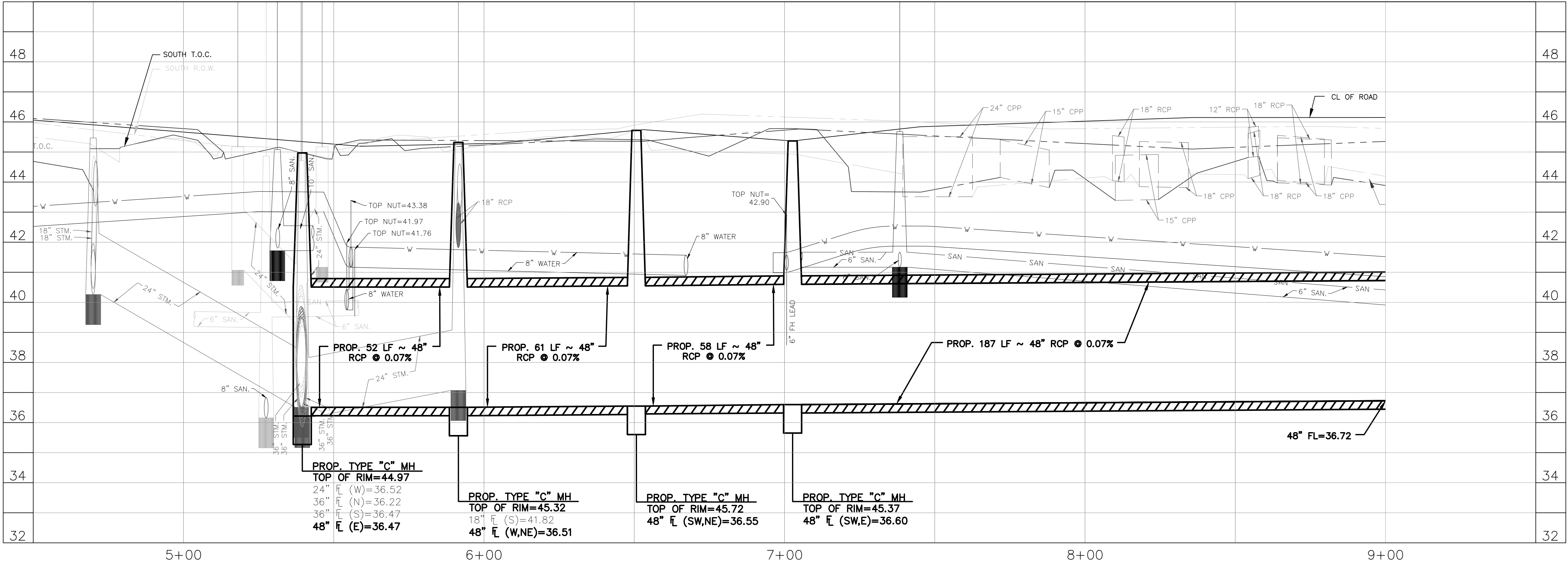
60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
LINN STREET
STA. 9+00 TO STA. 11+73

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASOUD R. MOLLAH, P.E., ENV SP	
SHEET NO. 29 OF 69	

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Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

SURVEYED BY:
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Jun 02, 2025
60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
RETTA / COURTNEY STREET
STA. 4+50 TO STA. 9+00

WBS NUMBER

M-42LHUD-0006-3

DRAWING SCALE

HORIZ. 1"=20'

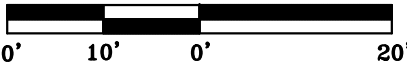
VERT. 1"=2'

CITY OF HOUSTON PM

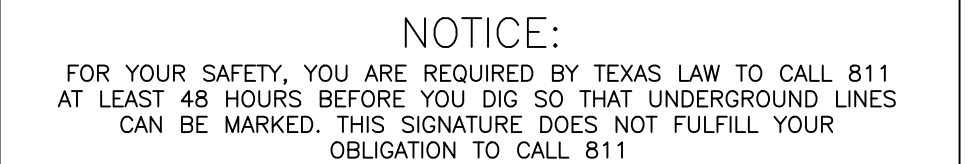
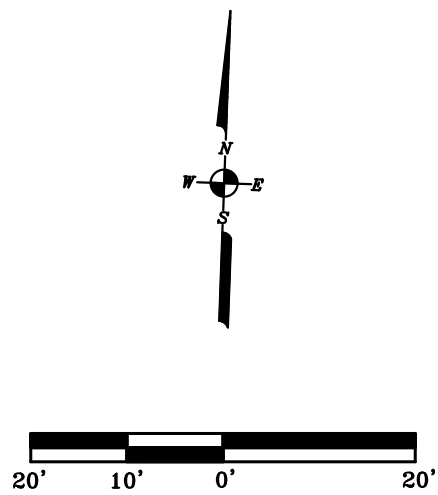
MASOUD R. MOLLAH, P.E., ENV SP

SHEET NO. 30 OF 69

FOR CITY OF HOUSTON USE ONLY



NO.	DATE	REVISION	APP.



Date _____

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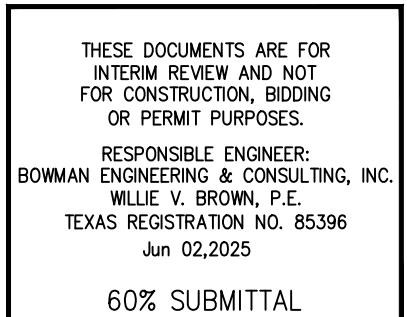
Date _____

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

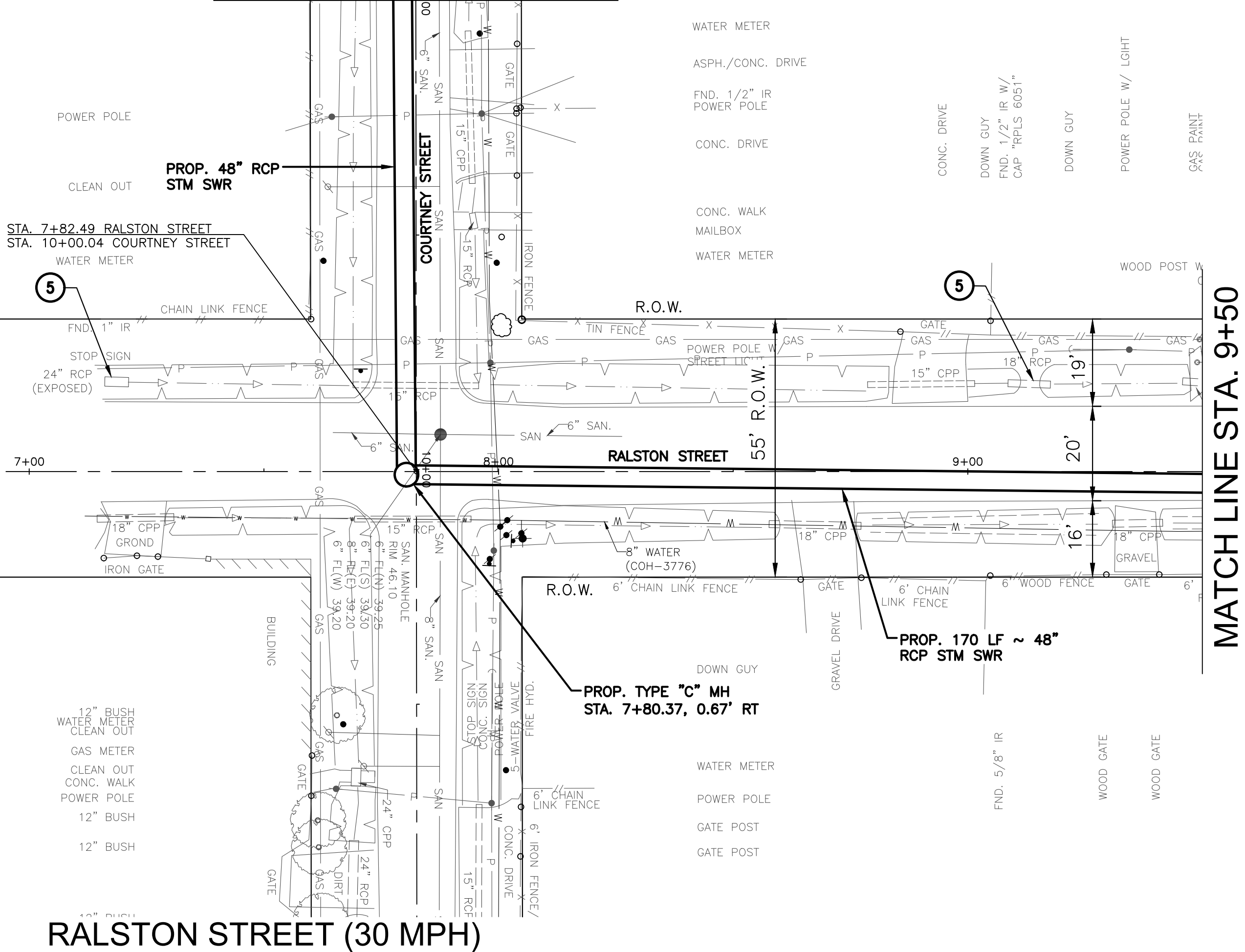
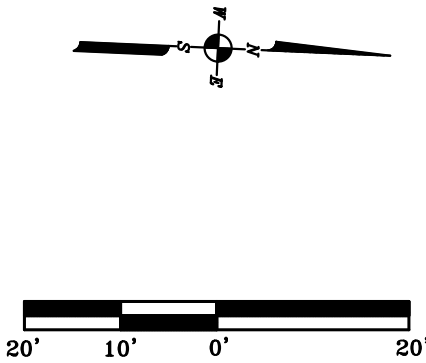
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
RETTA / COURTNEY STREET
STA. 9+00 TO STA. 12+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 31 OF 69	

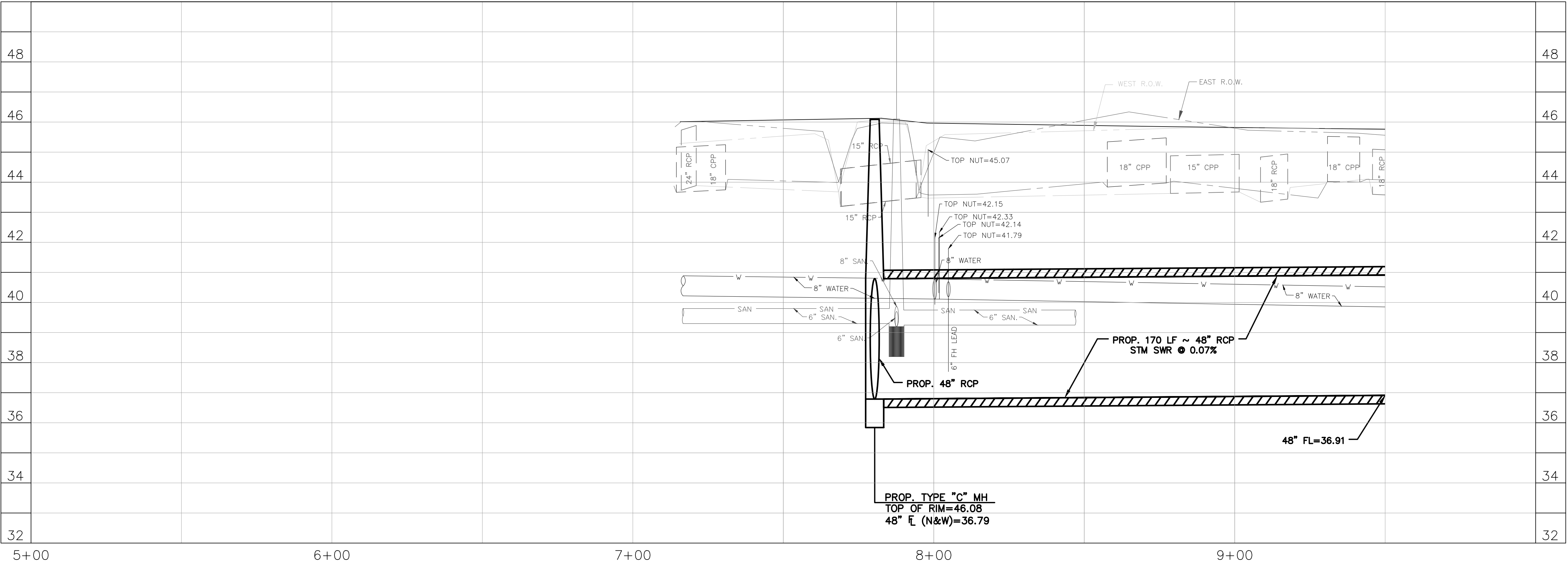
L:\7060 Frenchtown\PHASE I\Design\CADD\3 - Plan & Profiles\RALSTON STREET.dwg, 6/2/25 6:33:41 PM, jtaraba

STA. 5+00

COURTNEY STREET
SEE SHEET __ OF __



MATCH LINE STA. 9+50



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VERIFICATION OF PRIVATE UTILITY LINES

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3151 Briarpark Drive, Ste. 275
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TBPELS Registration No. F-9245

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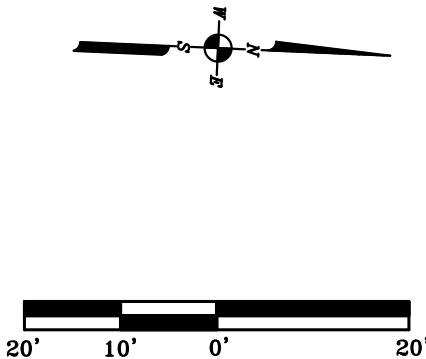
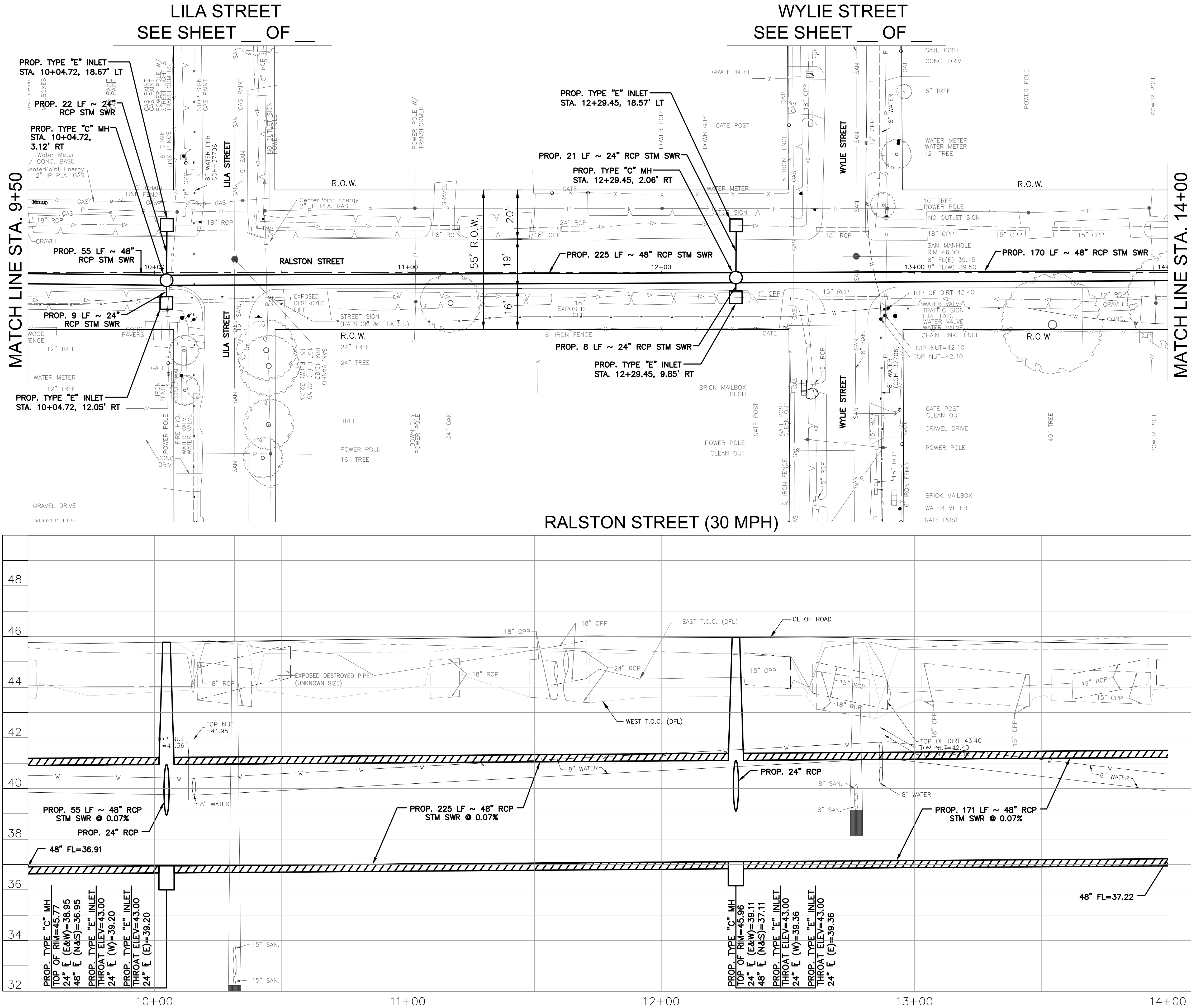
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RESPONSIBLE ENGINEER:
BOWMAN ENGINEERING & CONSULTING, INC.
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025
60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
RALSTON STREET
STA. 5+00 TO STA. 9+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASOUDUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 32 OF 69	

L:\7060 Frenchtown\PHASE I\Design\CADD\3 - Plan & Profiles\RALSTON STREET.dwg, 6/2/25 6:34:28 PM, jaraba



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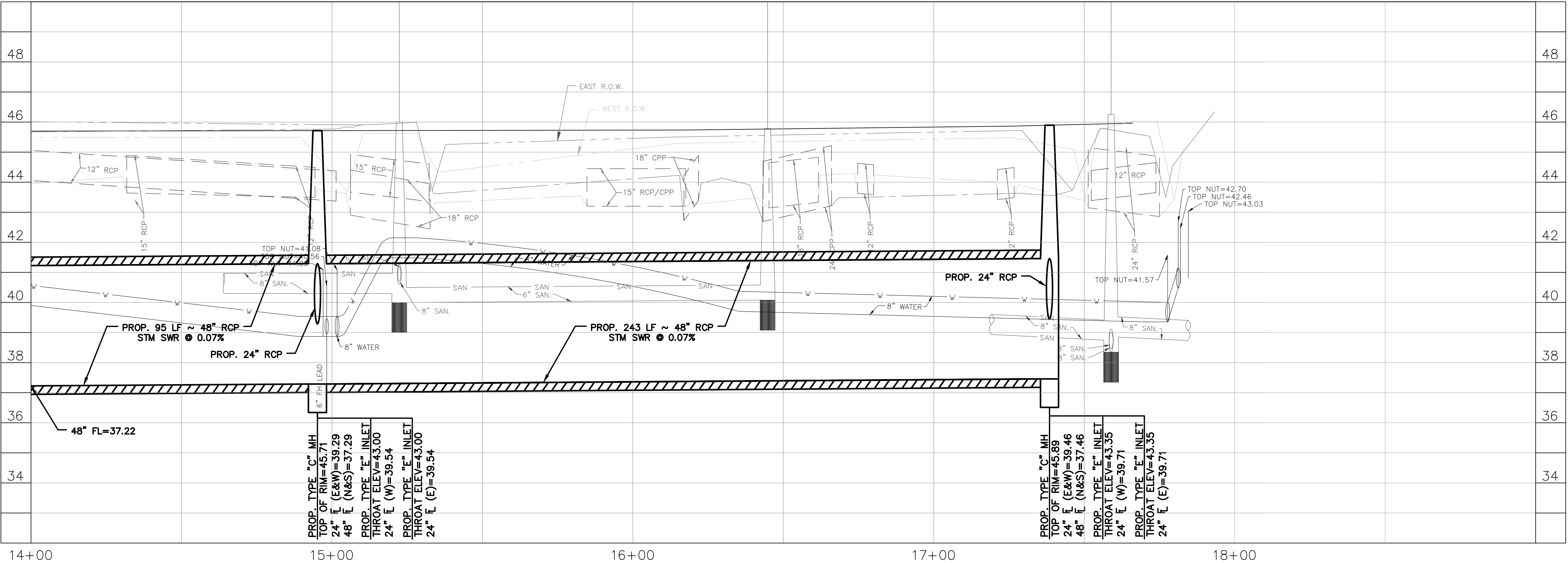
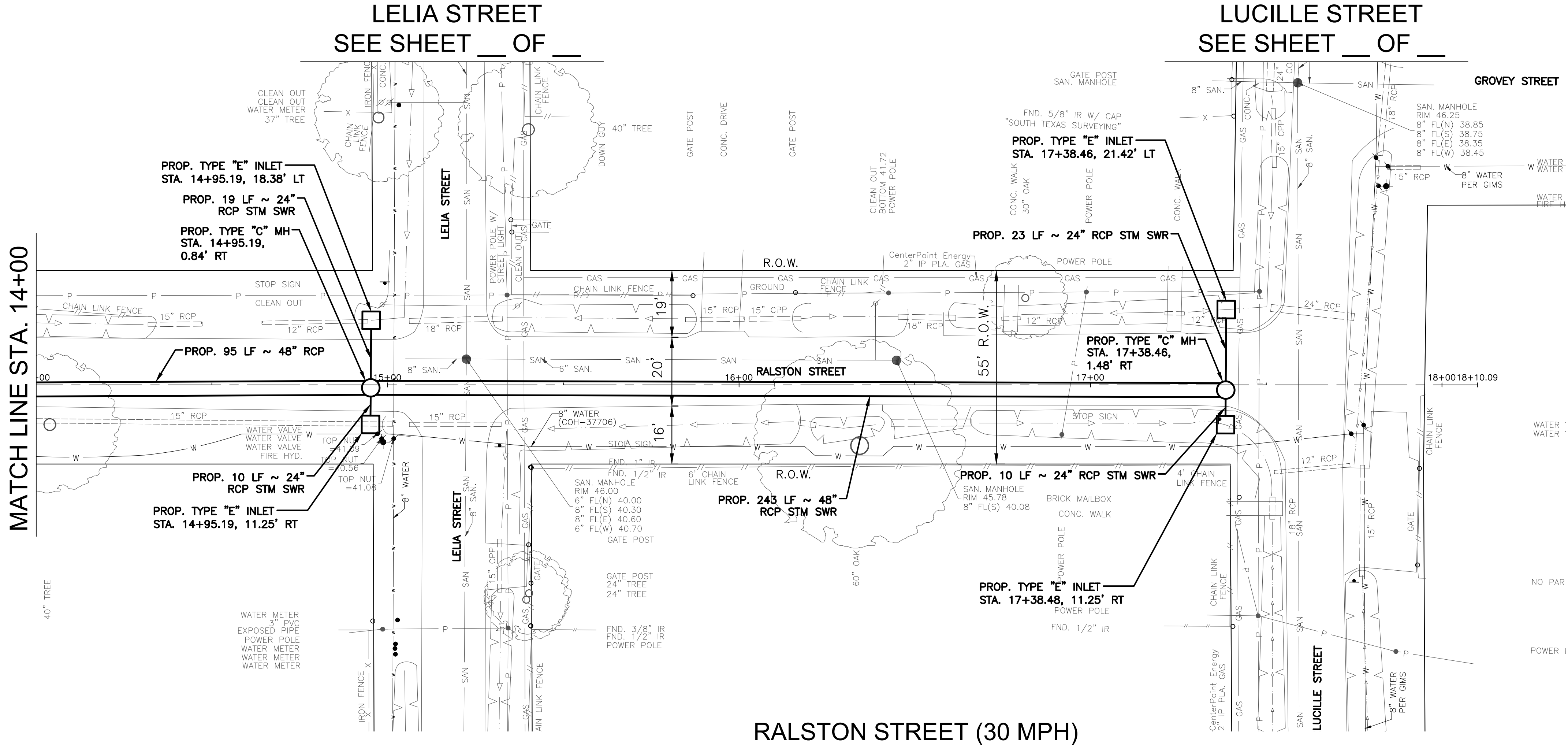
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

**FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
RALSTON STREET
STA. 9+50 TO STA. 14+00**

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASOUD R. MOLLAH, P.E., ENV SP	
SHEET NO. 33 OF 69	

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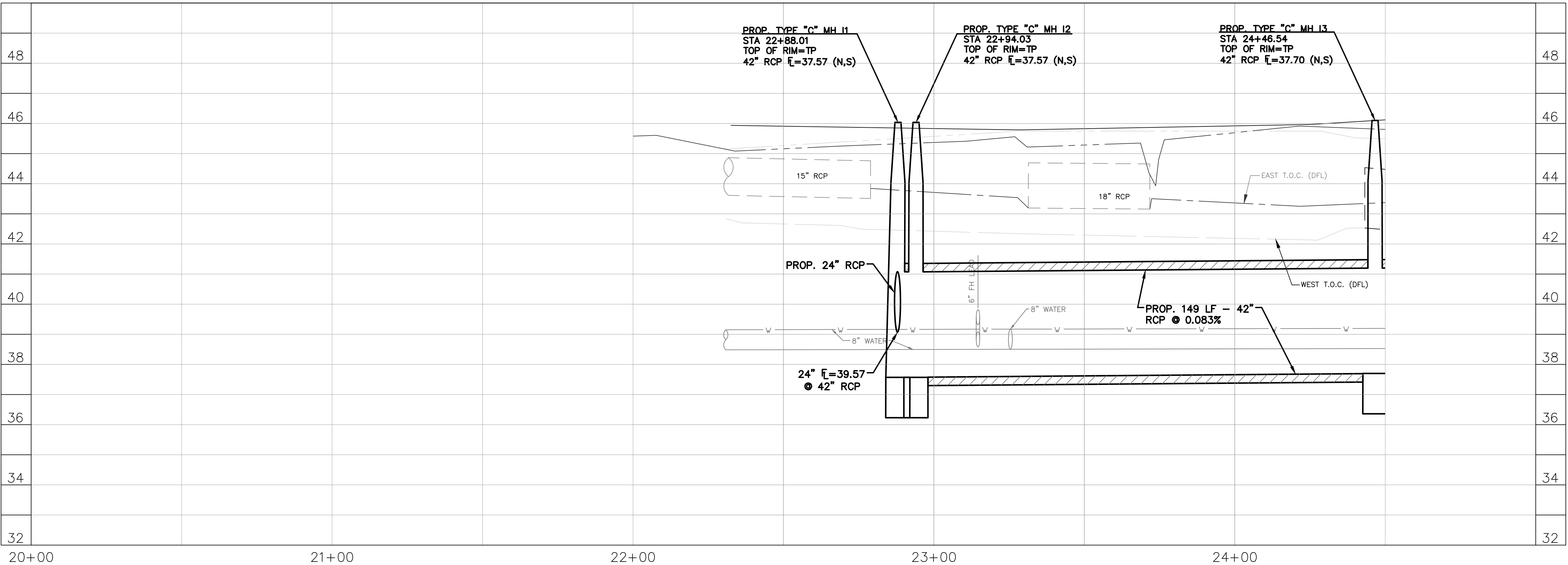
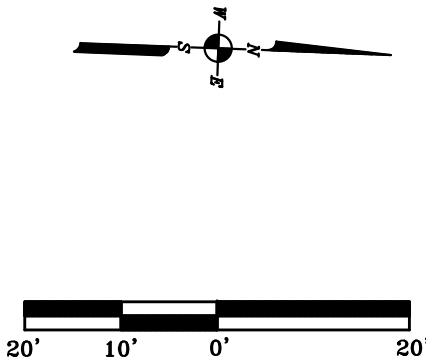
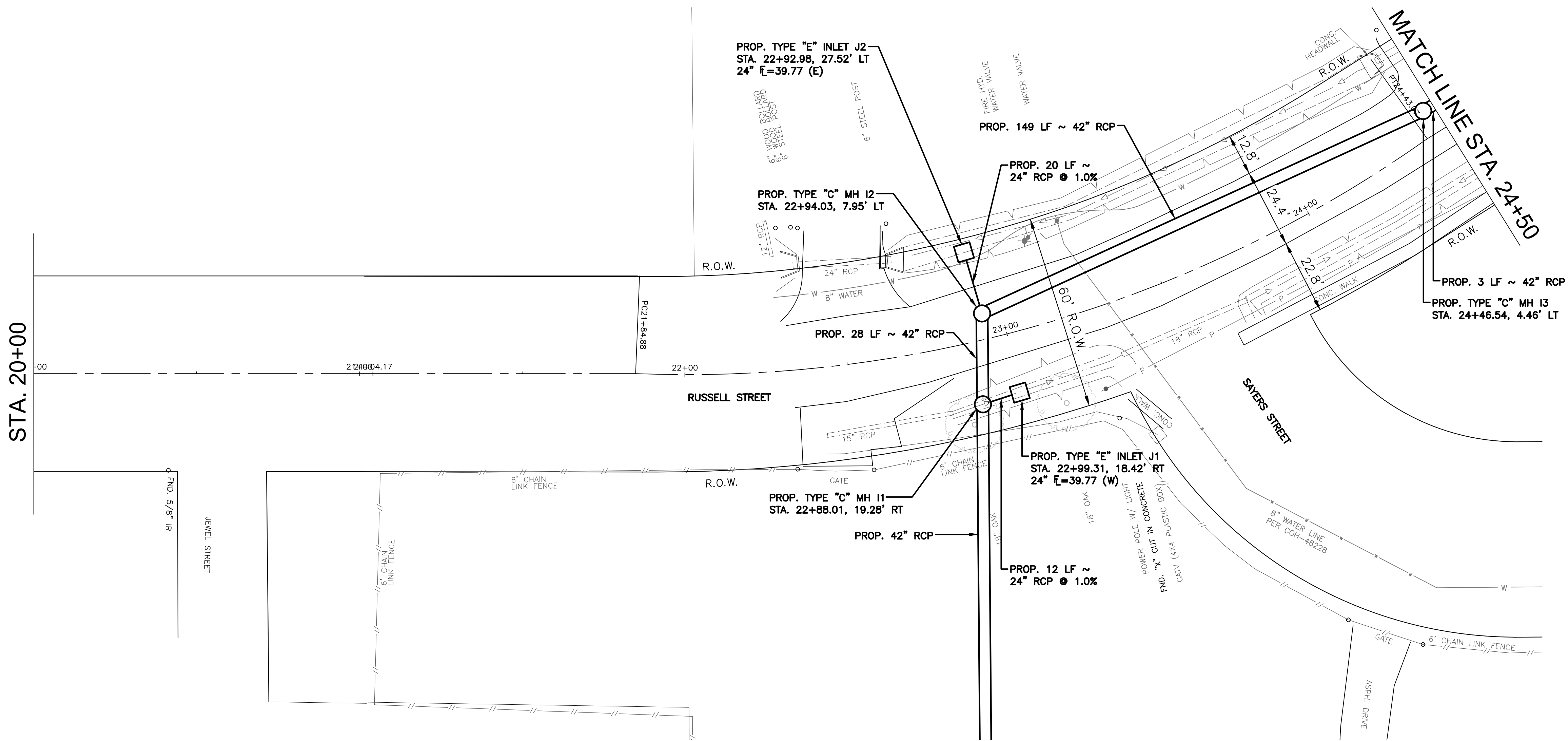
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

**FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
RALSTON STREET
STA. 14+00 TO STA. 18+10**

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASOUD R. MOLLAH, P.E., ENV SP	
SHEET NO. 34 OF 69	

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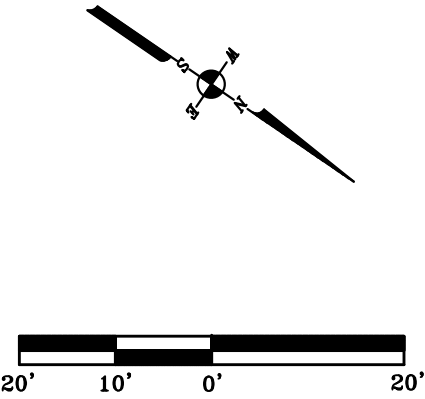
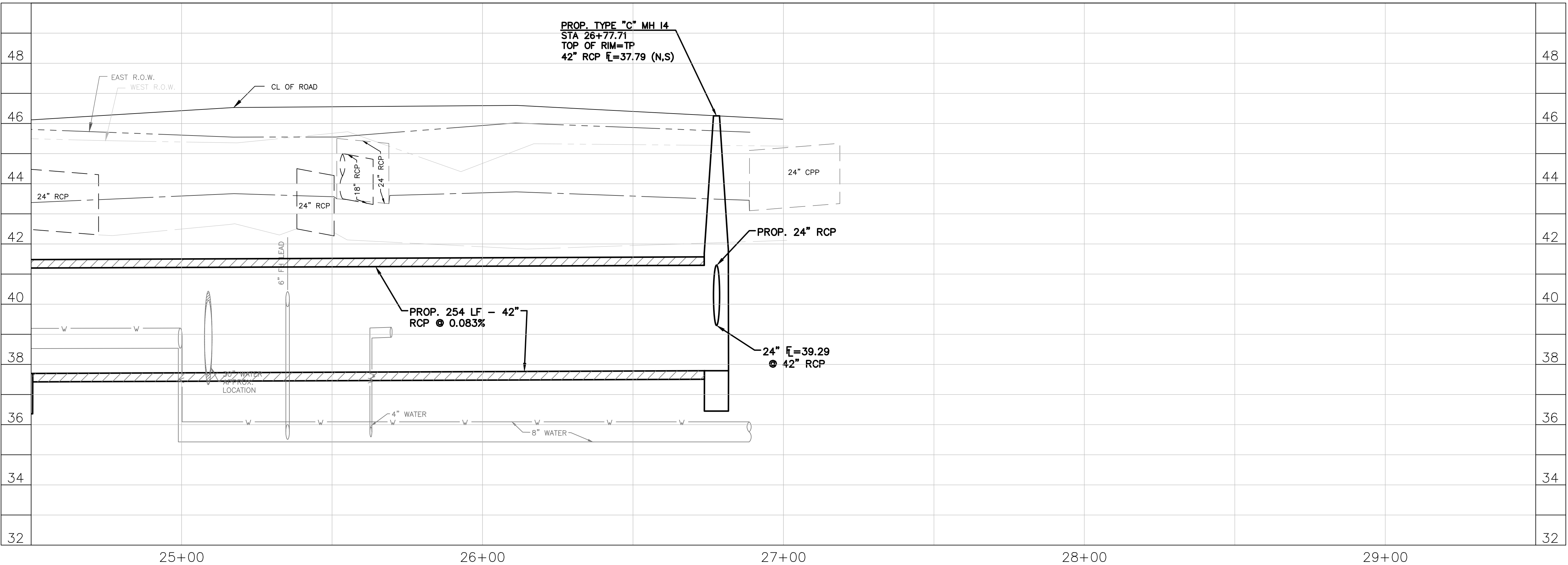
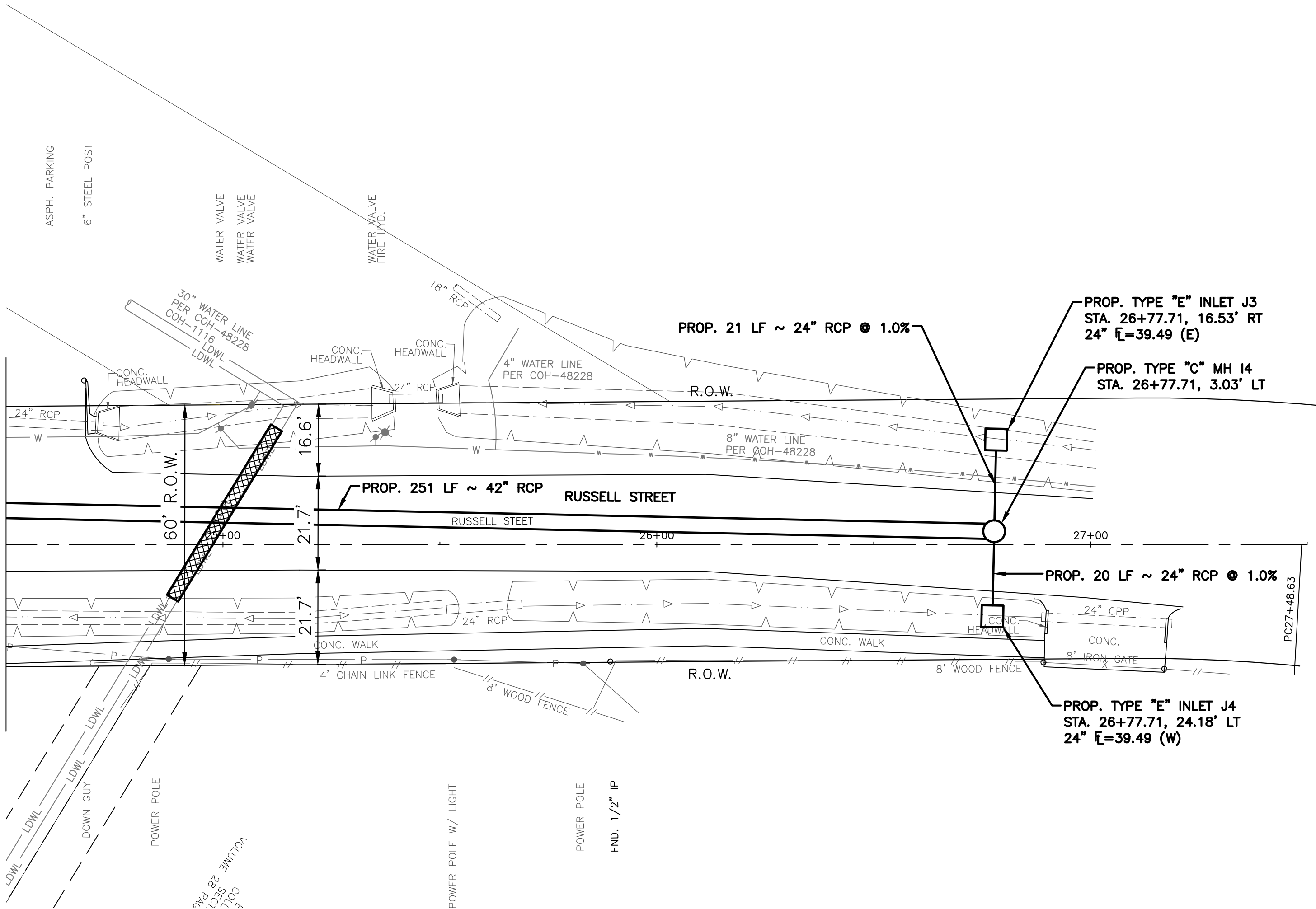
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

**FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
RUSSELL STREET
STA. 20+00 TO STA. 24+50**

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 35 OF 69	

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MATCH LINE STA. 24+50



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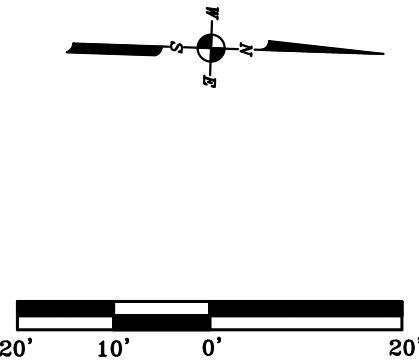
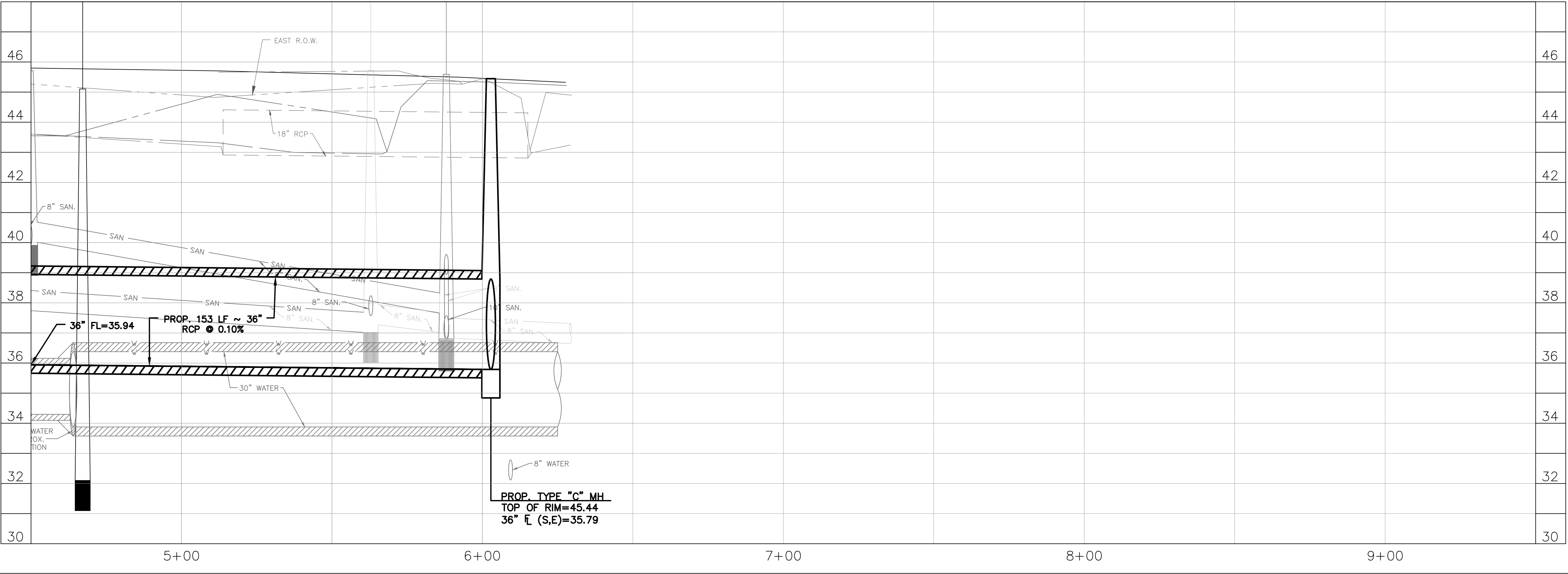
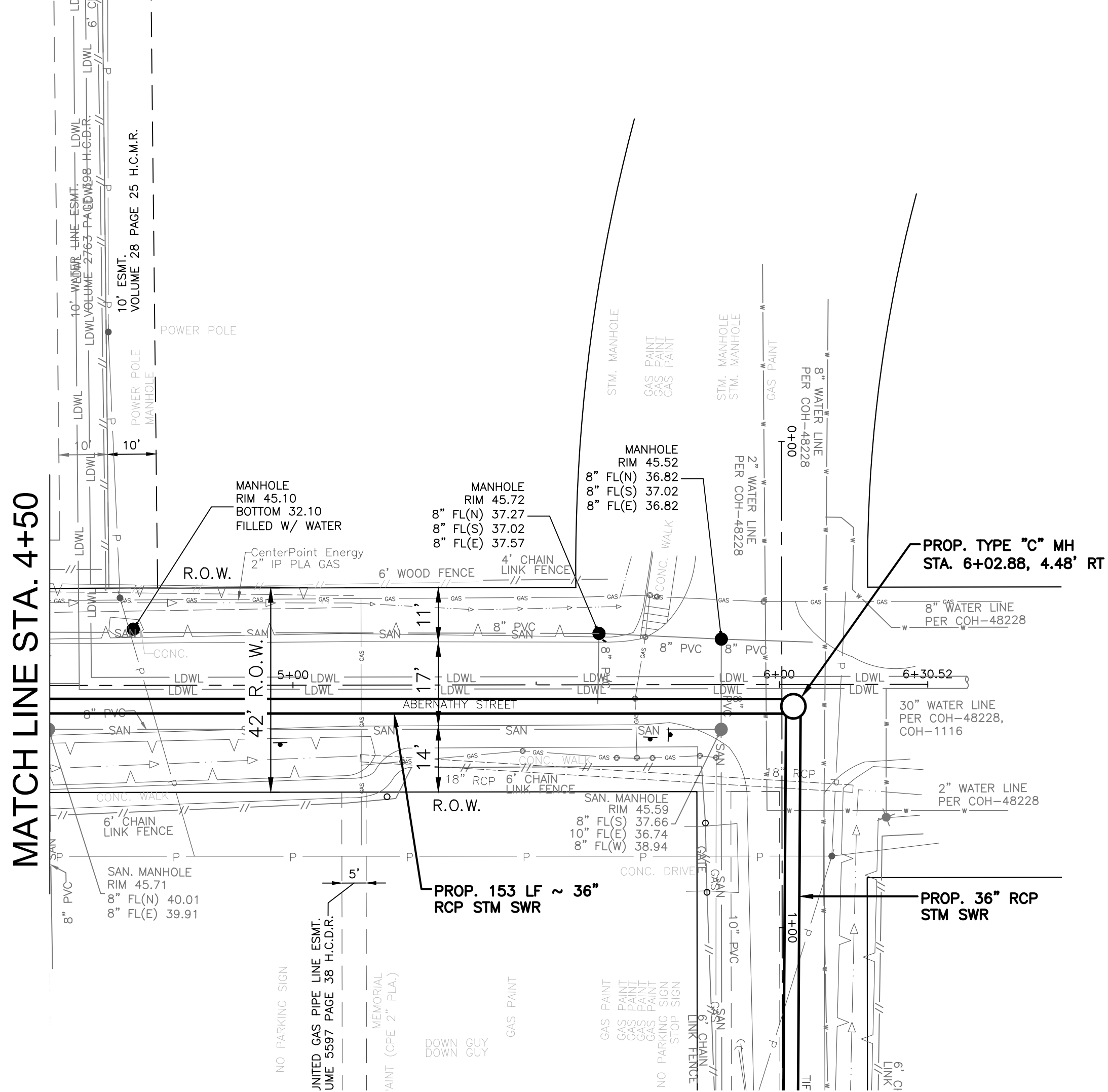
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TEXAS REGISTRATION NO. 85396
Jun 02,2025
60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
RUSSELL STREET
STA. 24+50 TO STA. 27+50

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 36 OF 69	

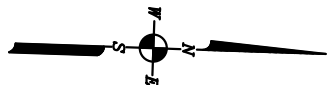
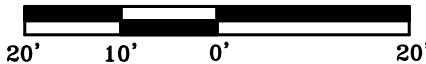
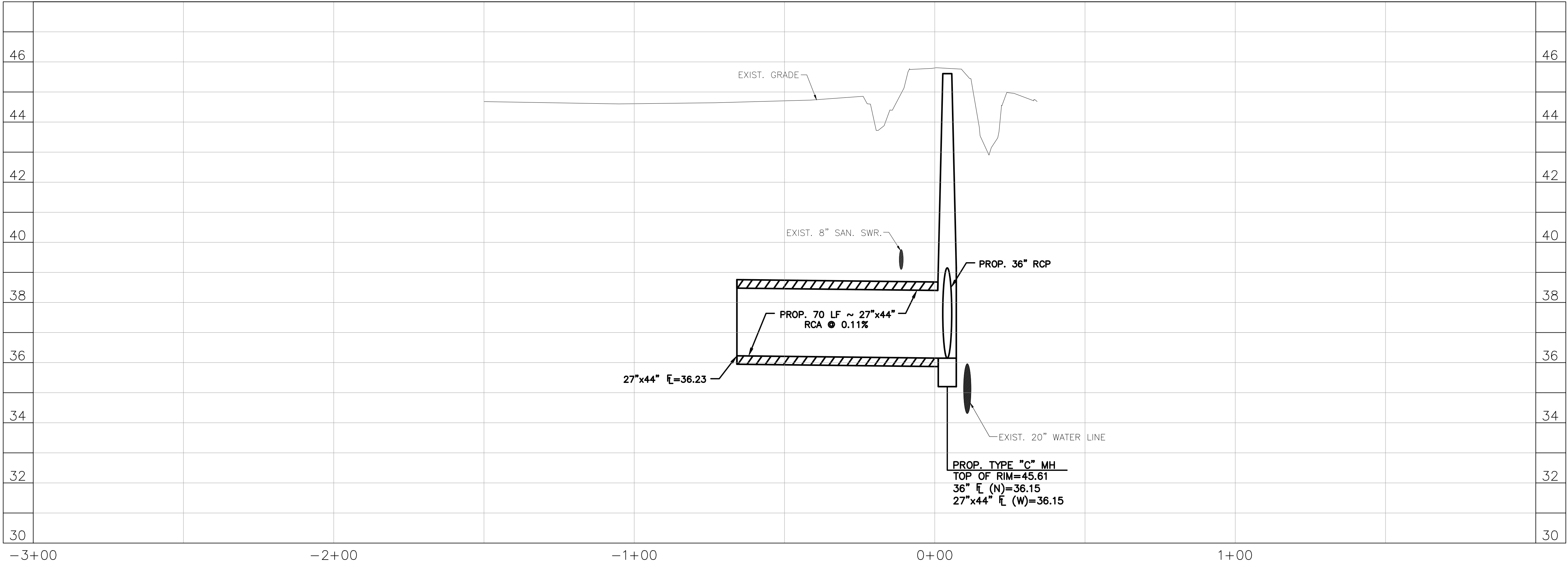
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SURVEYED BY: FB NO. 000000		
CITY OF HOUSTON HOUSTON PUBLIC WORKS FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS PLAN & PROFILE LOVE STREET STA. 4+50 TO STA. 6+30		
WBS NUMBER M-42LHUD-0006-3 DRAWING SCALE HORIZ. 1"=20' VERT. 1"=2' CITY OF HOUSTON PM MASOUD R. MOLLAH, P.E., ENV SP SHEET NO. 38 OF 69		FOR CITY OF HOUSTON USE ONLY

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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

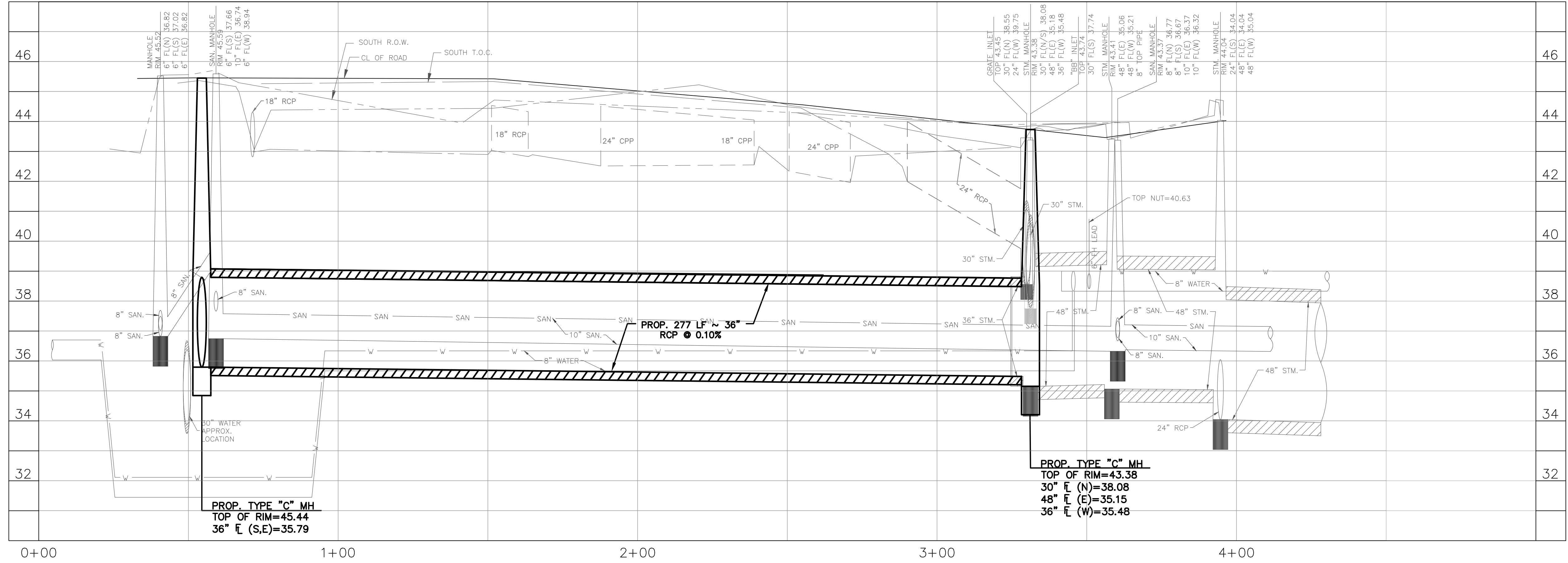
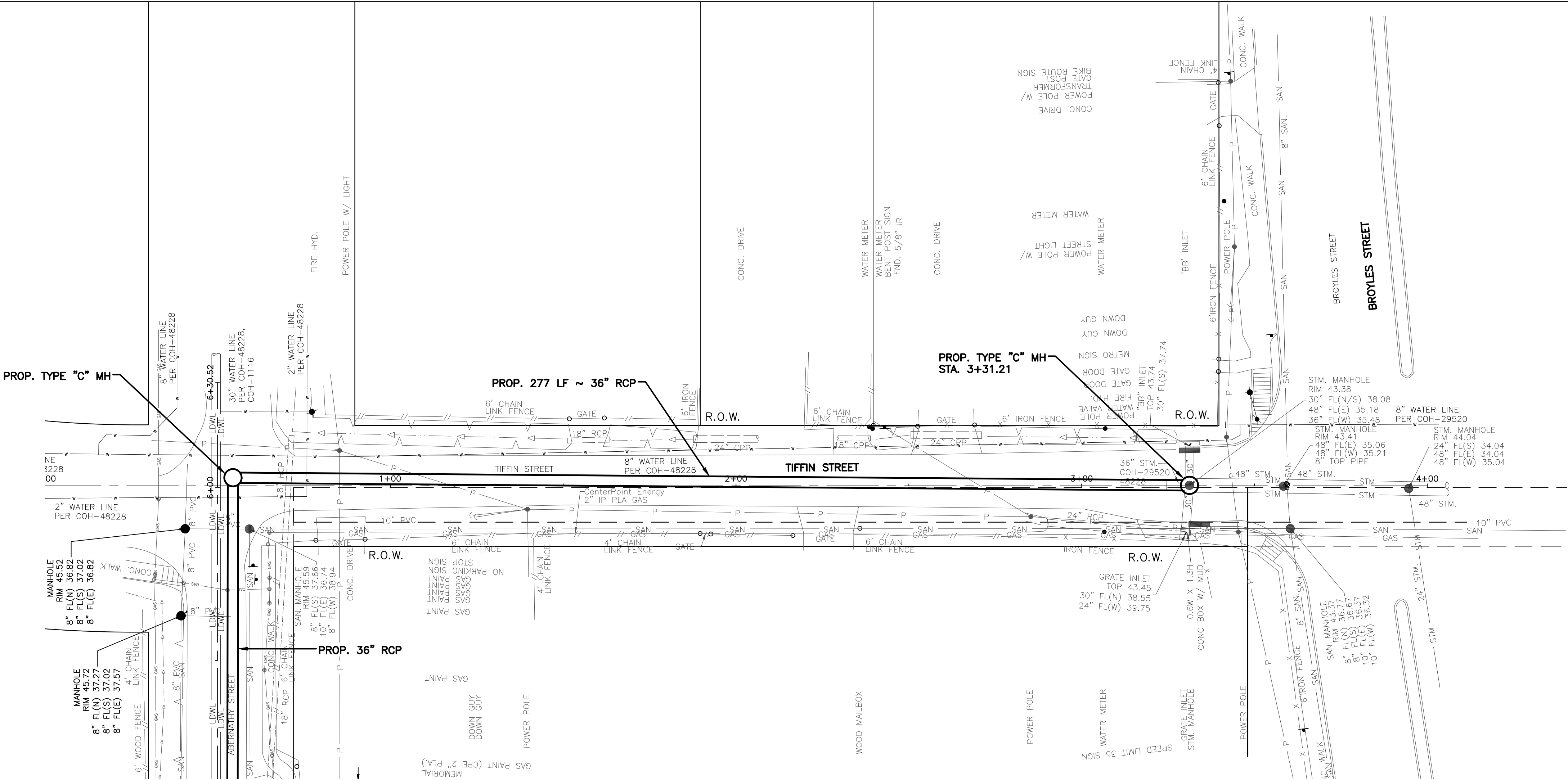
60% SUBMITTAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

**FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
LOVE STREET
STA. 0+00 TO STA. 4+50**

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 39 OF 69	

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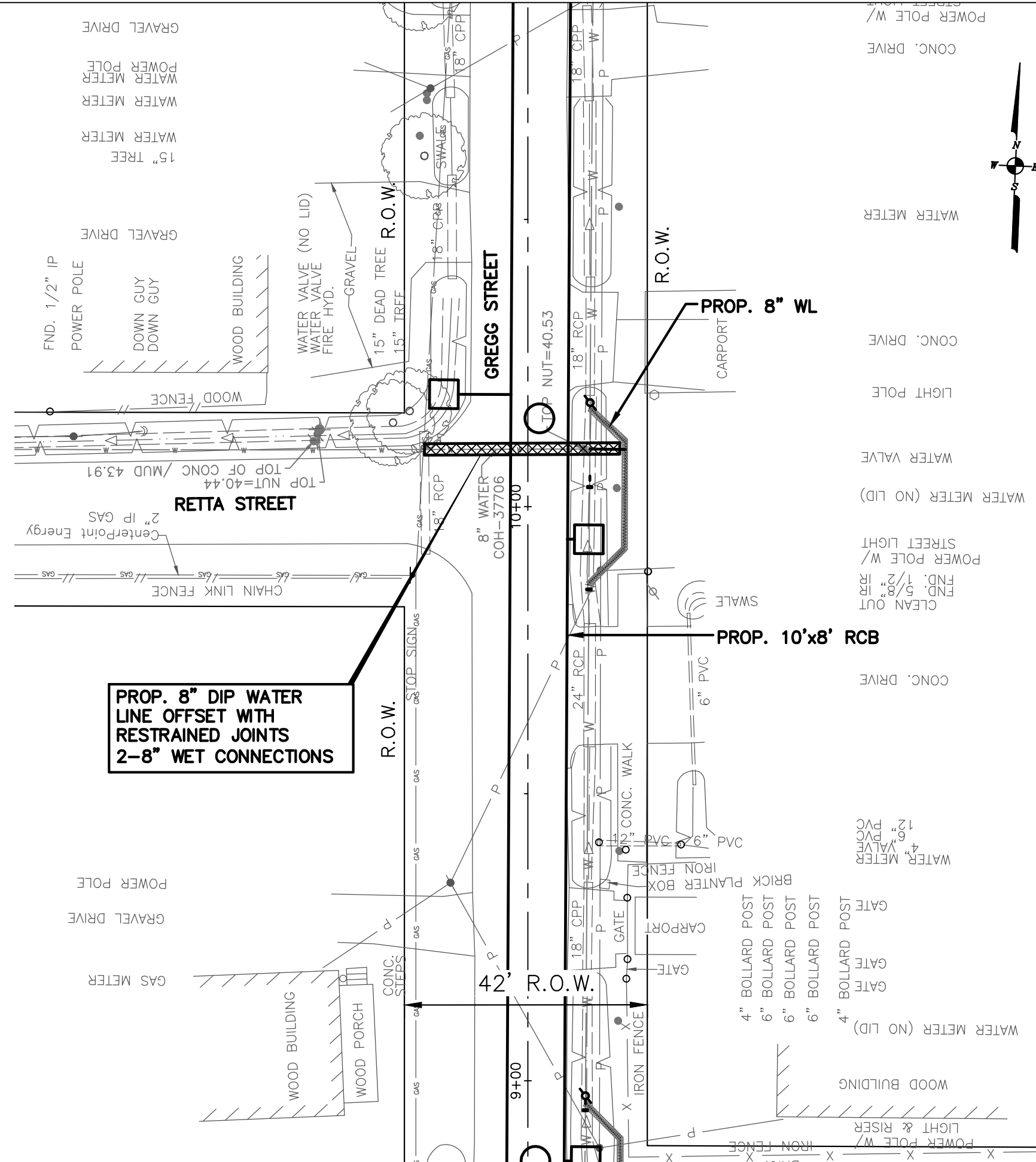
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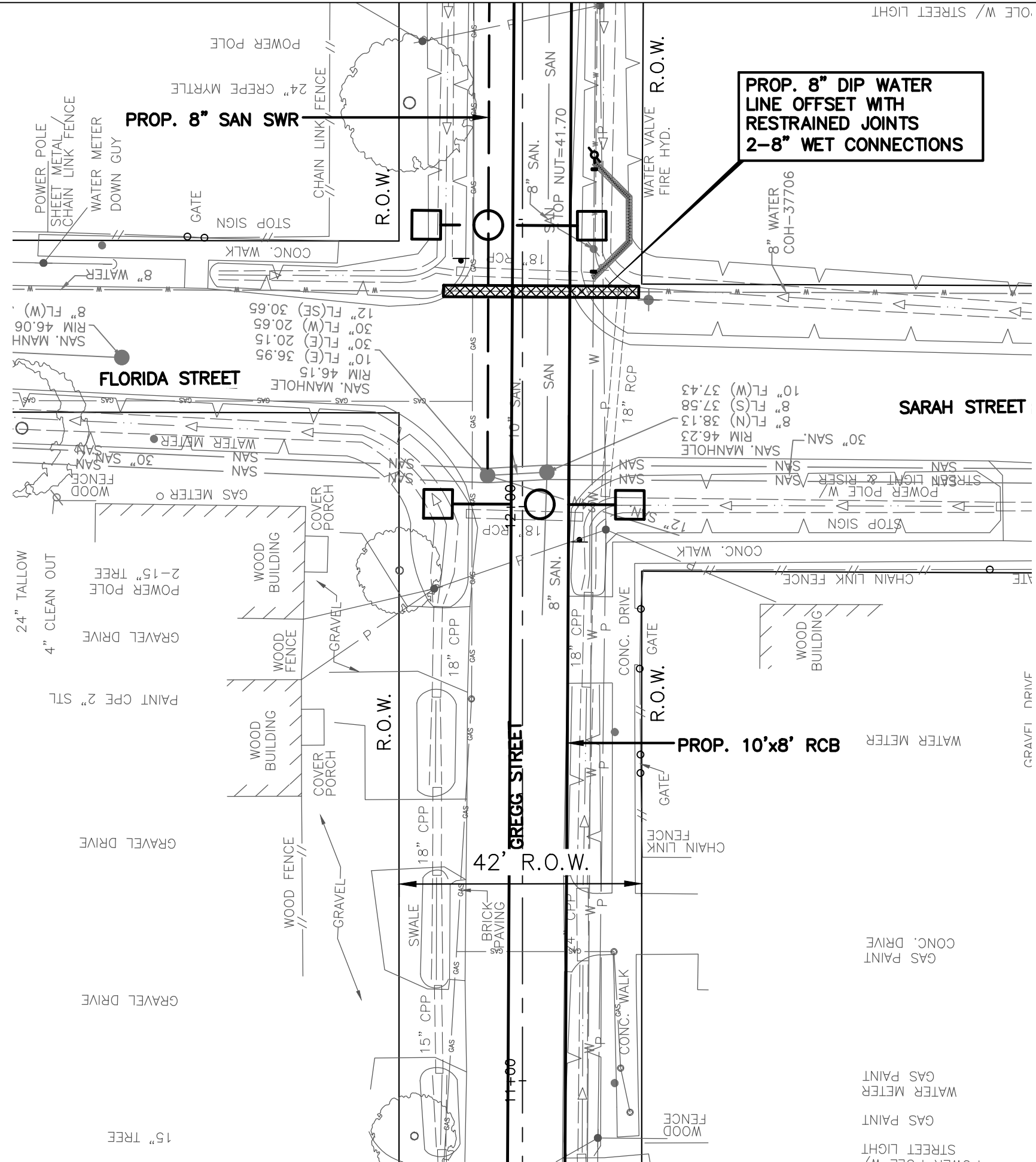
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

**FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
PLAN & PROFILE
TIFFIN STREET
STA. 0+00 TO END**

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASOUDUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 40 OF 69	



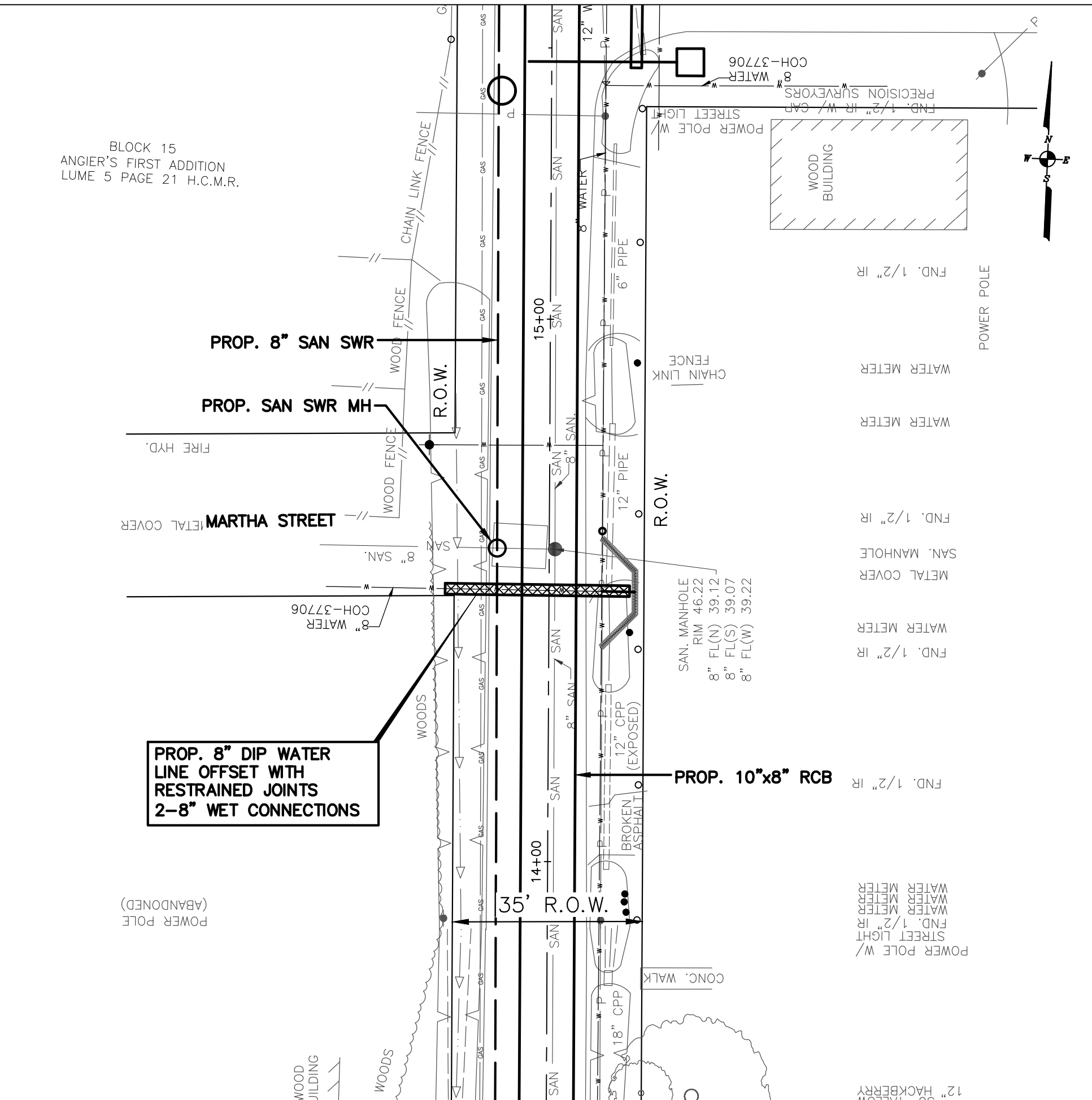
GREGG STREET STA. 12+05.74
PLAN VIEW



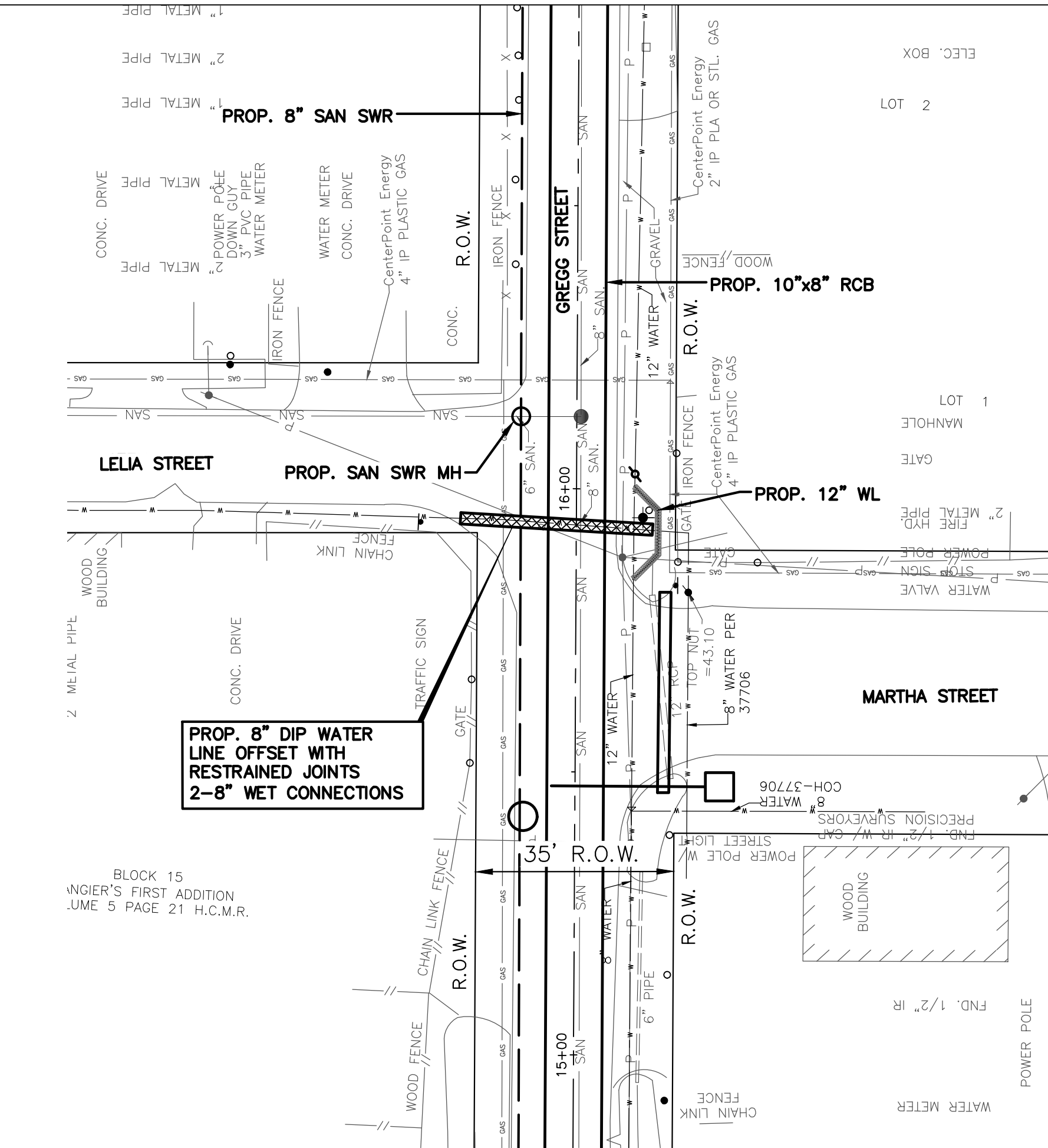
A horizontal bar representing a 40-foot length. The bar is divided into three sections: a 10-foot white segment in the center, and two 15-foot black segments on either side. The segments are labeled 20', 10', 0', and 20' from left to right, indicating the distance from the left end.

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3151 Briarpark Drive, Ste. 275 Houston, TX 77042 713.779.2990 TBPELS Registration No. F-9245	
SURVEYED BY: FB NO. 000000	
CITY OF HOUSTON HOUSTON PUBLIC WORKS	
FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS UTILITY CROSSINGS GREGG STREET STA. 10+10 & STA. 12+05.74	
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 41 OF 69	

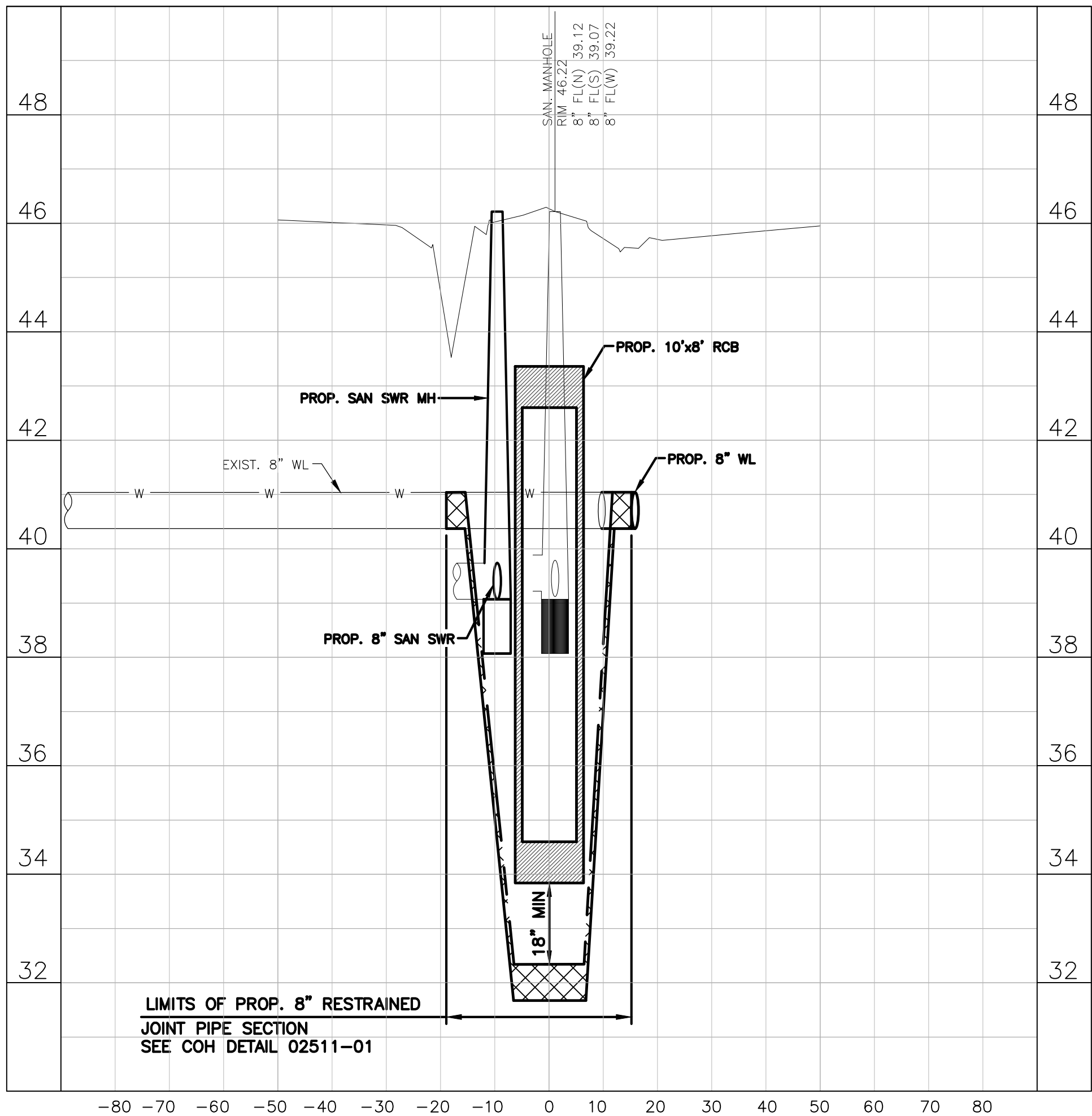
GREGG STREET STA. 14+50
PLAN VIEW



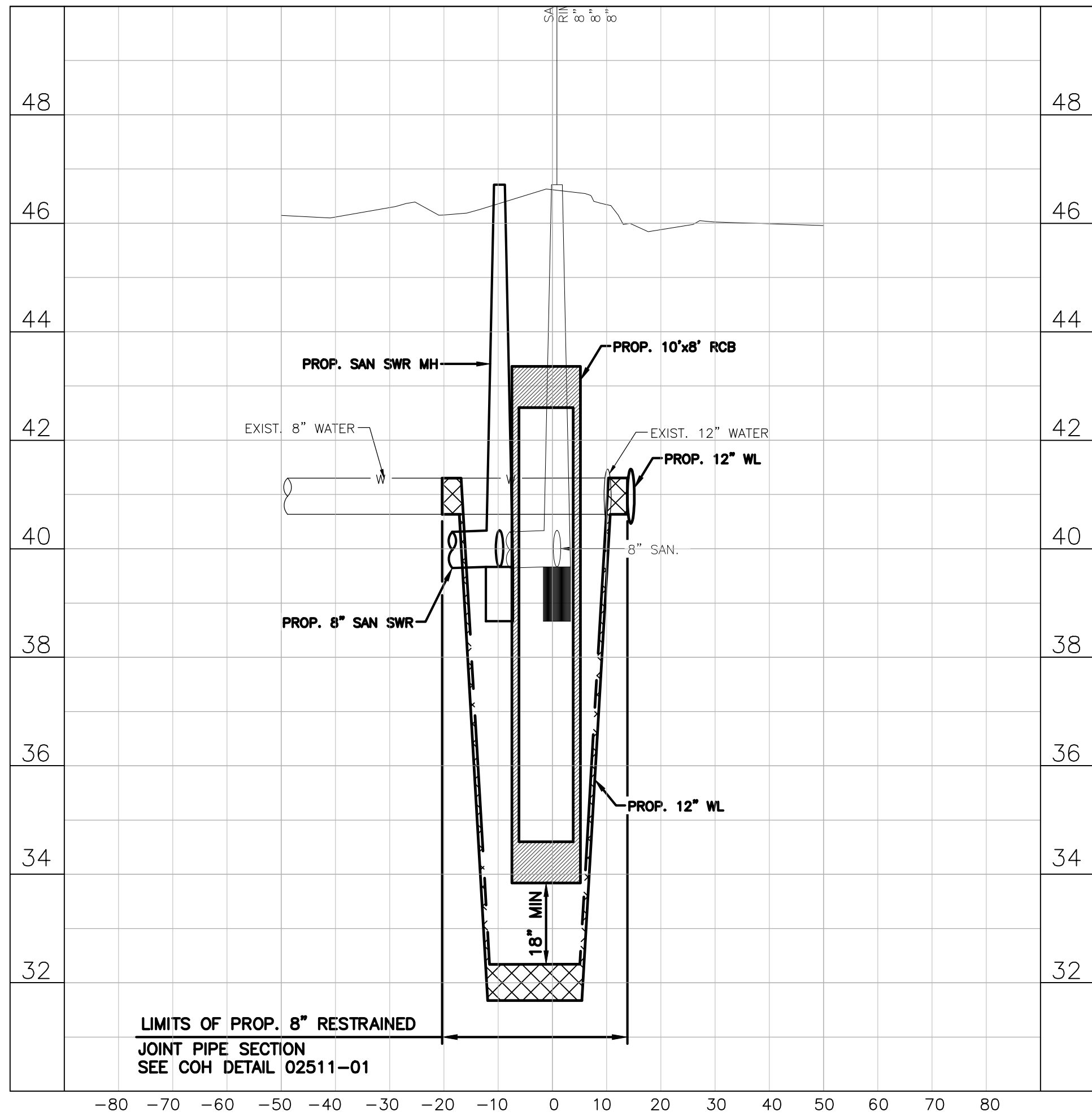
GREGG STREET STA. 15+93.61
PLAN VIEW



STA 14+50
LATERAL VIEW



STA 15+93.61
LATERAL VIEW



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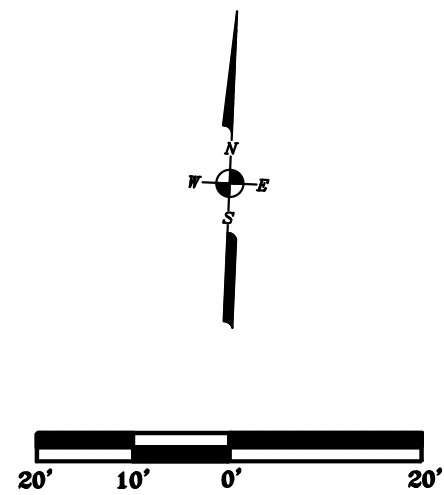
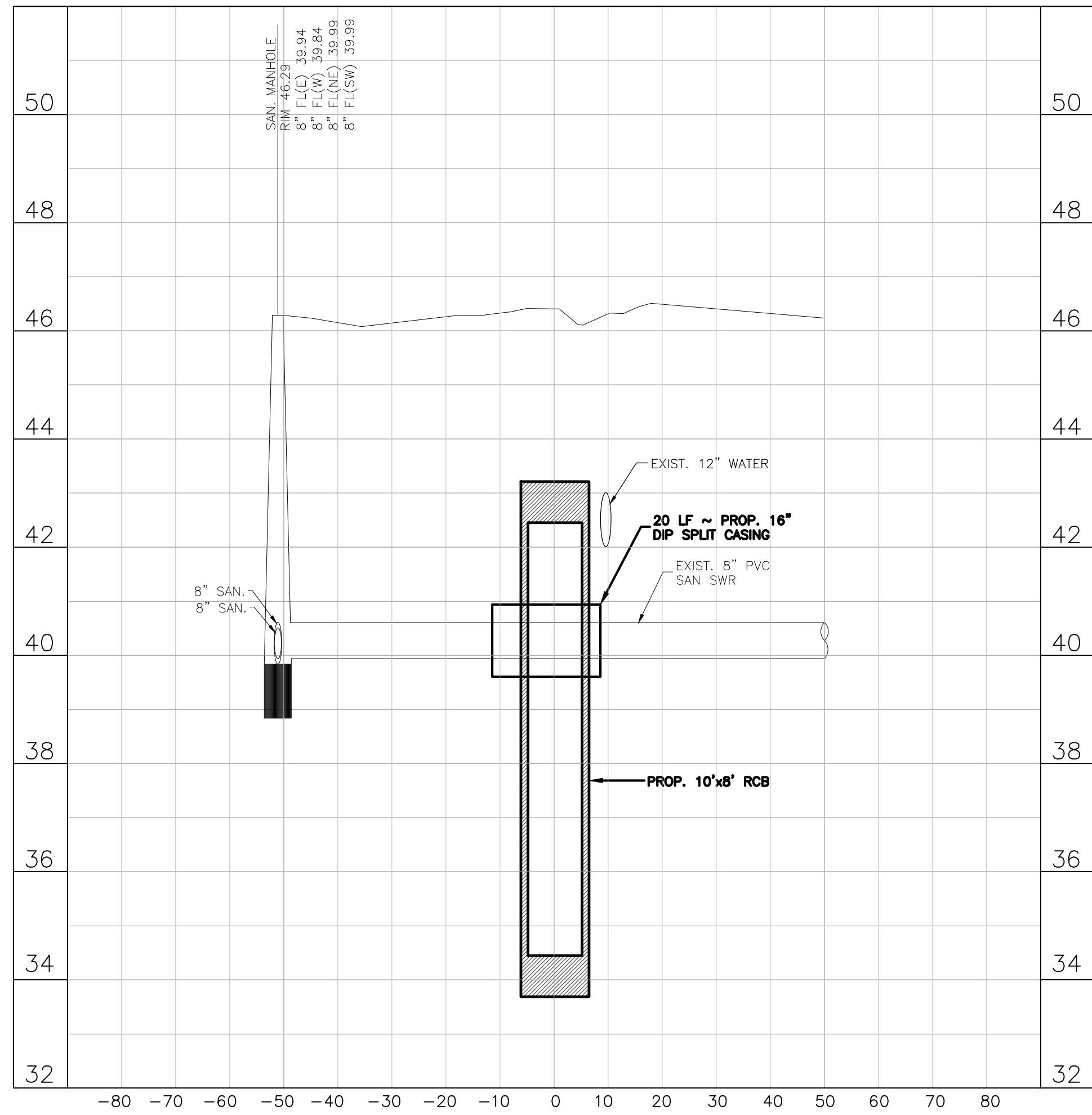
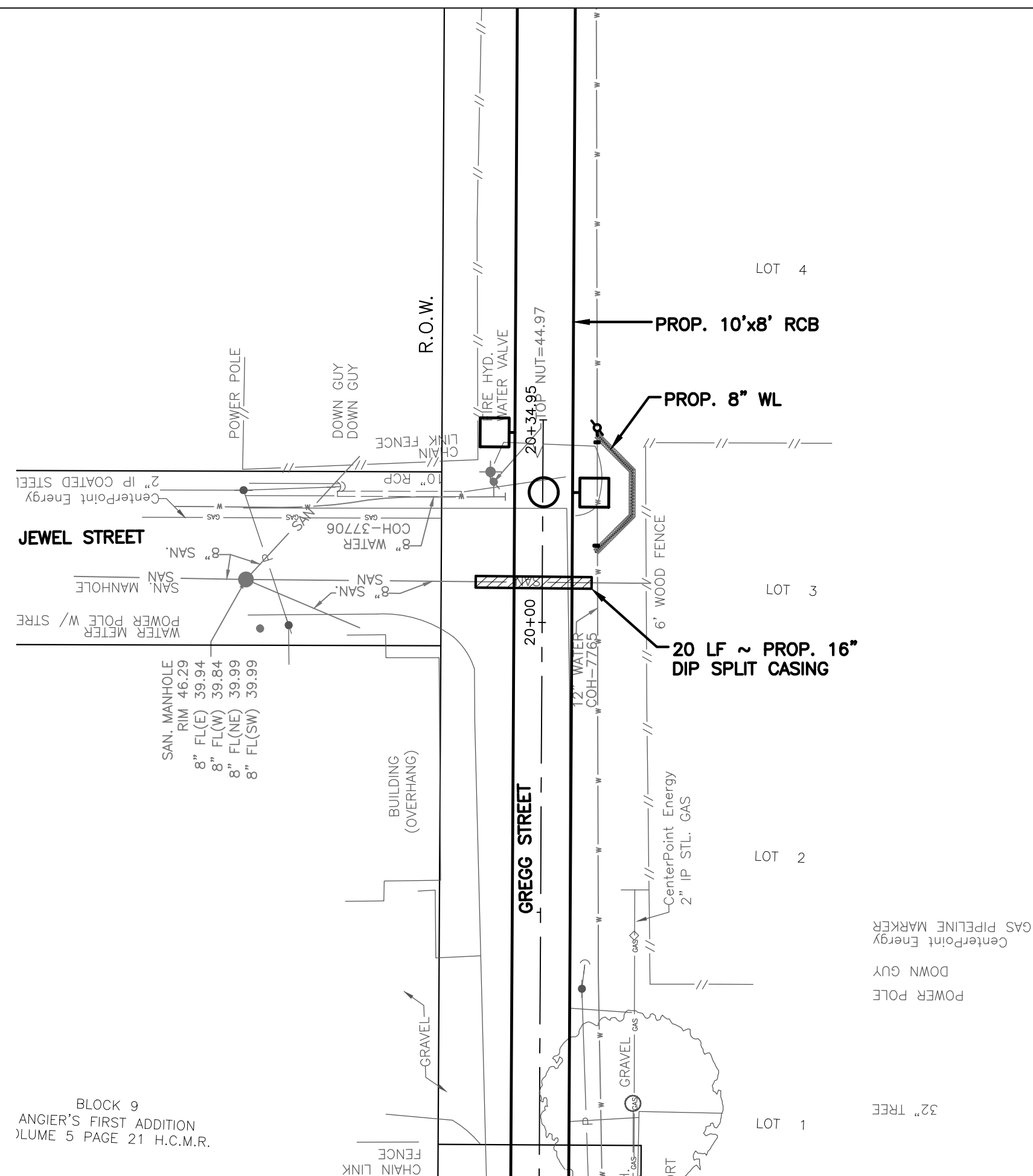
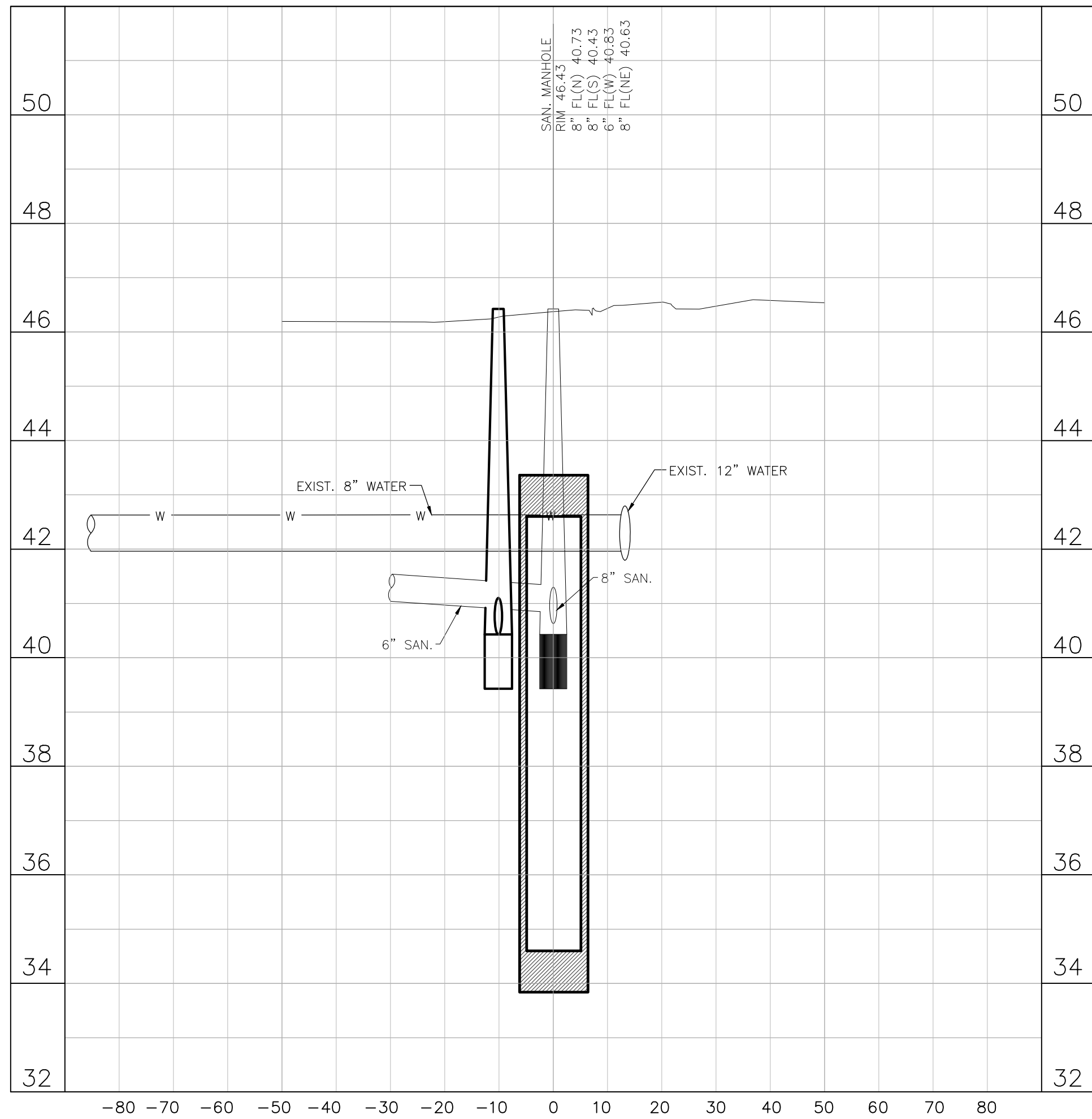
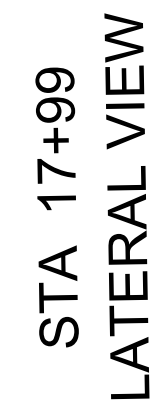
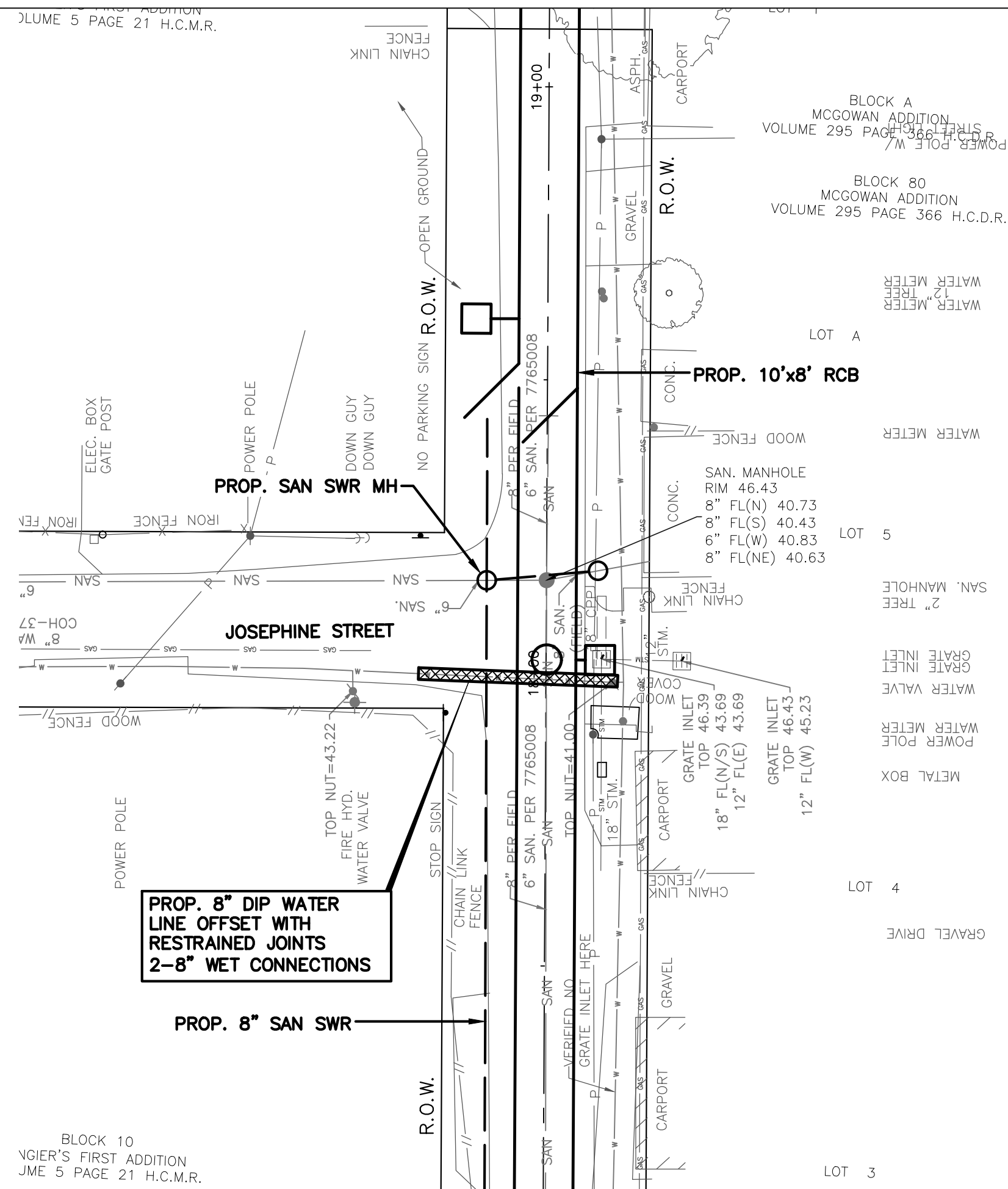
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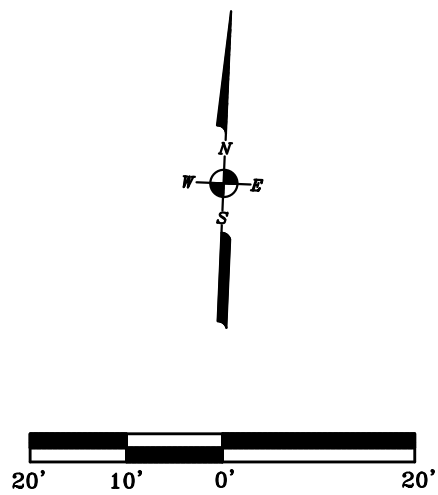
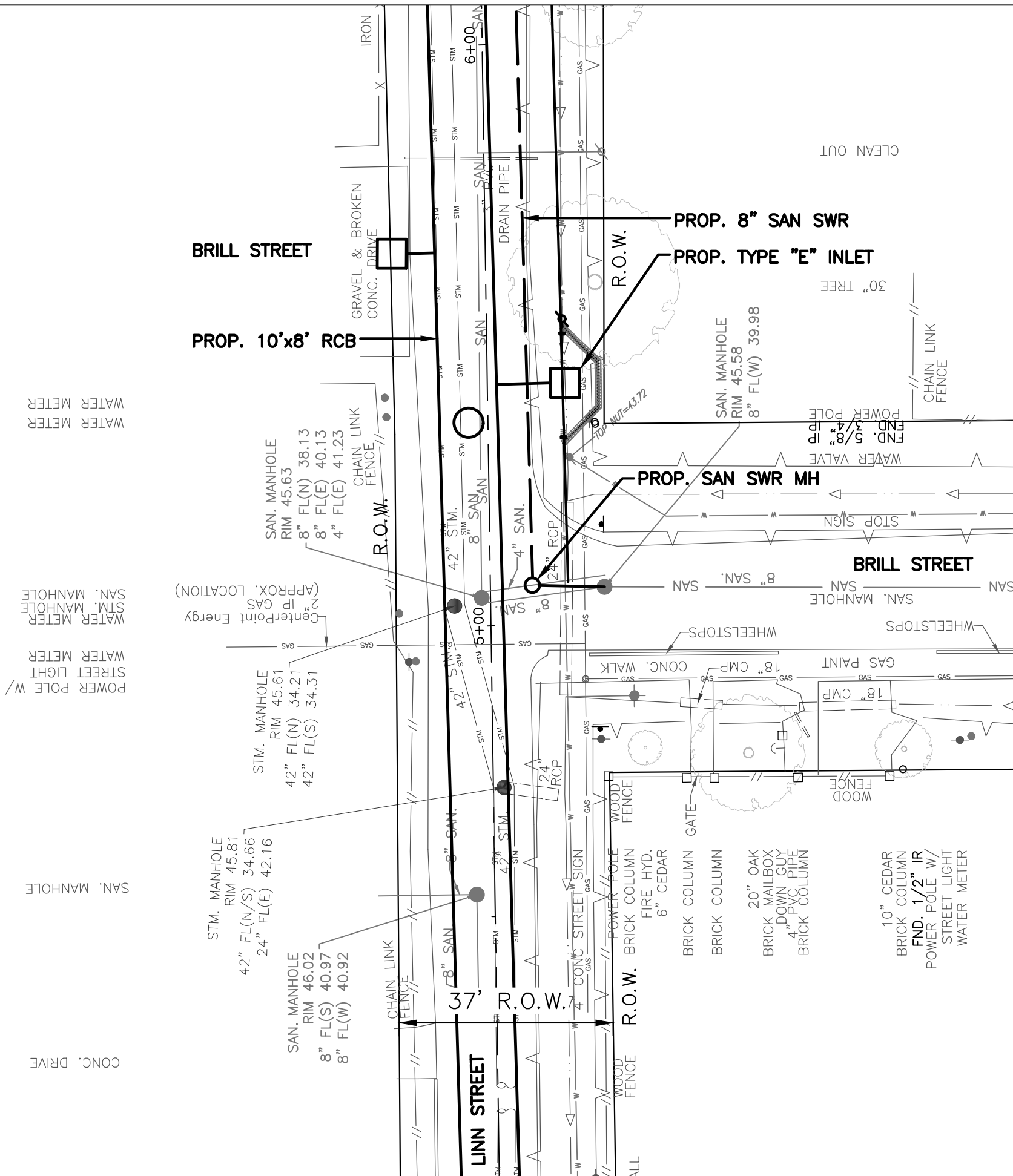
FRENCHTOWN
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GREGG STREET
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MASOUD R. MOLLAH, P.E., ENV SP	
SHEET NO. 42 OF 69	



NO.	DATE	REVISION	APP.	

NOTICE: FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS SIGNATURE DOES NOT FULFILL YOUR OBLIGATION TO CALL 811	
VERIFICATION OF PRIVATE UTILITY LINES	
Date _____	
CenterPoint Energy natural gas utilities shown. (Gas service lines are not shown). This signature not be used for conflict verification.	
Signature valid for six months.	
Date _____	
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities – not to be used for conflict verification)	
Signature valid for six months.	
Date _____	
Approved for AT&T underground conduit facilities only. Signature valid for one year.	
BOWMAN ENGINEERING/CONSULTING INC 3151 Briarpark Drive, Ste. 275 Houston, TX 77042 713.779.2990 TBPELS Registration No. F-9245	THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES. RESPONSIBLE ENGINEER: BOWMAN ENGINEERING & CONSULTING, INC. WILLIE V. BROWN, P.E. TEXAS REGISTRATION NO. 85396 Jun 02,2025 60% SUBMITTAL
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CITY OF HOUSTON HOUSTON PUBLIC WORKS	
FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS UTILITY CROSSINGS GREGG STREET STA. 17+99 & STA. 20+06.91	
WBS NUMBER M-42LHUD-0006-3 DRAWING SCALE HORIZ. 1"=20' VERT. 1"=2' CITY OF HOUSTON PM MASODUR R. MOLLAH, P.E., ENV SP SHEET NO. 43 OF 69	FOR CITY OF HOUSTON USE ONLY



NO.	DATE				REVISION				APP.	

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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02, 2025

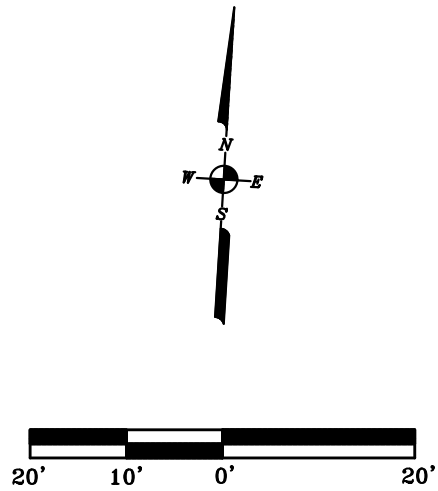
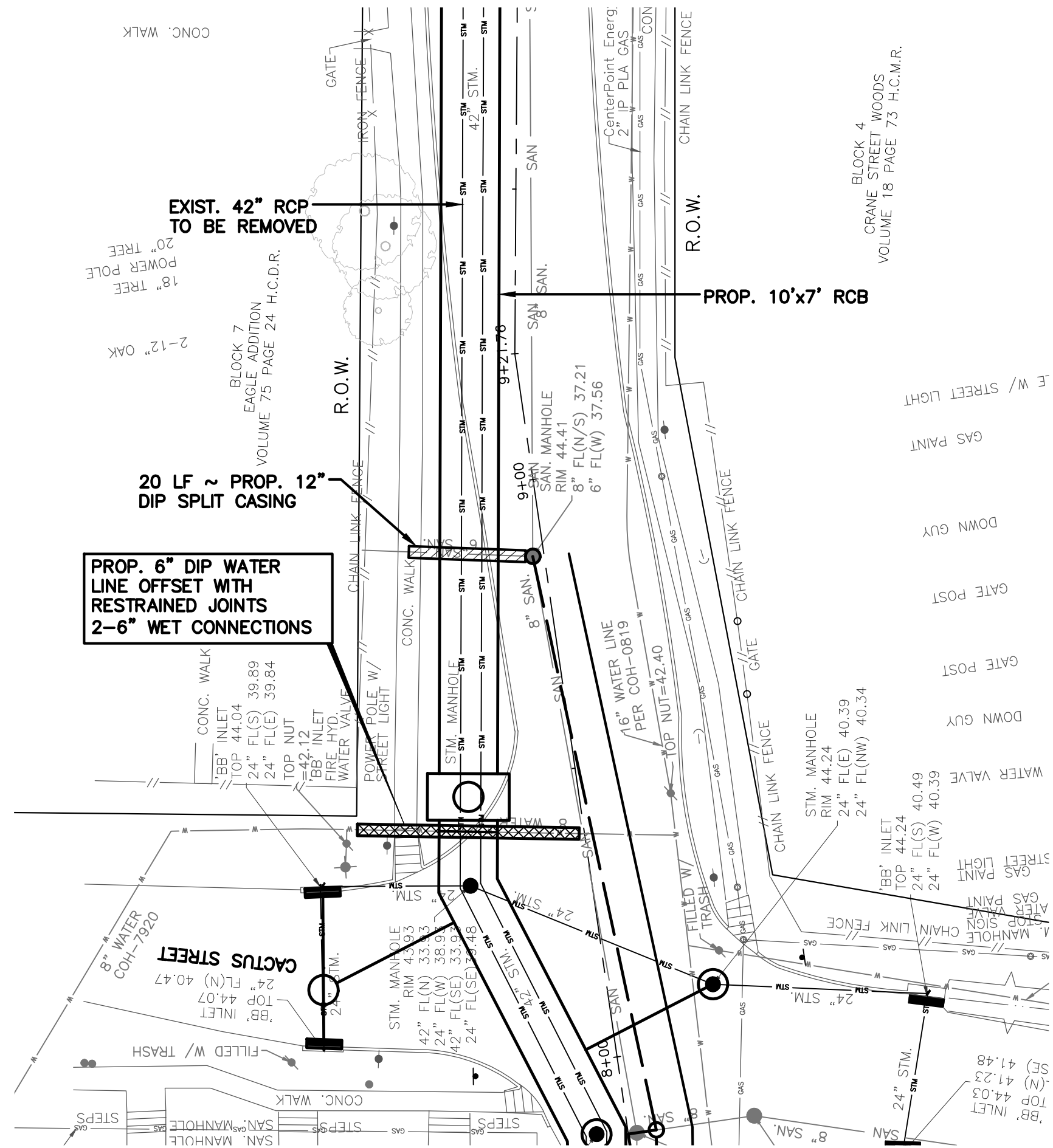
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CITY OF HOUSTON
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FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
UTILITY CROSSINGS
LINN STREET
STA. 5+04

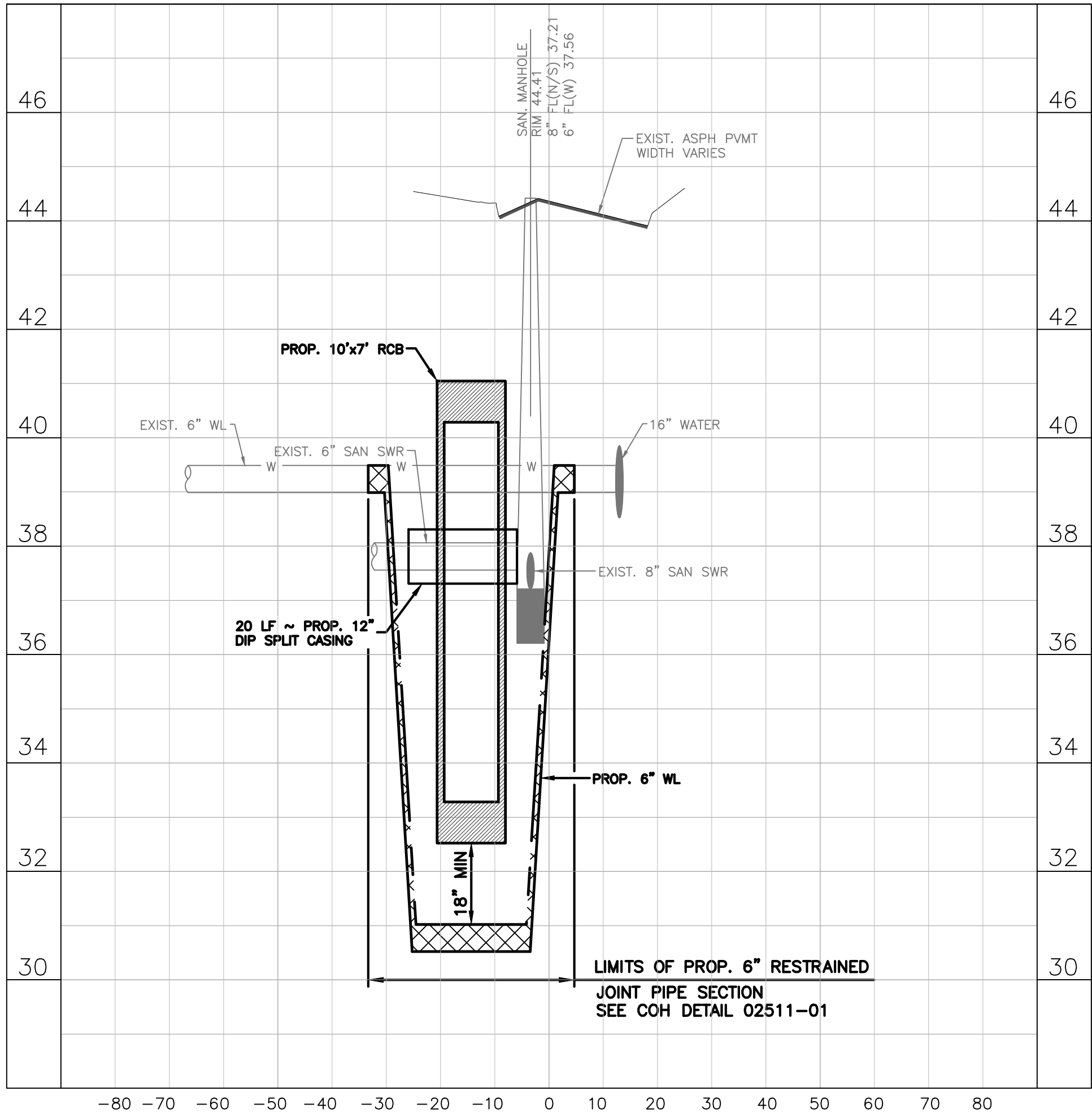
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 44 OF 69	

LINN STREET STA. 5+04
PLAN VIEW



BLOCK 4
CRANE STEEL WOODS
VOLUME 18 PAGE 75 H.C.M.R.

STA 5+04
LATERAL VIEW



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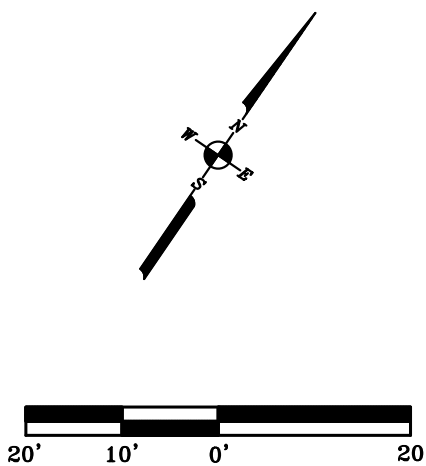
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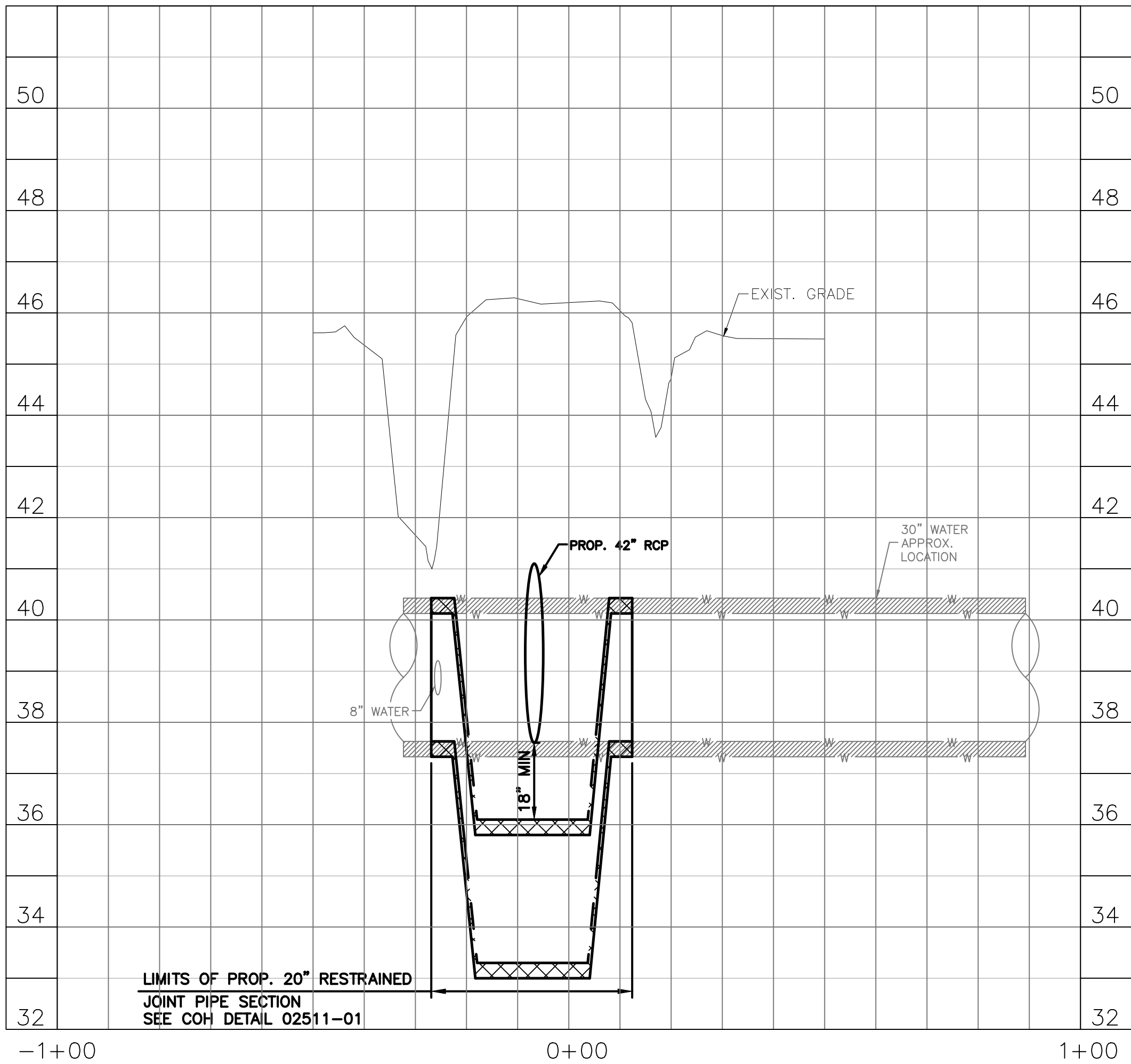
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
UTILITY CROSSINGS
LINN STREET
STA. 8+86.94

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 45 OF 69	

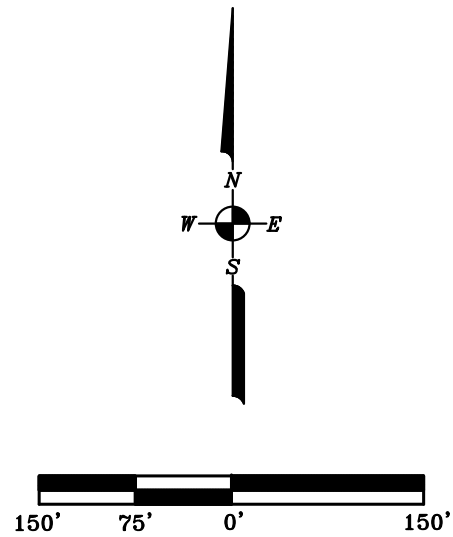
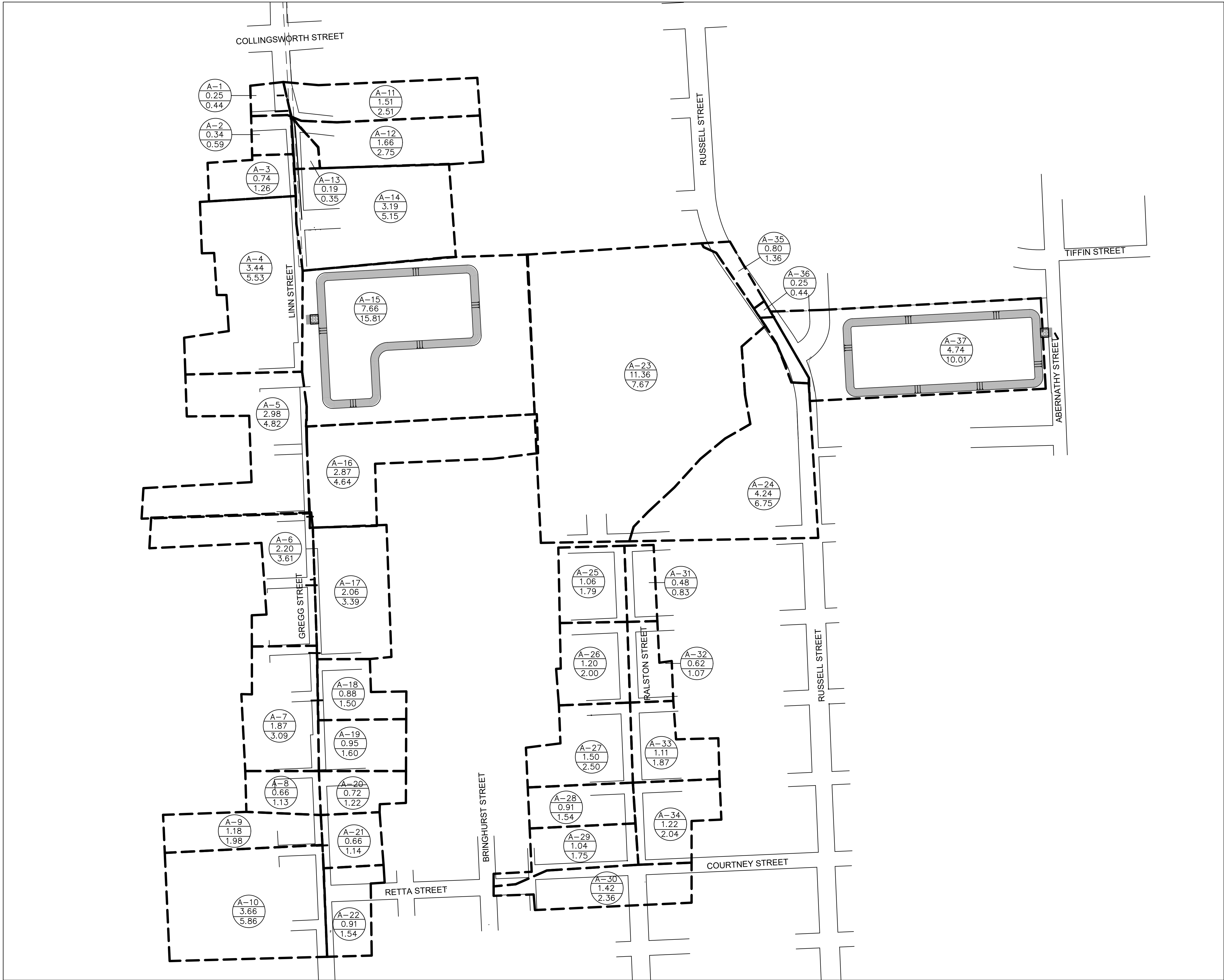


FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS
LATERAL CROSSINGS
RUSSELL STREET
STA. 24+95.93

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
HORIZ. 1"=20' VERT. 1"=2'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 46 OF 69	



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LEGEND

- A-1
2.10
3.19
- DRAINAGE AREA
- ACRES
- 2-YR RUNOFF VOLUME (Q)
- DRAINAGE AREA BOUNDARY



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FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

DRAINAGE AREA MAP

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
1"=150'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 47 OF 69	

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RUNOFF CALCULATIONS
RATIONAL METHOD

DRAINAGE AREA	AREA ac	C	TC min	I (2yr)	Q (2yr) cfs	I (10yr)	Q (10yr) cfs	I (100yr)	Q (100yr) cfs
A-1	0.25	0.45	22.81	3.94	0.44	5.78	0.64	8.93	0.99
A-2	0.34	0.45	23.25	3.90	0.59	5.72	0.87	8.85	1.34
A-3	0.74	0.45	24.48	3.79	1.26	5.57	1.85	8.63	2.87
A-4	3.44	0.45	27.43	3.57	5.53	5.25	8.13	8.15	12.63
A-5	2.98	0.45	27.12	3.59	4.82	5.28	7.09	8.20	11.01
A-6	2.20	0.45	26.49	3.64	3.61	5.35	5.30	8.30	8.23
A-7	1.87	0.45	26.17	3.66	3.09	5.38	4.54	8.35	7.04
A-8	0.66	0.45	24.30	3.81	1.13	5.59	1.66	8.66	2.57
A-9	1.18	0.45	25.30	3.73	1.98	5.48	2.91	8.49	4.51
A-10	3.66	0.45	27.56	3.56	5.86	5.24	8.62	8.13	13.38
A-11	1.51	0.45	25.75	3.69	2.51	5.43	3.69	8.41	5.72
A-12	1.66	0.45	25.94	3.68	2.75	5.41	4.05	8.38	6.27
A-13	0.19	0.45	22.49	3.97	0.35	5.82	0.51	8.99	0.78
A-14	3.19	0.45	27.27	3.58	5.15	5.27	7.57	8.18	11.75
A-15	7.66	0.6	29.31	3.44	15.81	5.07	23.29	7.89	36.24
A-16	2.87	0.45	27.04	3.60	4.64	5.29	6.83	8.21	10.60
A-17	2.06	0.45	26.36	3.65	3.39	5.36	4.98	8.32	7.73
A-18	0.88	0.45	24.78	3.77	1.50	5.54	2.20	8.58	3.40
A-19	0.95	0.45	24.90	3.76	1.60	5.52	2.35	8.55	3.65
A-20	0.72	0.45	24.43	3.80	1.22	5.58	1.80	8.64	2.78
A-21	0.66	0.45	24.30	3.81	1.14	5.59	1.67	8.66	2.59
A-22	0.91	0.45	24.83	3.77	1.54	5.53	2.26	8.57	3.50
A-23	11.36	0.2	30.34	3.38	7.67	4.98	11.30	7.75	17.61
A-24	4.24	0.45	27.90	3.54	6.75	5.20	9.93	8.09	15.42
A-25	1.06	0.45	25.11	3.74	1.79	5.50	2.63	8.52	4.08
A-26	1.20	0.45	25.32	3.73	2.00	5.48	2.95	8.48	4.56
A-27	1.50	0.45	25.74	3.69	2.50	5.43	3.67	8.42	5.68
A-28	0.91	0.45	24.83	3.77	1.54	5.53	2.26	8.57	3.51
A-29	1.04	0.45	25.07	3.75	1.75	5.50	2.57	8.53	3.99
A-30	1.42	0.45	25.63	3.70	2.36	5.44	3.47	8.43	5.38
A-31	0.48	0.45	23.77	3.85	0.83	5.66	1.21	8.75	1.87
A-32	0.62	0.45	24.20	3.82	1.07	5.61	1.57	8.68	2.43
A-33	1.11	0.45	25.19	3.74	1.87	5.49	2.75	8.51	4.26
A-34	1.22	0.45	25.35	3.72	2.04	5.47	3.00	8.48	4.65
A-35	0.80	0.45	24.61	3.78	1.36	5.56	2.00	8.60	3.10
A-36	0.25	0.45	22.81	3.94	0.44	5.78	0.64	8.93	0.99
A-37	4.74	0.6	28.15	3.52	10.01	5.18	14.74	8.05	22.90



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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02,2025

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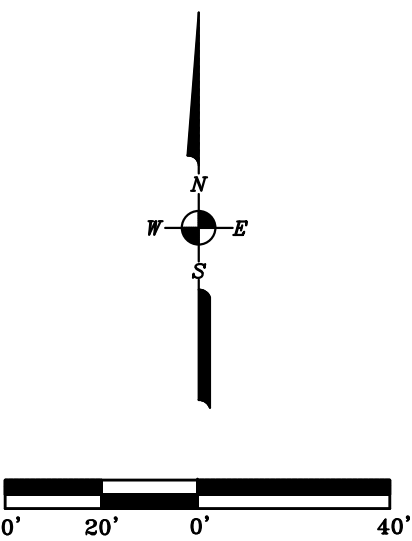
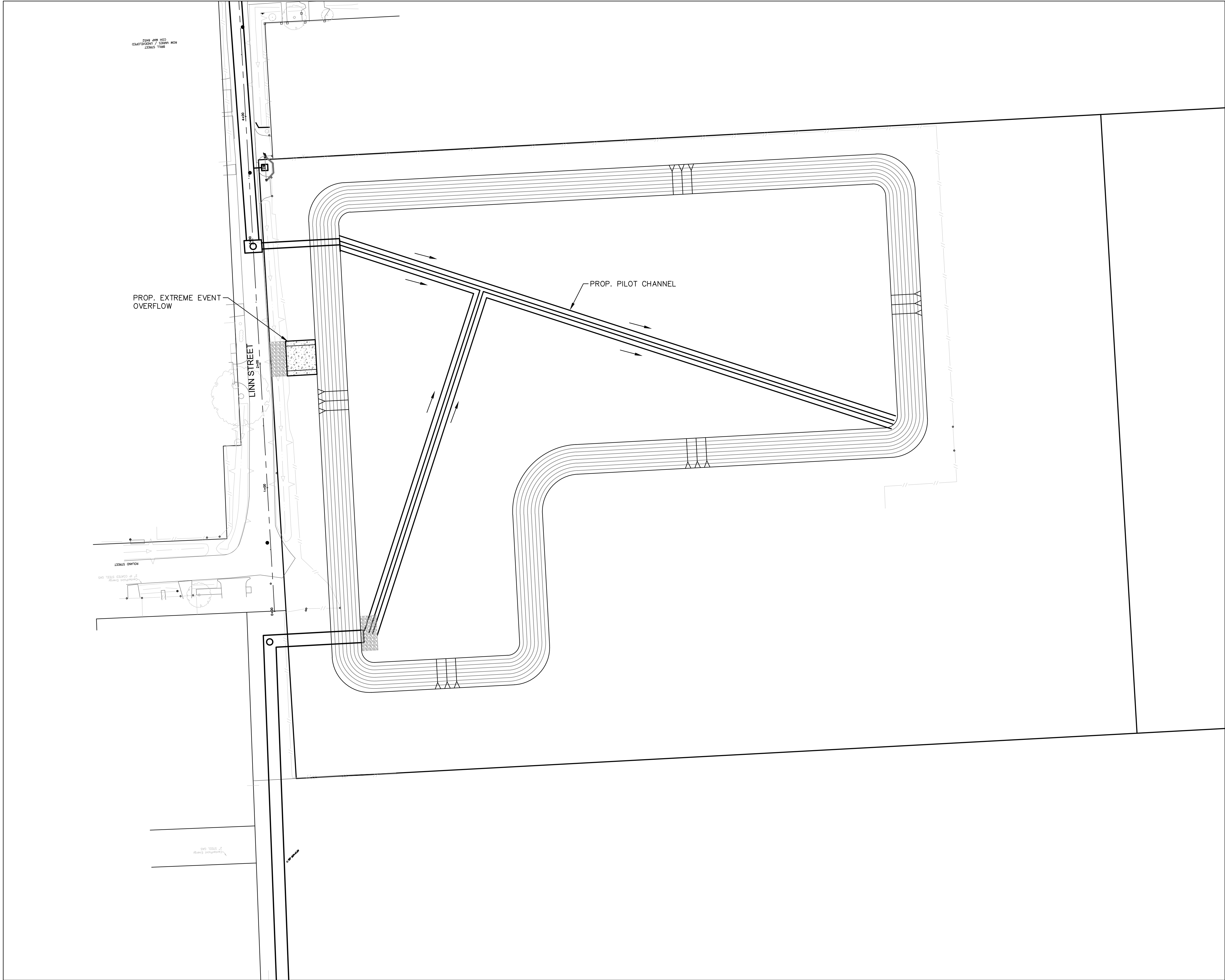
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

RUNOFF CALCULATIONS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 48 OF 69	

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Jun 02,2025

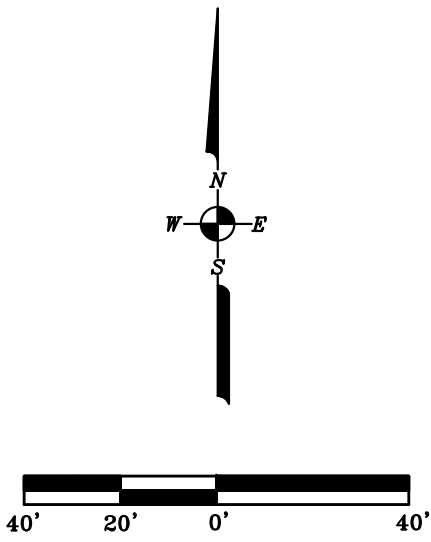
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

**FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS**

DETENTION POND 1

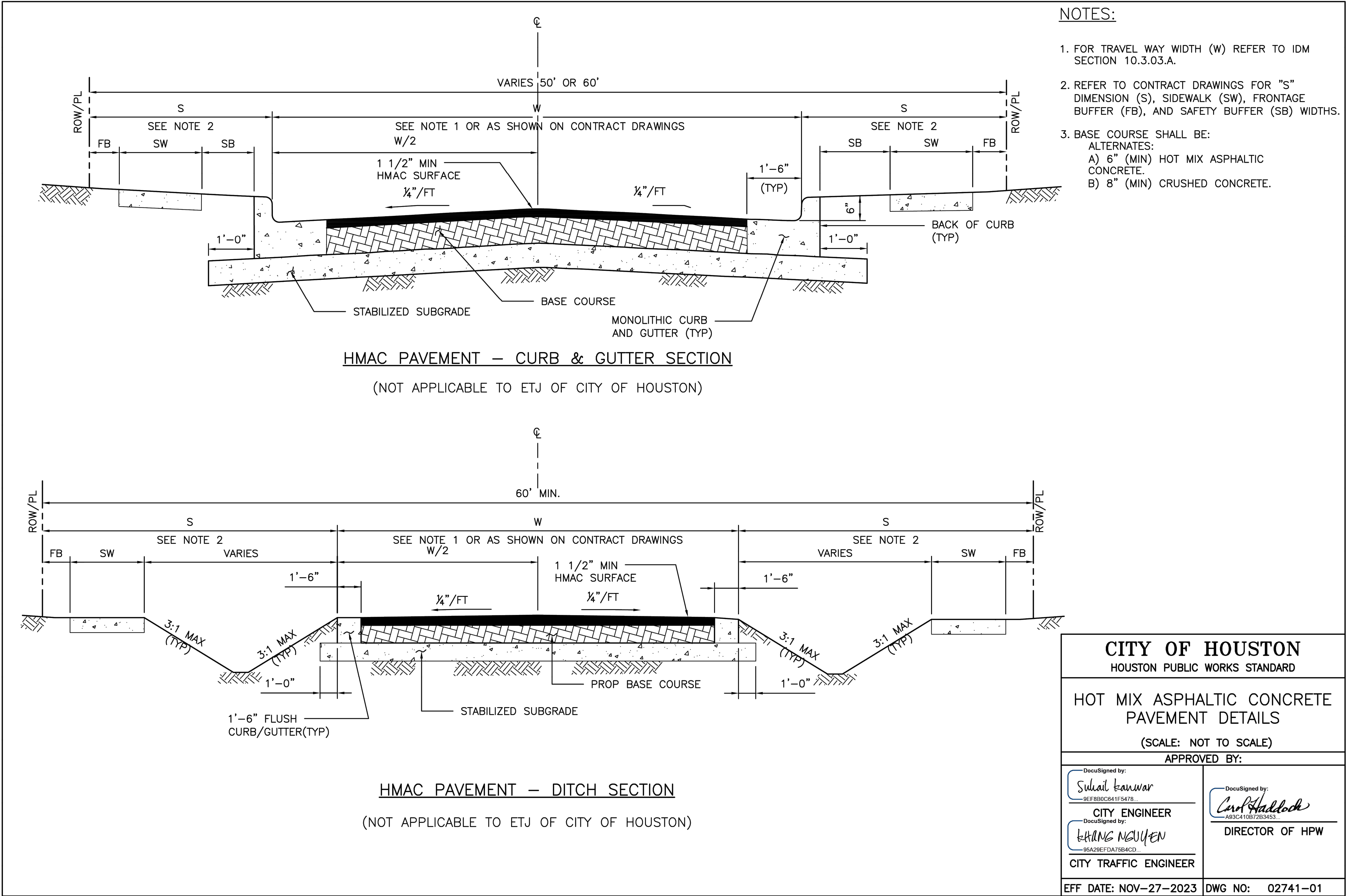
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M-42LHUD-0006-3	
DRAWING SCALE	
1"=40'	
CITY OF HOUSTON PM	
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SHEET NO. 49 OF 69	



CITY OF HOUSTON
HOUSTON PUBLIC WORKS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
1"=40'	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 50 OF 69	

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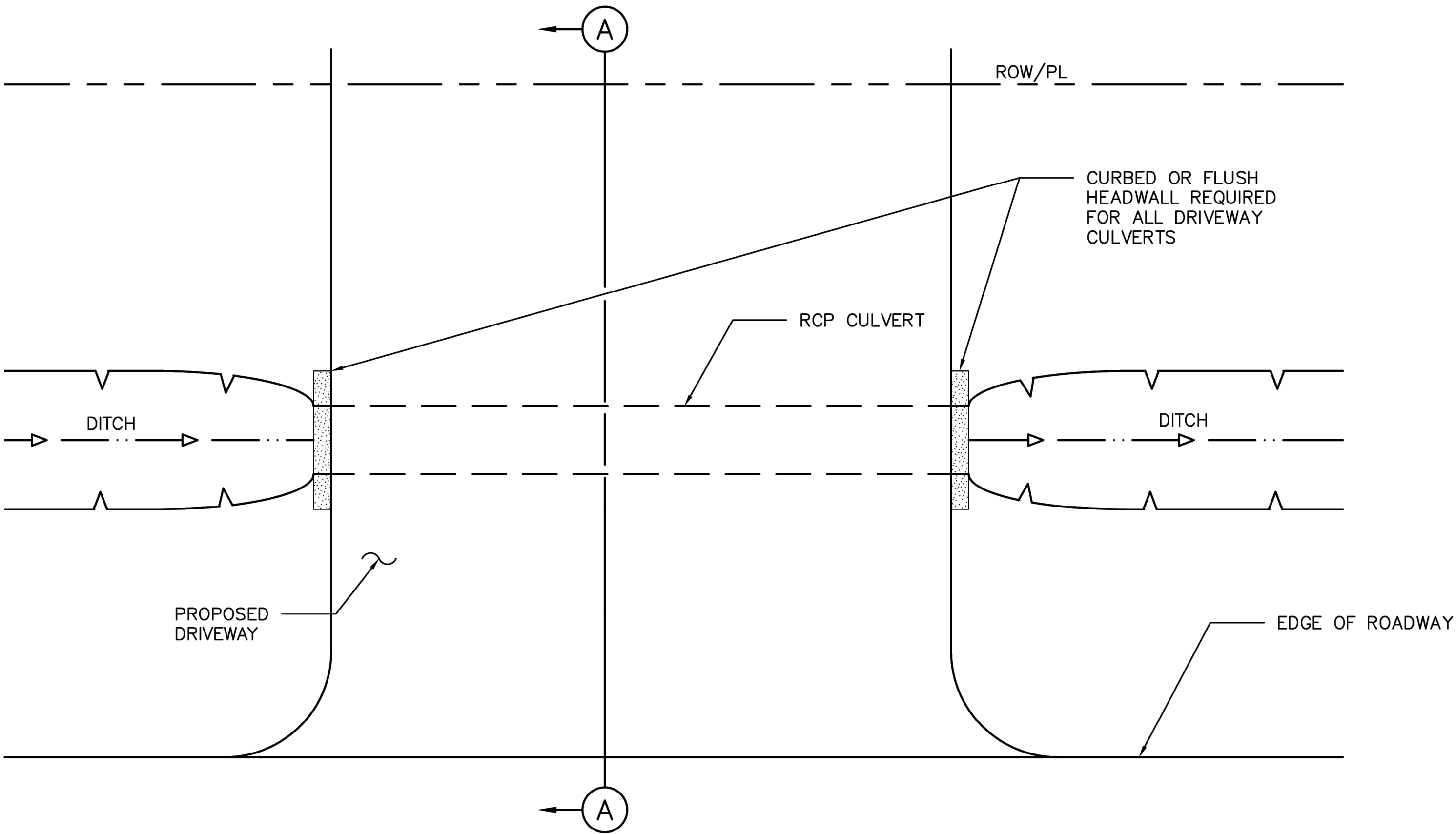
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HOUSTON PUBLIC WORKS

FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS

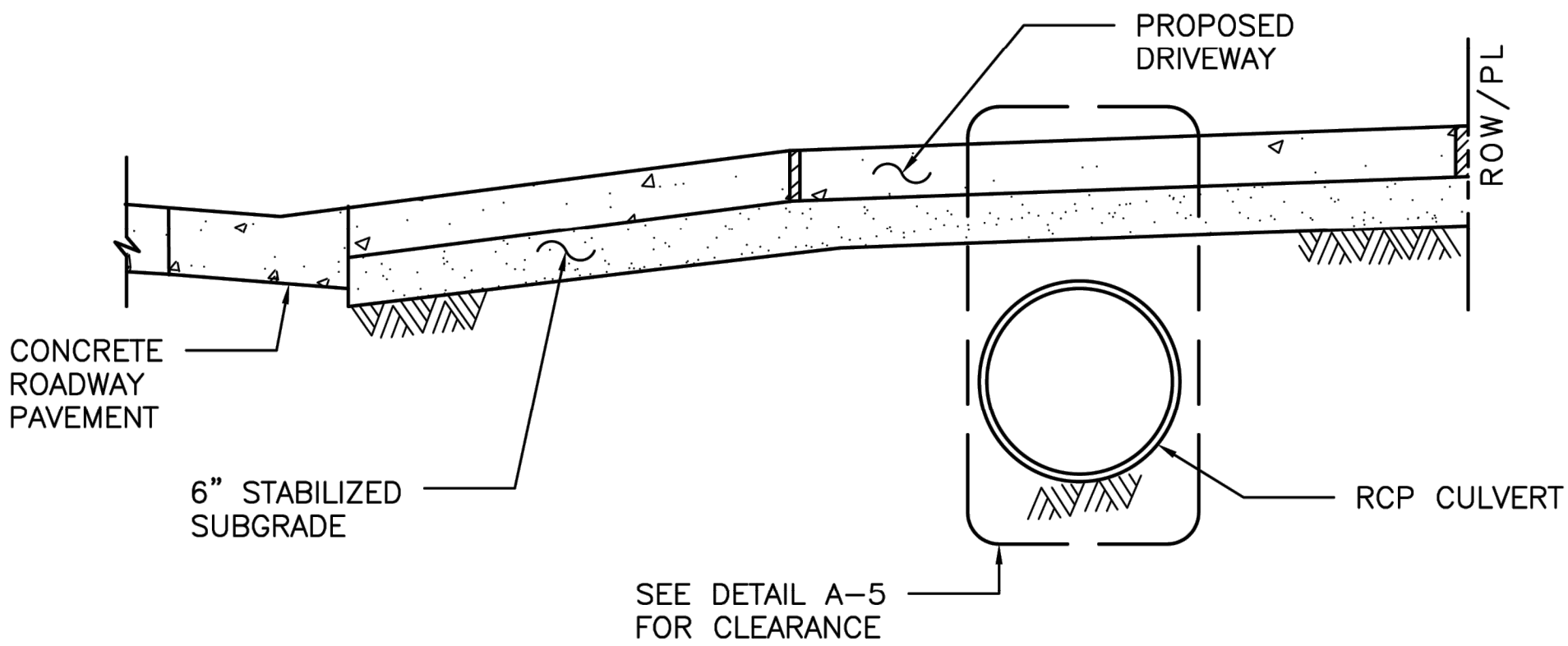
PAVING DETAILS 1

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DRAWING SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 51 OF 69	

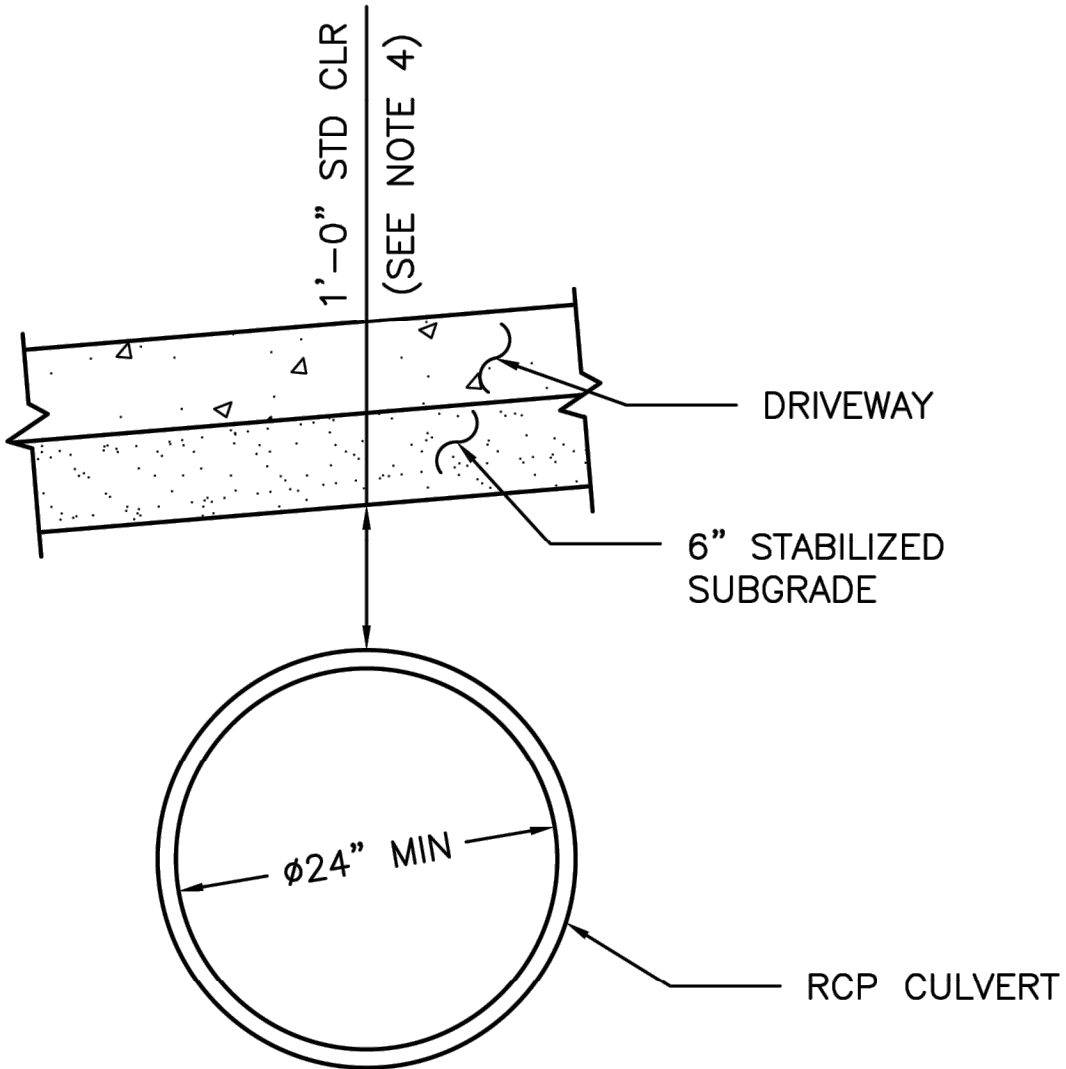
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PLAN VIEW
STANDARD OPEN DITCH DRIVEWAY



SECTION A-A
STANDARD PIPE CULVERT CLEARANCE



DETAIL A-5
CULVERT CLEARANCE

NOTES:

1. PIPE CULVERTS SHALL CONFORM TO CHAPTER 9 DESIGN REQUIREMENTS OF THE INFRASTRUCTURE DESIGN MANUAL AND MATERIAL REQUIREMENTS OF STANDARD CONSTRUCTION SPECIFICATION SECTION 02631.
2. RCP CULVERT SIZE WILL BE APPROVED BY CITY ENGINEER WITH 24" DIAMETER MINIMUM.
3. DRIVEWAY MATERIAL WITHIN THE RIGHT OF WAY SHALL BE CONCRETE OR ASPHALT.
4. WHERE STANDARD 1'-0" CLEARANCE IS NOT FEASIBLE, MINIMUM CLEARANCE OF 6" IS ALLOWED WHEN APPROVED BY THE OFFICE OF THE CITY ENGINEER (OCE).
5. DITCH FLOW LINE DIRECTION DEPICTED IS SHOWN AS AN EXAMPLE AND MAY NOT MATCH SITE SPECIFIC CONDITIONS. REFER TO CONTRACT DRAWINGS FOR FLOW LINE DIRECTION AND ELEVATIONS.

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
DRIVEWAYS WITH CULVERTS ON OPEN DITCH TYPE STREETS (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: <i>Sulail Kanwar</i> 9EF8B0C641F5478... CITY ENGINEER <i>Khang Nguyen</i> 95A29EFDA75B4CD... CITY TRAFFIC ENGINEER	DocuSigned by: <i>Carol Haddock</i> A83C410B72B3453... DIRECTOR OF HPW
EFF DATE: NOV-27-2023	DWG NO: 02754-02



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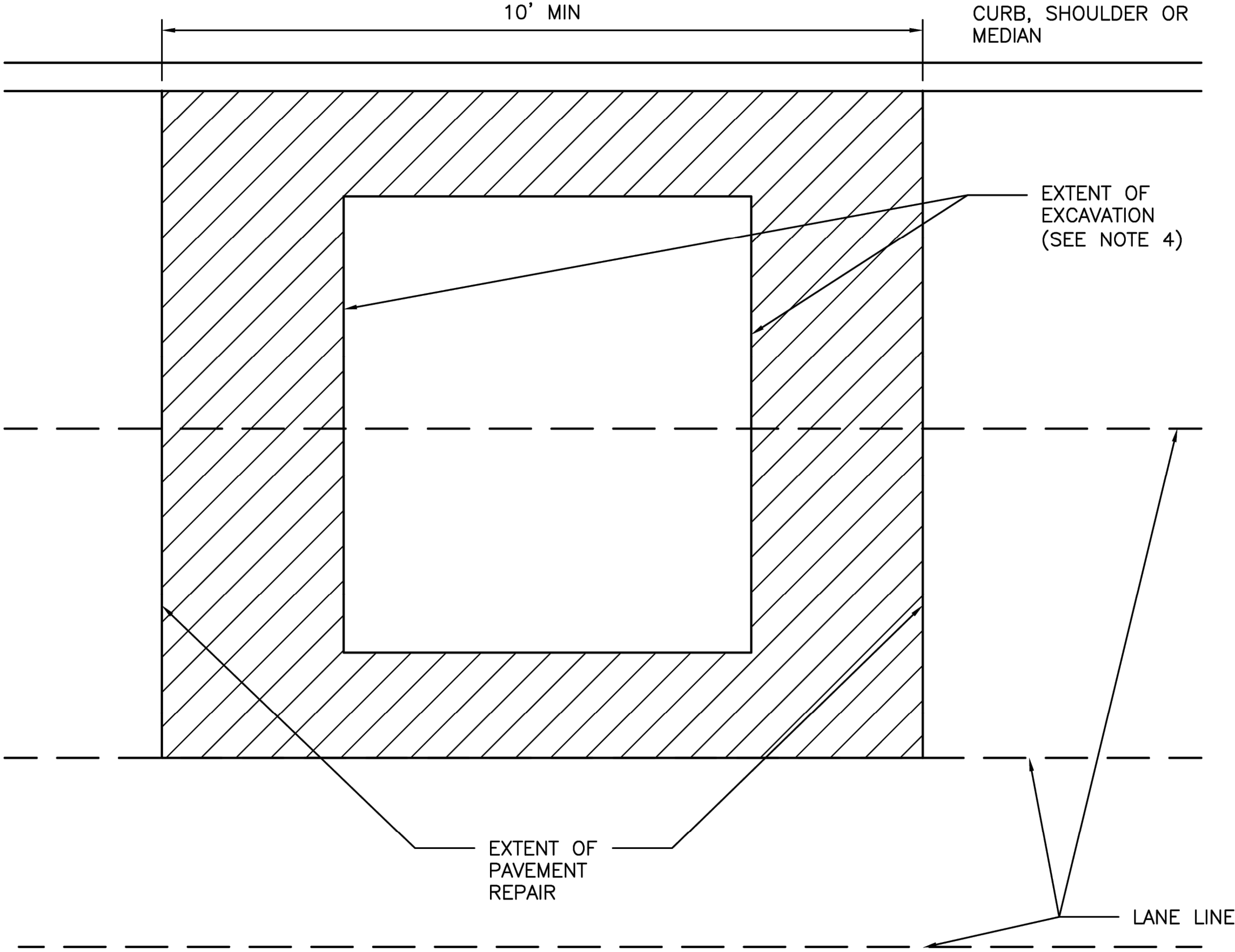
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

PAVING DETAILS 1

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DRAWING SCALE	
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SHEET NO. 52 OF 69	

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NOTES:

1. EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND PARALLEL TO TRAVEL WAY.
2. FLEXIBLE BASE: REPLACE BASE TO SAME THICKNESS PLUS TWO INCHES (2") FOR EXTENT OF EXCAVATION. USE APPROVED BASE MATERIAL TYPE.*
3. SURFACE COURSE:
 - 3.1. WIDTH: SURFACE MILL AND OVERLAY FULL WIDTH OF LANE(S) TO NEAREST LANE DIVIDER BEYOND EDGE OF EXCAVATION.
 - 3.2. LENGTH: MINIMUM LENGTH OF SURFACE MILL ALONG TRAVEL WAY IS 10'.
 - 3.3. REPLACE PAVEMENT MARKINGS IN ACCORDANCE WITH CITY OF HOUSTON STANDARD SPECIFICATIONS 02764--RAISED PAVEMENT MARKERS AND 02767--THERMOPLASTIC PAVEMENT MARKINGS.
4. EXTENT OF EXCAVATION INCLUDES 18" OVER CUT AS SHOWN ON STANDARD DETAIL 02951--04 PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX--BASE PAVEMENT AND CONCRETE PAVEMENT).
5. ADDITIONAL REQUIREMENTS FOR ASPHALT OVERLAY ON CONCRETE PAVEMENT:
 - 5.1. REPLACE CONCRETE FOR EXTENT OF EXCAVATION. REPLACE TO SAME THICKNESS PLUS TWO INCHES (2").
 - 5.2. WIDTH:
 - 5.2.1. IF EXCAVATION EXTENDS MORE THAN HALF OF A LANE, REPLACE ENTIRE LANE OF CONCRETE. OTHERWISE USE STANDARD DETAIL 02951--04 THROUGH 05.
 - 5.3. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL AROUND EDGE OF CONCRETE REPLACEMENT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS PER CITY OF HOUSTON STANDARD SPECIFICATION SECTION 02951--PAVEMENT REPAIR AND RESTORATION.
 - 5.4. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
 - 5.5. MAINTAIN CONCRETE EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE APPROVED BY CITY ENGINEER.

CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
STREET CUT FOR ASPHALT PAVEMENT REPLACEMENT/RESTORATION FOR PAVEMENT OF ALL AGES (SCALE: NOT TO SCALE)	
APPROVED BY:	
DocuSigned by: <i>Sulail Kanwar</i> 9EF8B0C841F5478... DocuSigned by: <i>Khang Nguyen</i> 95A29EFDA75B4CD... CITY ENGINEER CITY TRAFFIC ENGINEER	DocuSigned by: <i>Carol Haddock</i> A83C410B72B3453... DIRECTOR OF HPW
EFF DATE: NOV--27--2023	DWG NO: 02951--03



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RESPONSIBLE ENGINEER:
BOWMAN ENGINEERING & CONSULTING, INC.
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02/2025

60% SUBMITTAL

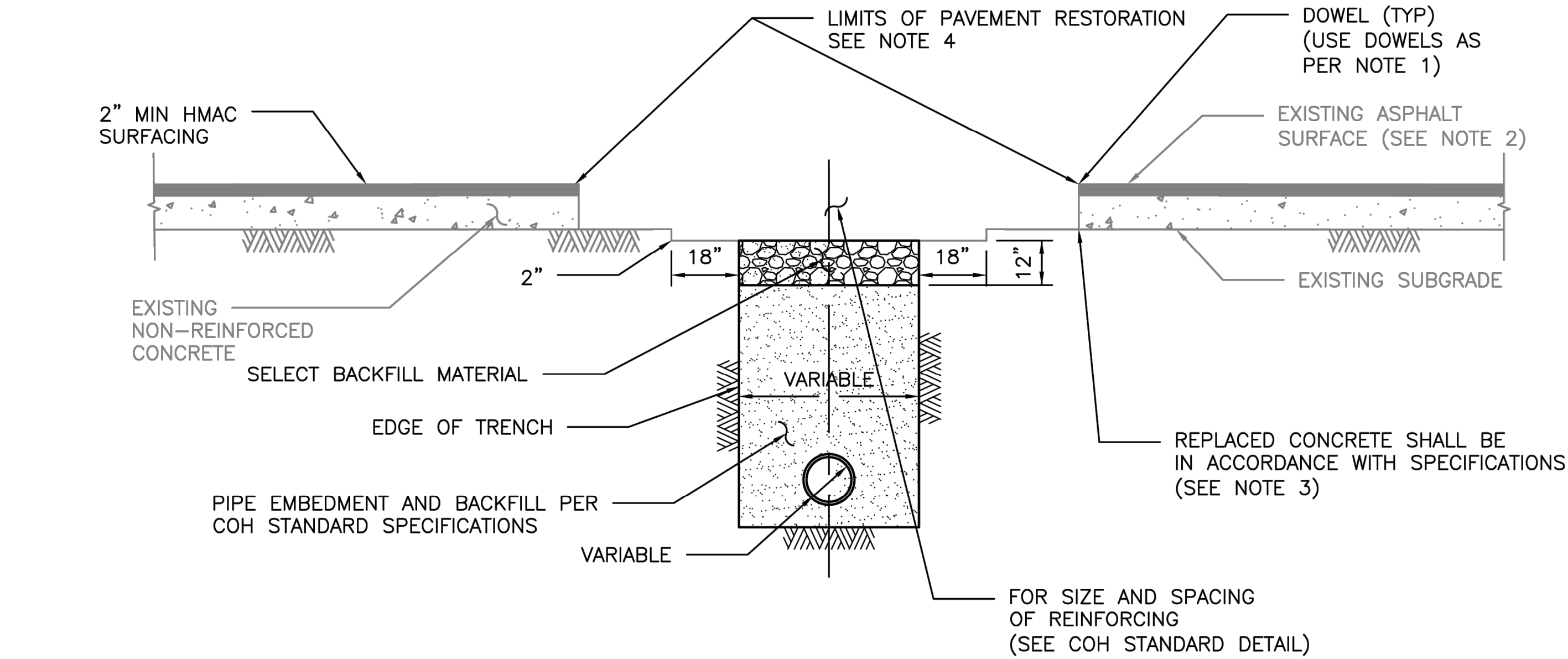
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

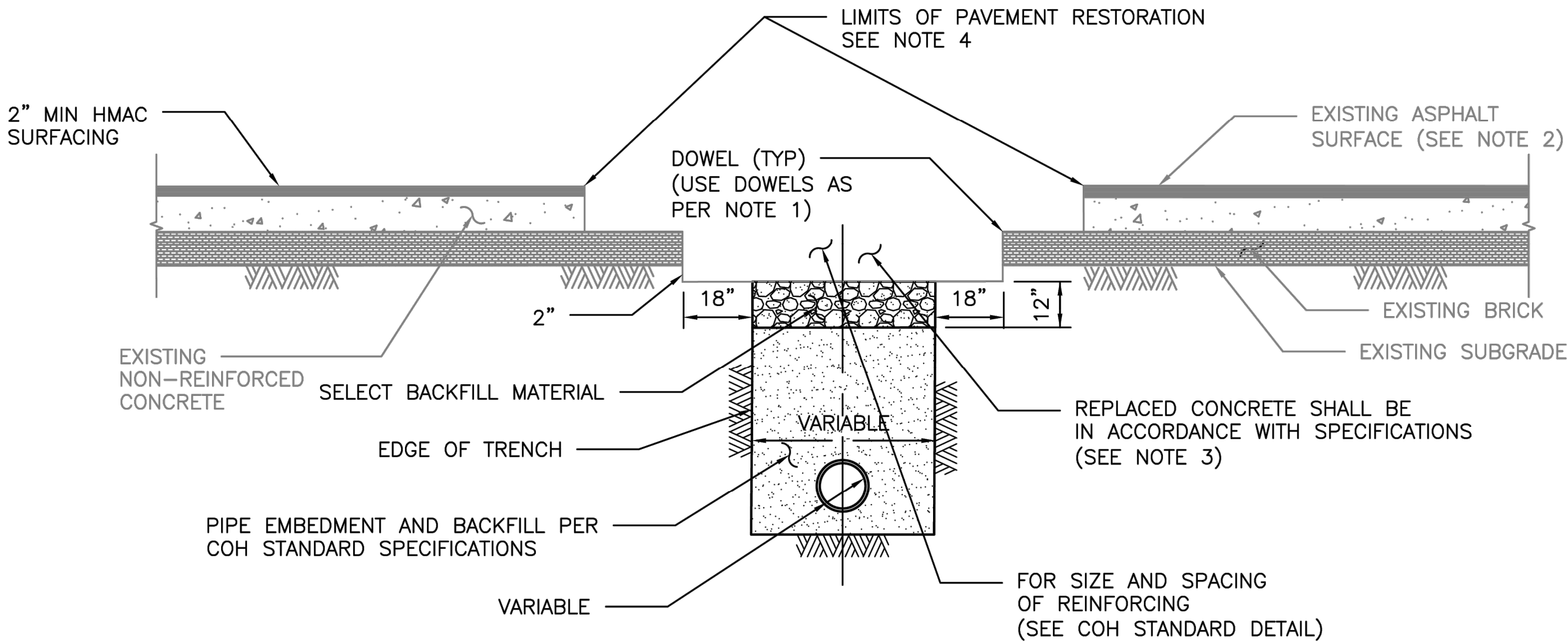
STREET CUT DETAILS 1

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M--42LHUD--0006--3	
DRAWING SCALE	
CITY OF HOUSTON PM	
MASOUDUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 53 OF 69	

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ELEVATION C
REPAIR OF NON-REINFORCED CONCRETE PAVEMENT



ELEVATION D
REPAIR OF NON-REINFORCED CONCRETE PAVEMENT WITH BRICK

NOTES:

1. EXPOSE 15" OF REINFORCING STEEL AT PROPOSED SAWED JOINT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BAR, 24" LONG, 24" C-C, DRILLED AND EMBEDDED 8" INTO THE CENTER OF THE EXISTING SLAB. WITH "PO ROC" OR EQUAL.
2. IF REINFORCED CONCRETE IS OVERLAYED REPLACE WITH SAME THICKNESS OF HMAC SURFACING.
3. REFER TO STANDARD DETAIL 02751-01 FOR REINFORCING STEEL REQUIREMENT
4. REFER TO STANDARD DETAILS 02951-01 THROUGH 03 FOR PAVEMENT RESTORATION LIMITS.

CITY OF HOUSTON

HOUSTON PUBLIC WORKS STANDARD

PAVEMENT REPAIR DETAIL

FOR STREET CUTS

(NON-REINFORCED CONCRETE & BRICK PAVEMENT)

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by:

Sulail Kanwar

9EF8B0C641F5478...

CITY ENGINEER

DocuSigned by:

Khang Nguyen

95A29EFD75B4CD...

CITY TRAFFIC ENGINEER

DocuSigned by:

Carol Haddock

A83C410B72B3453...

DIRECTOR OF HPW

EFF DATE: NOV-27-2023

DWG NO: 02951-05

3151 Briarpark Drive, Ste. 275
Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

SURVEYED BY:
FB NO. 000000

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TEXAS REGISTRATION NO. 85396
Jun 02/2025

60% SUBMITTAL

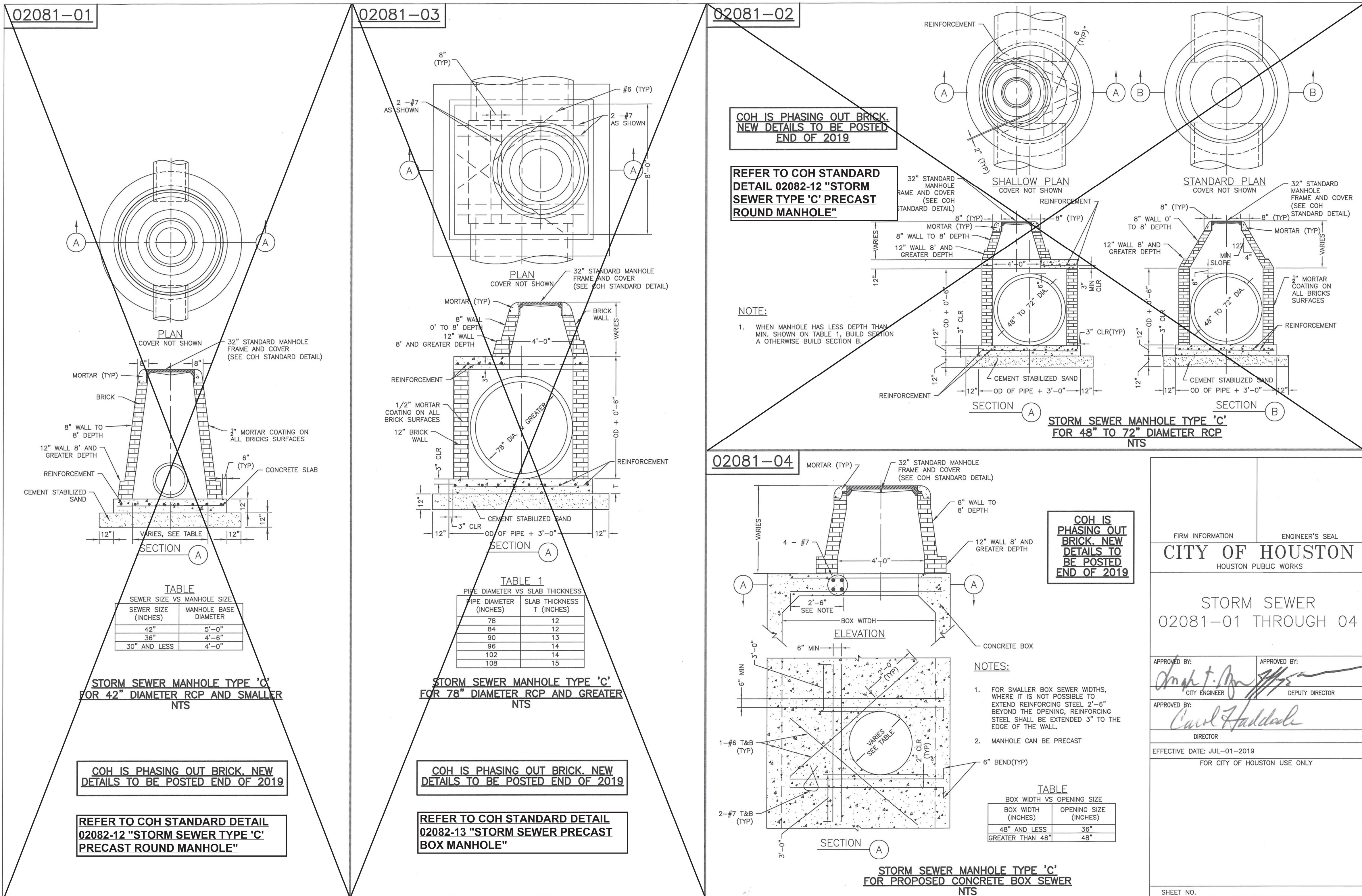
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

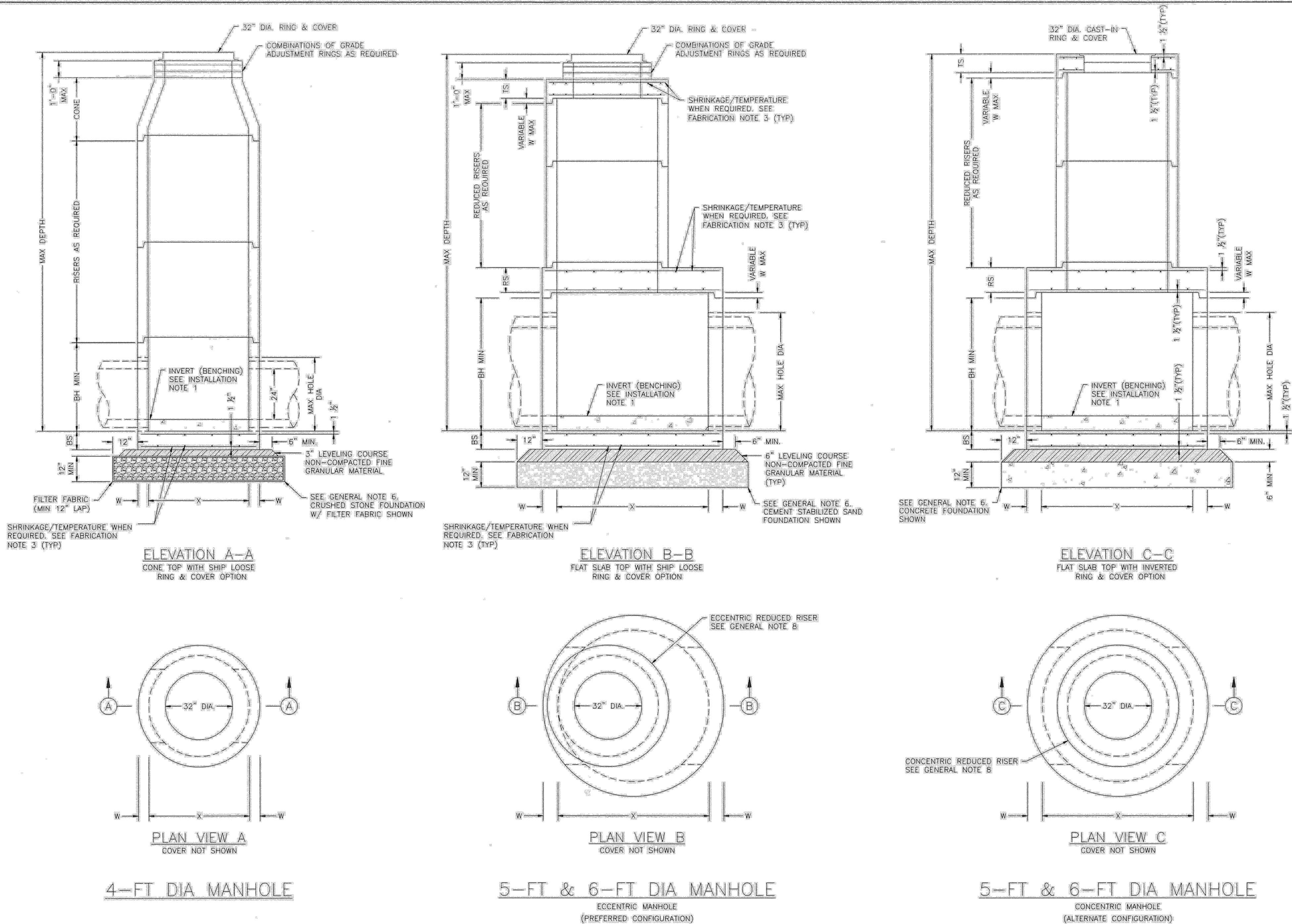
STREET CUT DETAILS 2

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
MASOUD R. MOLLAH, P.E., ENV SP	
SHEET NO. 54 OF 69	

L:\7060 Frenchtown\PHASE I\Design\CADD\6 - Roadway & Sm Swr Std Details\Storm Sewer Details.dwg, 6/2/25 6:49:51 PM, jaraba



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- FABRICATION NOTES:**
1. PROVIDE CLASS "H" CONCRETE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION ITEM 421 AND HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
 2. PROVIDE GRADE 60 REINFORCING STEEL OR EQUIVALENT AREA OF WWR. PROVIDE CIRCUMFERENTIAL REINFORCING STEEL IN VERTICAL WALLS OF BASE, RISER AND CONE IN ACCORDANCE WITH ASTM C478.
 3. SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE SHRINKAGE AND TEMPERATURE REINFORCING STEEL. PROVIDE STEEL AREA = 0.11 IN²/FT EACH WAY.
 4. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
 5. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPIGOT DEPTH IS 3/4".
 6. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 7. PROVIDE CAST IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
 8. THREE DIFFERENT OPTIONS FOR CAPPING THE MANHOLE RISER NEAR THE FINISHED GRADE ARE SHOWN. CONES CAN BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT LIDS ARE TO BE USED WHERE COVER IS LIMITED.
- INSTALLATION NOTES:**
1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONTRACTOR. CONCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO THIS ITEM. REFER TO CITY OF HOUSTON SPECIFICATION SECTION 02082 FOR INVERT (BENCHING) REQUIREMENTS.
 2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR 1/2 THE JOINT DEPTH, WHICHEVER IS GREATER. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATION.
 3. INITIAL INSTALLATION OF GRADE ADJUSTMENT RINGS IS LIMITED TO 1'-0" MAX AS SHOWN.
 4. GRADE ADJUSTMENT RINGS MAY BE INCREASED TO 1'-6" MAX WHEN FUTURE CONSTRUCTION AFFECTS FINAL GRADE OF STRUCTURE. MAKE ADJUSTMENTS GREATER THAN 1'-6" WITH ADDITIONAL RISERS. ADJUSTMENTS MAY BE MADE UP TO THE MAX DEPTH OF 25'-0". STRUCTURE MUST BE EVALUATED IF MAX DEPTH WILL BE EXCEEDED.

- GENERAL NOTES:**
1. SEE TABLE 1 FOR MINIMUM DESIGN REQUIREMENTS. CONCENTRIC RISER WITH RESPECT TO BASE (ALTERNATIVE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF MANHOLE IF THE ALTERNATIVE CONFIGURATION IS USED.
 2. DESIGNED ACCORDING TO ASTM C478.
 3. PAYMENT FOR PRECAST MANHOLE PER SECTION 02082 "PRECAST CONCRETE MANHOLES".
 4. PIPE OD + PLACEMENT TOLERANCE MUST BE EQUAL OR LESS THAN MAX HOLE DIA. FOR RIGID PIPE, PLACEMENT TOLERANCE IS 4" MAX, 2" MIN. FOR FLEXIBLE PIPE, CONSULT BOOT/SEAL MANUFACTURER'S SPECIFICATION FOR PLACEMENT TOLERANCE.
 5. STORM WATER SEWER PIPE INTERNAL DIA SHALL NOT BE LESS THAN 24".
 6. FOUNDATION/SUBGRADE TO BE DESIGNED BY ENGINEER AND MEET MINIMUM REQUIREMENTS ACCORDING TO SECTION 02082.
 7. ALL STORM WATER MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
 8. ECCENTRIC REDUCED RISER WITH RESPECT TO BASE IS THE PREFERRED MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE MANHOLE CONFIGURATION IS AN ALTERNATIVE DESIGN THAT WILL BE ACCEPTED BASED ON THE NEEDS OF THE CITY OF HOUSTON.
 9. CONES MAY BE CONCENTRIC OR ECCENTRIC. REDUCTION CONES ARE ACCEPTABLE. REFER TO MANUFACTURER FOR CONE DIMENSIONS.
 10. MANHOLE SIZE SHALL CONSIDER ENGINEERING ECONOMY. THIS DETAIL IS NOT APPLICABLE TO ROUND MANHOLES LARGER THAN 6'-FOOT DIA.

4-FT DIA MANHOLE

5-FT & 6-FT DIA MANHOLE

5-FT & 6-FT DIA MANHOLE

TABLE 1 PRECAST ROUND MANHOLE (PRM) MINIMUM REQUIREMENTS FOR 24 IN. TO 42 IN. INTERNAL DIA STORM SEWER PIPES									
PRM	SIZE	BASE SLAB THICKNESS	BASE UNIT OR RISER THICKNESS	REDUCED RISER DIA	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MAX DEPTH TO TOP OF BASE SLAB	MIN HEIGHT	MAX HOLE DIA
	FT	IN.	IN.	IN.	IN.	IN.	FT.	IN.	IN.
	4	9	5	—	—	9	25	42	35
	5	9	6	48	9	9	25	42	42
	6	9	7	48/60*	12	9	25	42	56

(*) 60-IN REDUCED RISER IS TO BE USED WHEN DEEMED NECESSARY TO SATISFY WALL PENETRATION SPACING REQUIREMENTS.

CITY OF HOUSTON HOUSTON PUBLIC WORKS	
STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE	
(NOT TO SCALE)	
APPROVED BY: <i>Suhail Kanwar</i> CITY ENGINEER	APPROVED BY: <i>Carl Haddad</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02082-12

3151 Briarpark Drive, Ste. 275
Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

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WILLIE V. BROWN, P.E.
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Jun 02/2025

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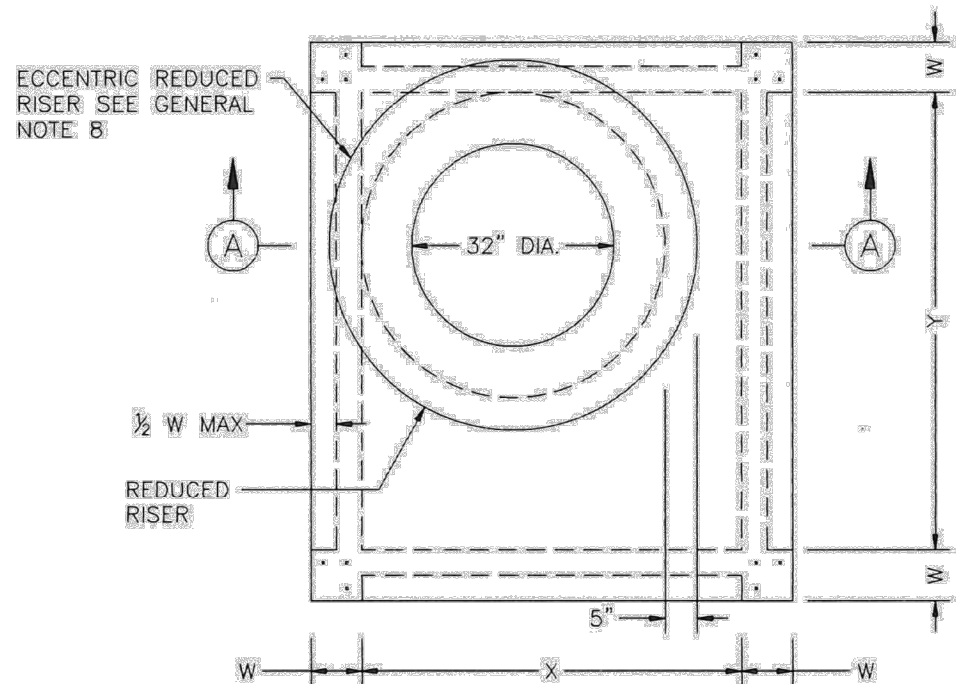
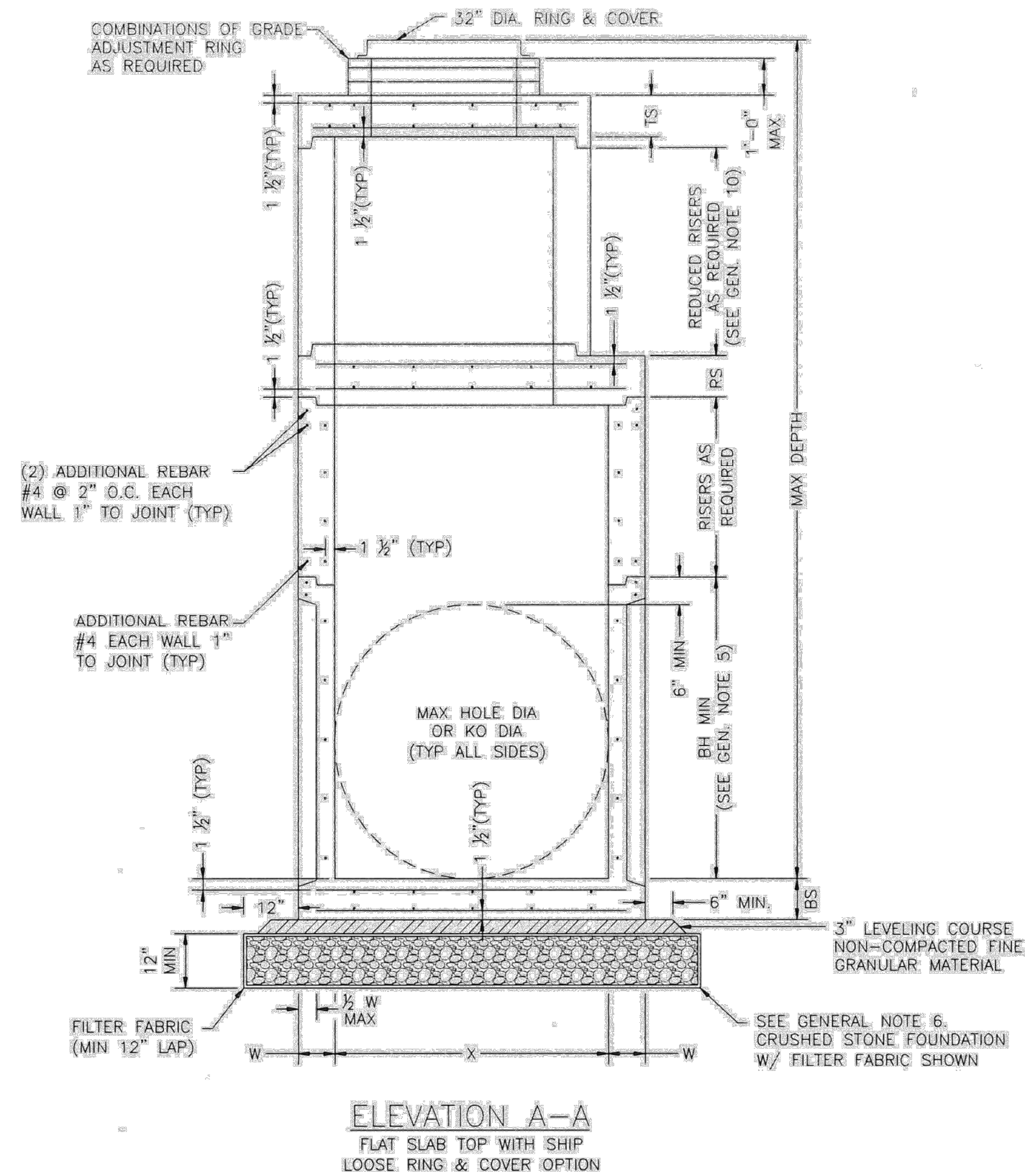
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

STORM SEWER DETAILS 2

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DRAWING SCALE	
CITY OF HOUSTON PM	
MASOUD R. MOLLAH, P.E., ENV SP	
SHEET NO. 56 OF 69	

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ECCENTRIC MANHOLE
(PREFERRED CONFIGURATION)

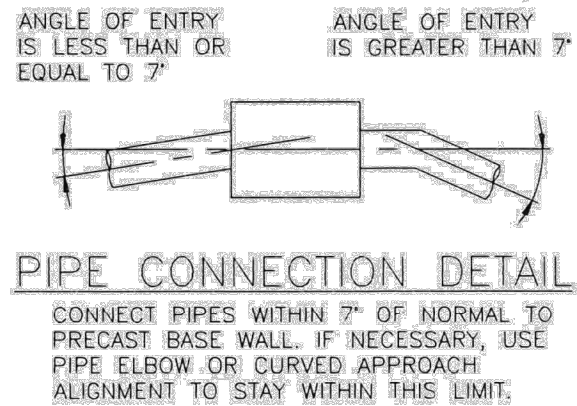
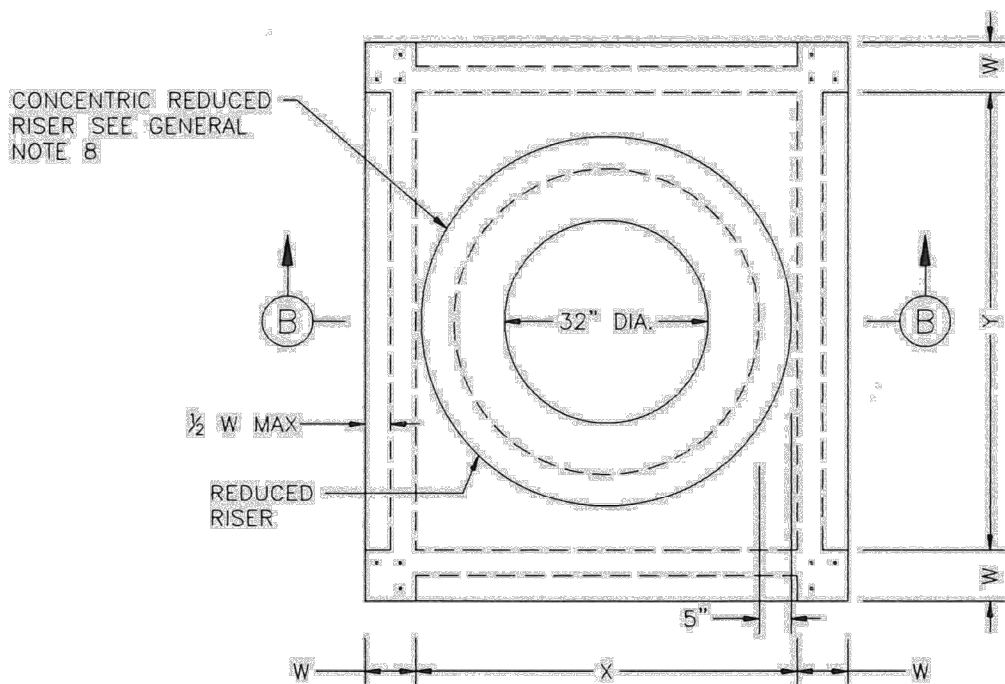
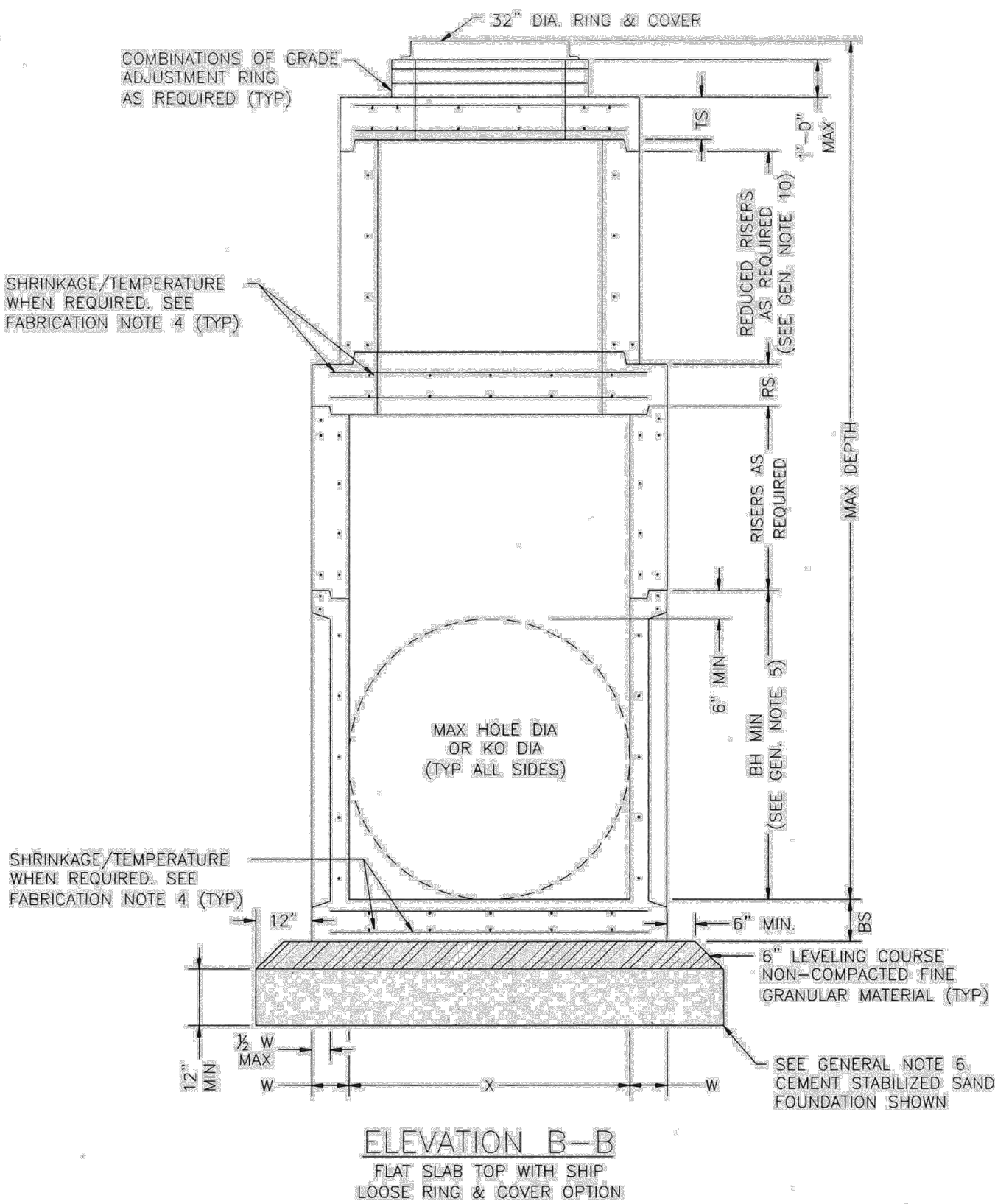


TABLE 1 PRECAST BOX MANHOLE (PBM) MINIMUM REQUIREMENTS FOR 24 IN. TO 78 IN. INTERNAL DIA STORM SEWER PIPES										
PBM	SIZE	BASE SLAB THICKNESS	BASE UNIT OR RISER THICKNESS	REDUCED RISER DIA	REDUCING SLAB THICKNESS	TOP SLAB THICKNESS	MAX DEPTH TO TOP OF BASE SLAB	MIN HEIGHT (SEE GEN. NOTE 5)	MAX HOLE DIA (SEE GEN. NOTE 11)	MAX KO DIA (SEE GEN. NOTE 11)
	X & Y FT. IN.	BS IN.	W IN.	ID FT.* IN.	RS IN.	TS IN.	MAX DEPTH FT. IN.	BH MIN FT. IN.	MAX HOLE DIA IN.	KO DIA IN.
PBM	3X3	6	6	N/A	N/A	9	25	3.50	36	36
	4X4	6	6	N/A	N/A	9	25	4.50	48	48
	3X5	6	6	N/A	N/A	9	25	3.50	36/60	36/60
	4X5	6	6	48 IN.	9	9	25	4.50	48/60	48/60
	5X5	6	6	48 IN.	9	9	25	5.50	60	60
	5X6	9	8	48 IN.	9	9	25	5.50	60/72	60/72
	6X6	9	8	48 IN.	9	9	25	6.50	72	72
	6X8	9	10	48 IN.	12	9	25	8.50	96	96

TABLE 1 NOTES:
1. (O) ROUND MANHOLES ARE PREFERRED FOR THESE SIZES.
2. (*) UNLESS OTHERWISE INDICATED.
3. TABLE IS VALID FOR UP TO 25 FT OF INSTALLATION DEPTH.



CONCENTRIC MANHOLE
(ALTERNATE CONFIGURATION)

- FABRICATION NOTES:**
1. PROVIDE CLASS 7H CONCRETE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION ITEM 421 AND HAVING A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
 2. PROVIDE GRADE 60 REINFORCING STEEL OR EQUIVALENT AREA OF WWR. PROVIDE CIRCUMFERENTIAL REINFORCING STEEL IN VERTICAL WALLS OF RISER AND COVER IN ACCORDANCE WITH ASTM C478.
 3. PROVIDE TYPICAL MINIMUM CONCRETE CLEAR COVER OF 1 1/2" TO REINFORCING STEEL AT INTERIOR OR EXTERIOR WALLS.
 4. SLABS WITH A THICKNESS OF 8" OR GREATER REQUIRE SHRINKAGE AND TEMPERATURE REINFORCING STEEL. PROVIDE STEEL AREA = 0.11 IN²/FT EACH WAY.
 5. MANUFACTURE BASE AND RISERS TO NEAREST 3" INCREMENT.
 6. DESIGN TONGUE AND GROOVE JOINTS FOR FULL CLOSURE ON BOTH SHOULDERS. MINIMUM SPICOT DEPTH IS 3/4".
 7. PROVIDE LIFTING DEVICES IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 8. PROVIDE CAST IRON SOLID COVER, UNLESS NOTED OTHERWISE ELSEWHERE IN THE PLANS.
 9. MAXIMUM SPACING OF REINFORCEMENT IS 8".
 10. AT MANUFACTURER'S OPTION, PROVIDE CAST OR CORED HOLES OR THIN WALL PANELS (KO) TO THE MAXIMUM DIA SHOWN FOR EACH. WHEN NO PENETRATION IS REQUIRED, IT IS ACCEPTABLE TO PROVIDE A WALL WITH NO SECTIONAL REDUCTION.
 11. THREE DIFFERENT OPTIONS FOR CAPPING THE MANHOLE RISER NEAR THE FINISHED GRADE ARE ALLOWED. CONES CAN BE USED WHEN COVER IS SUFFICIENT TO ALLOW FOR PROPER PLACEMENT. FLAT LIDS ARE TO BE USED WHERE COVER IS LIMITED. REFER TO 02082-12 FOR OPTIONS.
 12. BASES AND RISERS MAY HAVE CAST, CUT OR THIN WALL PANEL (KO) THAT ARE ROUND AND DO NOT EXTEND INTO THE FLOOR, INTO WALLS, OR WITHIN 6" OF THE JOINT ABOVE OR BELOW.
- INSTALLATION NOTES:**
1. IF REQUIRED ELSEWHERE, INVERTS (BENCHING) TO BE PROVIDED BY CONTRACTOR. CONCRETE OR MORTAR USED FOR INVERT IS SUBSIDIARY TO MANHOLE. REFER TO CITY OF HOUSTON SPECIFICATION SECTION 02082 FOR INVERT (BENCHING) REQUIREMENTS.
 2. SEAL TONGUE AND GROOVE JOINTS WITH PREFORMED OR BULK MASTIC IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. TONGUE AND GROOVE JOINTS MAY BE GROUTED NO MORE THAN 1" BETWEEN EACH SECTION, OR 1/2 THE JOINT DEPTH, WHICHEVER IS GREATER.
 3. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATION.
 4. FOR RIGID PIPE, CUT HOLE IN THIN WALL PANEL (KO) 4" MAX, 2" MIN LARGER THAN PIPE OD.
 5. FOR FLEXIBLE PIPE, CONSULT BOOT/SEAL MANUFACTURER'S SPECIFICATION FOR PLACEMENT TOLERANCE AND HOLE SIZE. CENTER PIPE IN HOLE AND INSTALL BOOT/SEAL PER MANUFACTURER'S SPECIFICATION.
 6. INITIAL INSTALLATION OF GRADE ADJUSTMENT RINGS IS LIMITED TO 1'-0" MAX AS SHOWN.
 7. GRADE ADJUSTMENT RINGS MAY BE INCREASED TO 1'-6" MAX WHEN FUTURE CONSTRUCTION AFFECTS FINAL GRADE OF STRUCTURE. MAKE ADJUSTMENTS GREATER THAN 1'-6" WITH ADDITIONAL RISERS. ADJUSTMENTS MAY BE MADE UP TO THE MAX DEPTH OF 25'-0". STRUCTURE MUST BE EVALUATED IF MAX DEPTH WILL BE EXCEEDED.
- GENERAL NOTES:**
1. SEE TABLE 1 FOR MINIMUM DESIGN REQUIREMENTS. CONCENTRIC RISER WITH RESPECT TO BASE (ALTERNATIVE CONFIGURATION) FALLS OUTSIDE THE SCOPE OF REQUIREMENTS PROVIDED. ENGINEER OF RECORD ACCEPTS RESPONSIBILITY FOR SAFETY AND ADEQUACY OF MANHOLE IF THE ALTERNATIVE CONFIGURATION IS USED.
 2. DESIGNED ACCORDING TO ASTM C478 AND/OR ASTM C913.
 3. PAYMENT FOR PRECAST MANHOLE PER SECTION 02082 "PRECAST CONCRETE MANHOLES."
 4. PRECAST BASE CONSISTS OF BASE SLAB, BASE UNIT, RISERS (AS REQUIRED), REDUCING SLAB (AS REQUIRED), AND REDUCED RISERS (AS REQUIRED).
 5. MIN HEIGHT SHOWN FOR STOCK BASE UNITS. USE STOCK BASE UNITS WHENEVER PRACTICAL. SMALLER HEIGHT BASE UNITS CAN BE USED IN SPECIAL INSTALLATION CIRCUMSTANCES, WHEN NOTED ELSEWHERE IN THE PLANS. ABSOLUTE MINIMUM HEIGHT OF BASE UNITS IS 2'-6".
 6. FOUNDATION/SUBGRADE TO BE DESIGNED BY ENGINEER AND MEET MINIMUM REQUIREMENTS ACCORDING TO SECTION 02082.
 7. ALL STORM WATER MANHOLES ARE TO BE PRECAST CONCRETE, UNLESS OTHERWISE NOTED ELSEWHERE IN THE PLANS.
 8. ECCENTRIC REDUCED RISER WITH RESPECT TO BASE IS THE PREFERRED MANHOLE CONFIGURATION. CONCENTRIC REDUCED RISER WITH RESPECT TO BASE MANHOLE CONFIGURATION IS AN ALTERNATIVE DESIGN THAT WILL BE ACCEPTED BASED ON THE NEEDS OF THE CITY OF HOUSTON.
 9. MANHOLE SIZE SHALL CONSIDER ENGINEERING ECONOMY. THIS DETAIL IS NOT APPLICABLE TO BOX MANHOLES LARGER THAN 8'-FOOT BY 8'-FOOT.
 10. REFER TO STORM SEWER TYPE 'C' PRECAST ROUND MANHOLE DETAIL (02082-12) FOR REDUCED RISER DESIGN REQUIREMENTS.

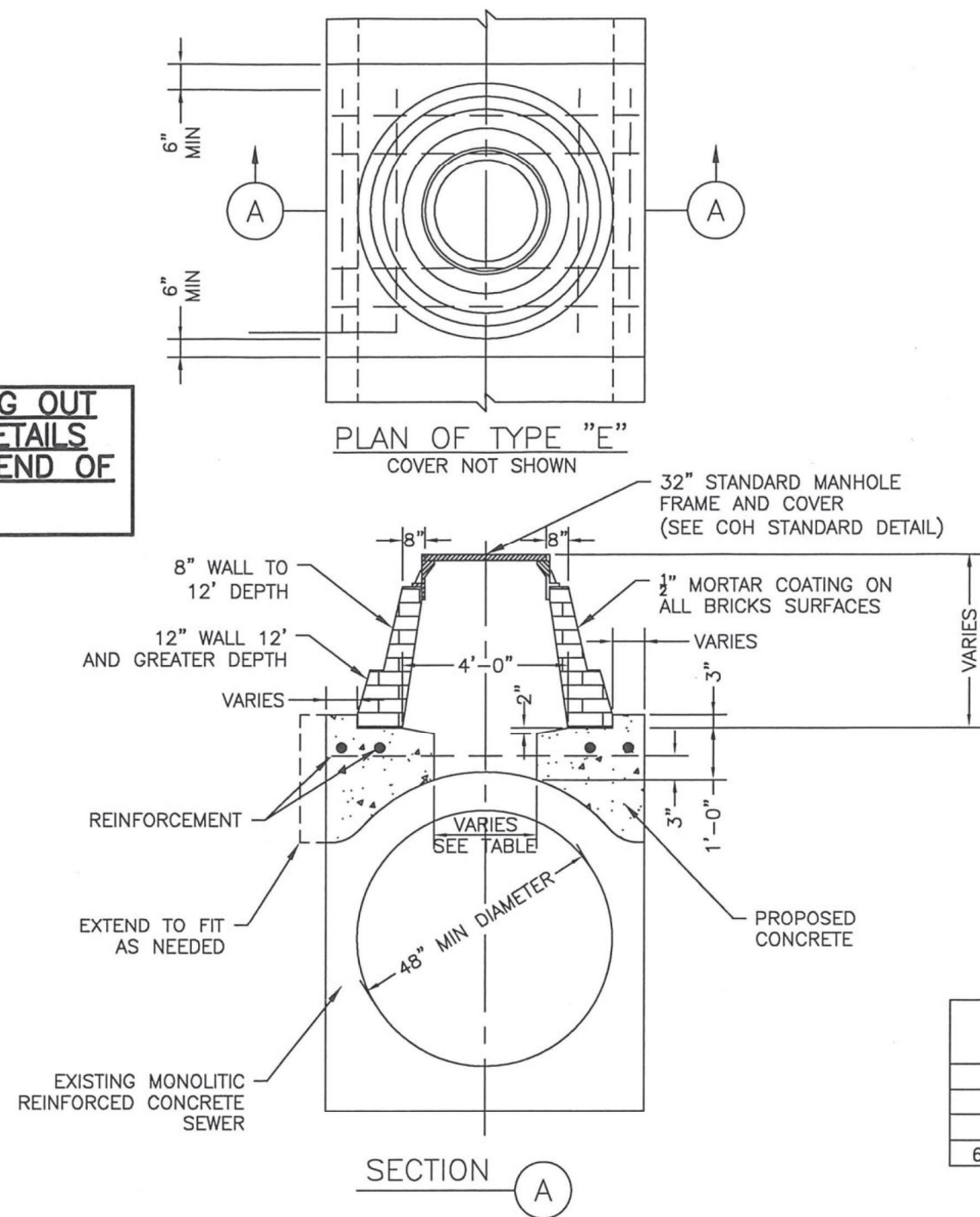
CITY OF HOUSTON HOUSTON PUBLIC WORKS	
STORM SEWER PRECAST BOX MANHOLE (NOT TO SCALE)	
APPROVED BY: <i>Suhail Kanwar</i> CITY ENGINEER	APPROVED BY: <i>Carl G. Hildner</i> DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL-01-2021	DWG NO: 02082-13

BOWMAN ENGINEERING/CONSULTING INC. 3151 Briarpark Drive, Ste. 275 Houston, TX 77042 713.779.2990 TBPELS Registration No. F-9245		THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES. RESPONSIBLE ENGINEER: BOWMAN ENGINEERING & CONSULTING, INC. WILLIE V. BROWN, P.E. TEXAS REGISTRATION NO. 85396 Jun 02/2025 60% SUBMITTAL
CITY OF HOUSTON HOUSTON PUBLIC WORKS		
FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS		
STORM SEWER DETAILS 3		
WBS NUMBER M-42LHUD-0006-3	FOR CITY OF HOUSTON USE ONLY	
DRAWING SCALE		
CITY OF HOUSTON PM MASOUD R. MOLLAH, P.E., ENV SP		
SHEET NO. 57 OF 69		

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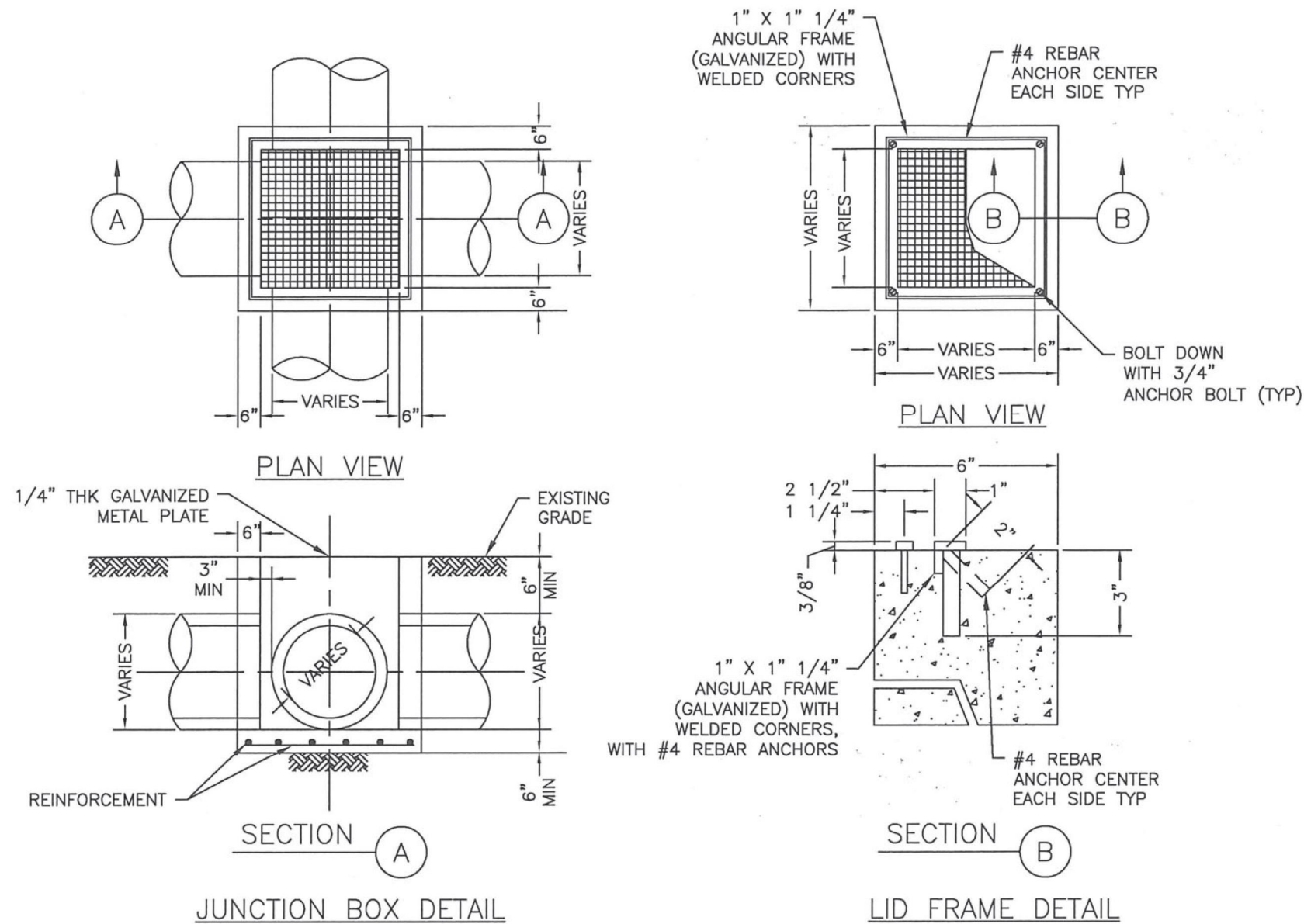
02081-05

COH IS PHASING OUT
BRICK. NEW DETAILS
TO BE POSTED END OF
2019



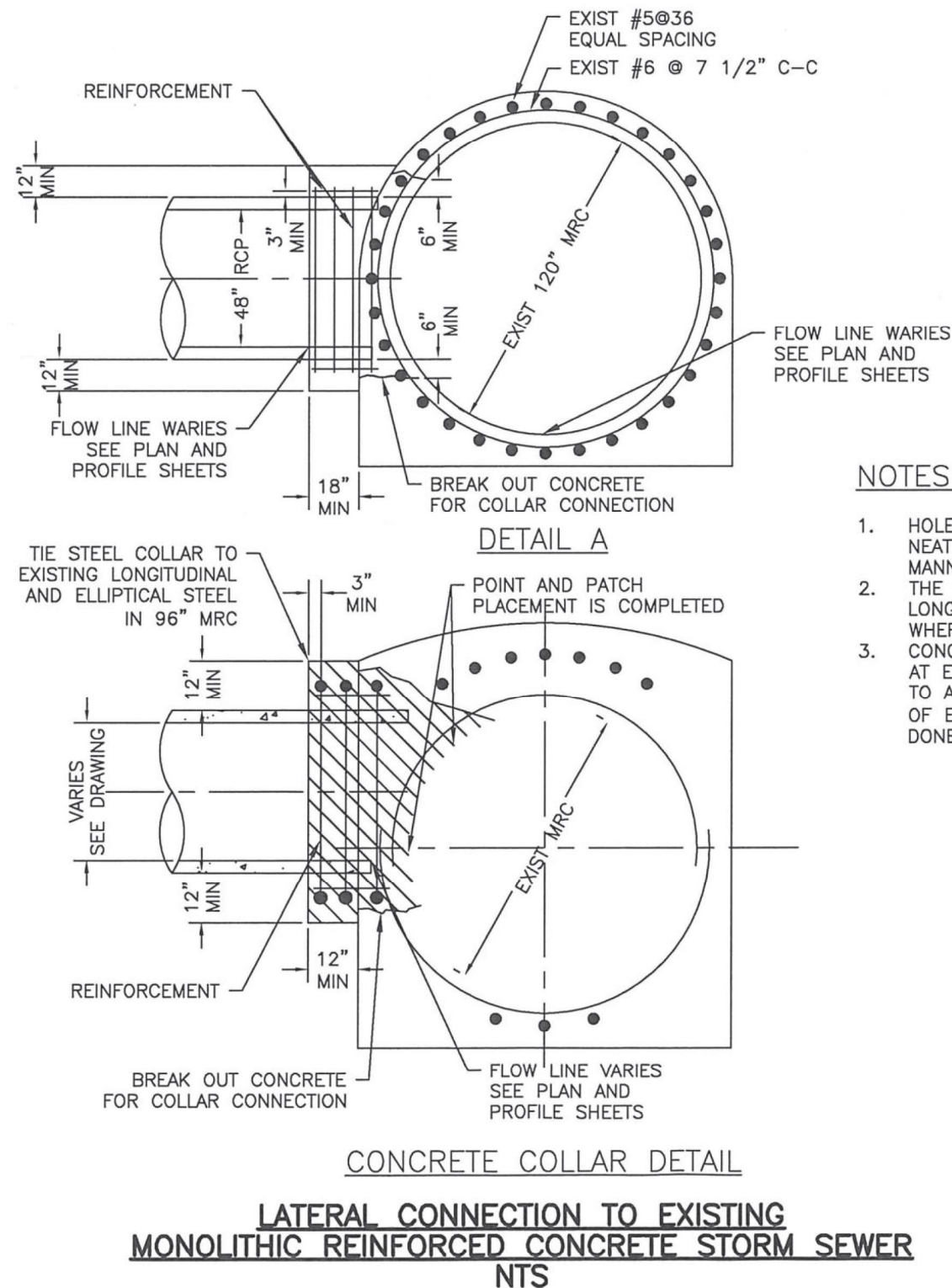
STORM SEWER MANHOLE TYPE "E" FOR EXISTING MONOLITHIC
REINFORCED CONCRETE 48" DIAMETER AND GREATER
NTS

02081-06



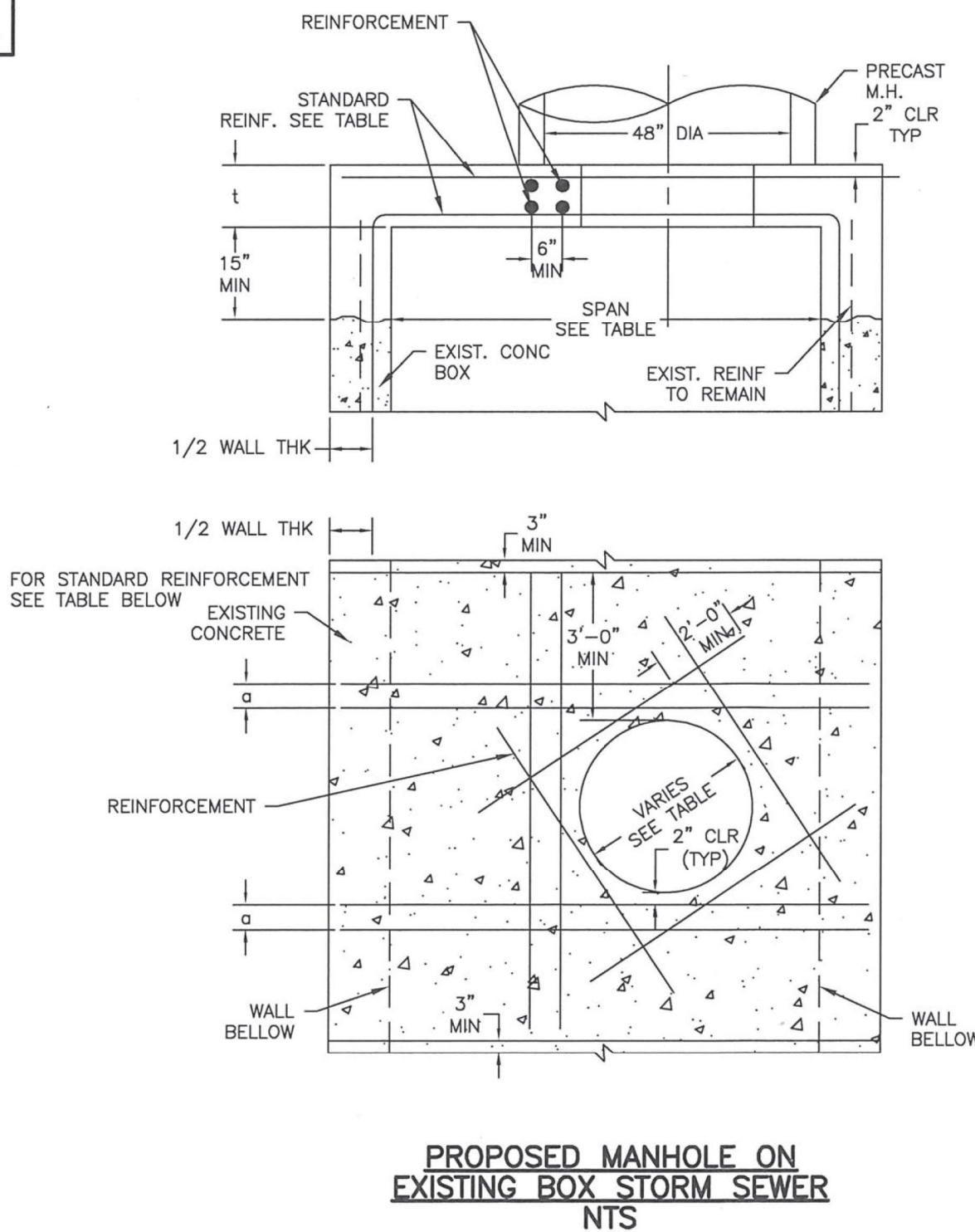
STORM SEWER
JUNCTION BOX WITH LID OR GRATE TOP
FOR MAXIMUM OF 24" DIAMETER STORM SEWER
NTS

02081-07



CONCRETE COLLAR DETAIL
LATERAL CONNECTION TO EXISTING
MONOLITHIC REINFORCED CONCRETE STORM SEWER
NTS

02081-08



FIRM INFORMATION		ENGINEER'S SEAL	
CITY OF HOUSTON			
HOUSTON PUBLIC WORKS			
STORM SEWER 02081-05 THROUGH 08			
APPROVED BY:		APPROVED BY:	
CITY ENGINEER		DEPUTY DIRECTOR	
APPROVED BY:		DIRECTOR	
EFFECTIVE DATE: JUL-01-2019			
FOR CITY OF HOUSTON USE ONLY			
SHEET NO.			

BOWMAN
ENGINEERING/CONSULTING INC.

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Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

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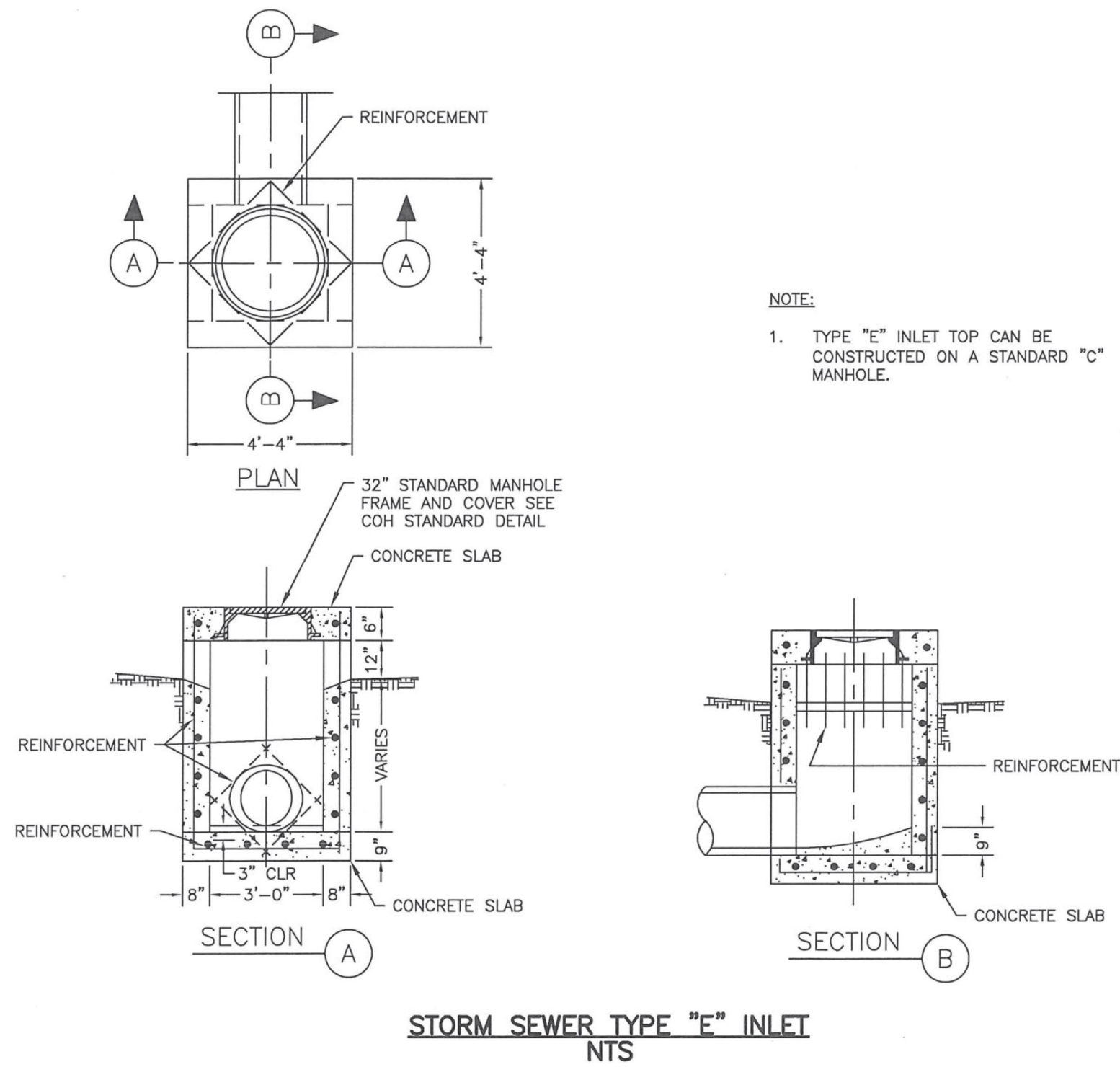
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

STORM SEWER DETAILS 4

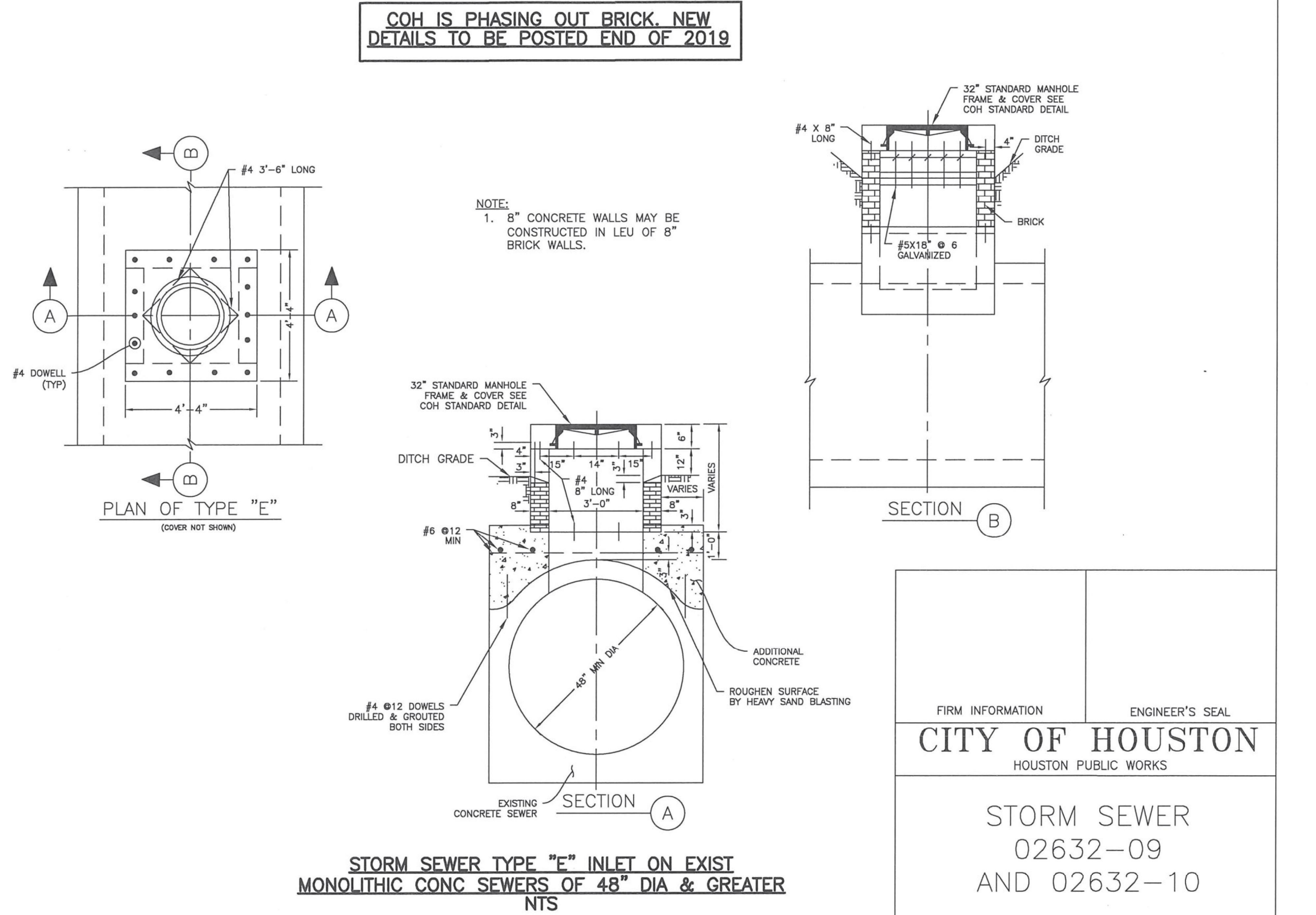
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M-42LHUD-0006-3	
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CITY OF HOUSTON PM	
MASOUD R. MOLLAH, P.E., ENV SP	
SHEET NO. 58 OF 69	

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02632-09



02632-10



FIRM INFORMATION		ENGINEER'S SEAL	
CITY OF HOUSTON			
HOUSTON PUBLIC WORKS			
STORM SEWER 02632-09 AND 02632-10			
APPROVED BY: CITY ENGINEER		APPROVED BY: DEPUTY DIRECTOR	
APPROVED BY: DIRECTOR		APPROVED BY: DIRECTOR	
EFFECTIVE DATE: JUL-01-2019			
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RESPONSIBLE ENGINEER:
BOWMAN ENGINEERING & CONSULTING, INC.
WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02, 2025

60% SUBMITTAL

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HOUSTON PUBLIC WORKS

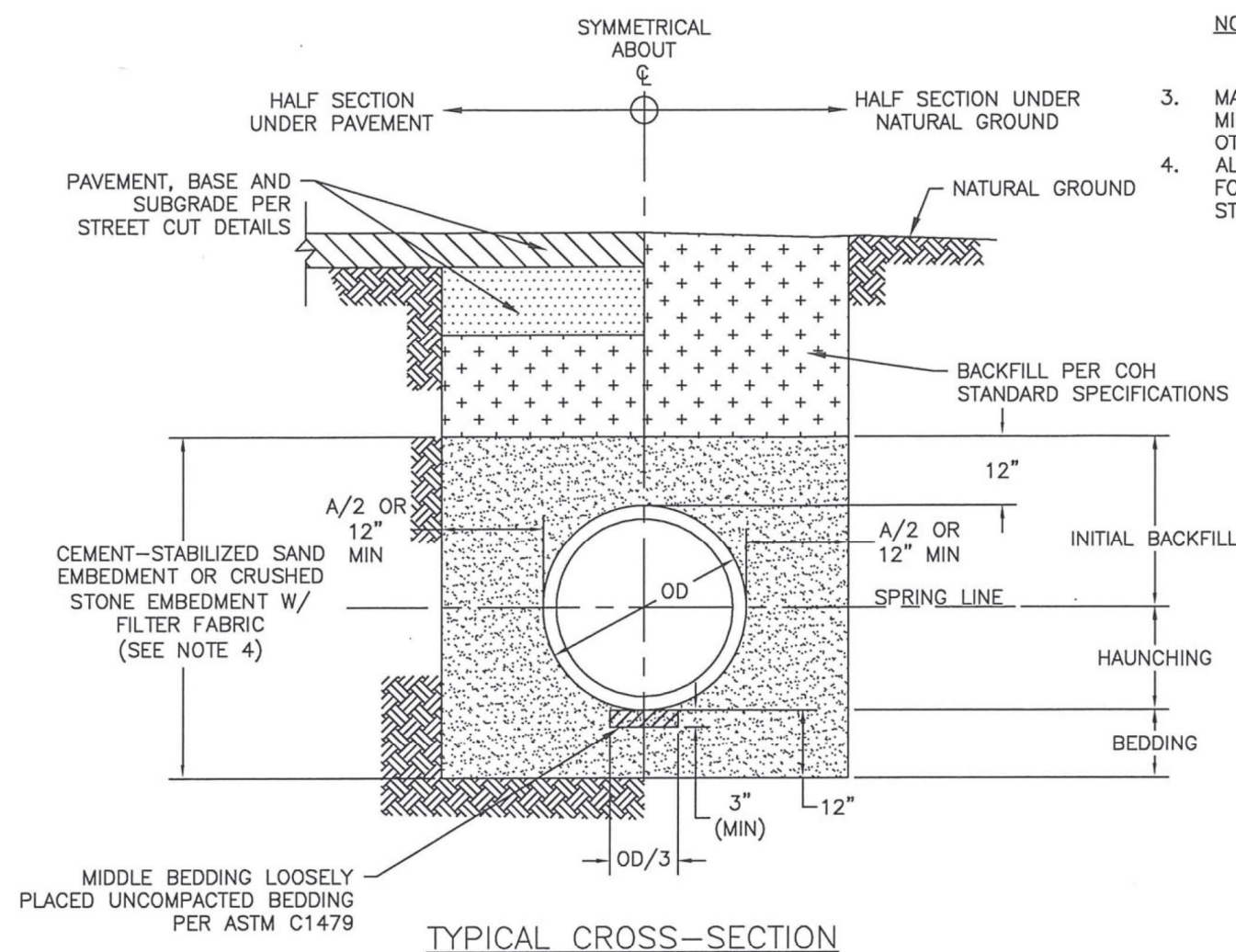
FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

STORM SEWER DETAILS 5

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
M-42LHUD-0006-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 59 OF 69	

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02317-03

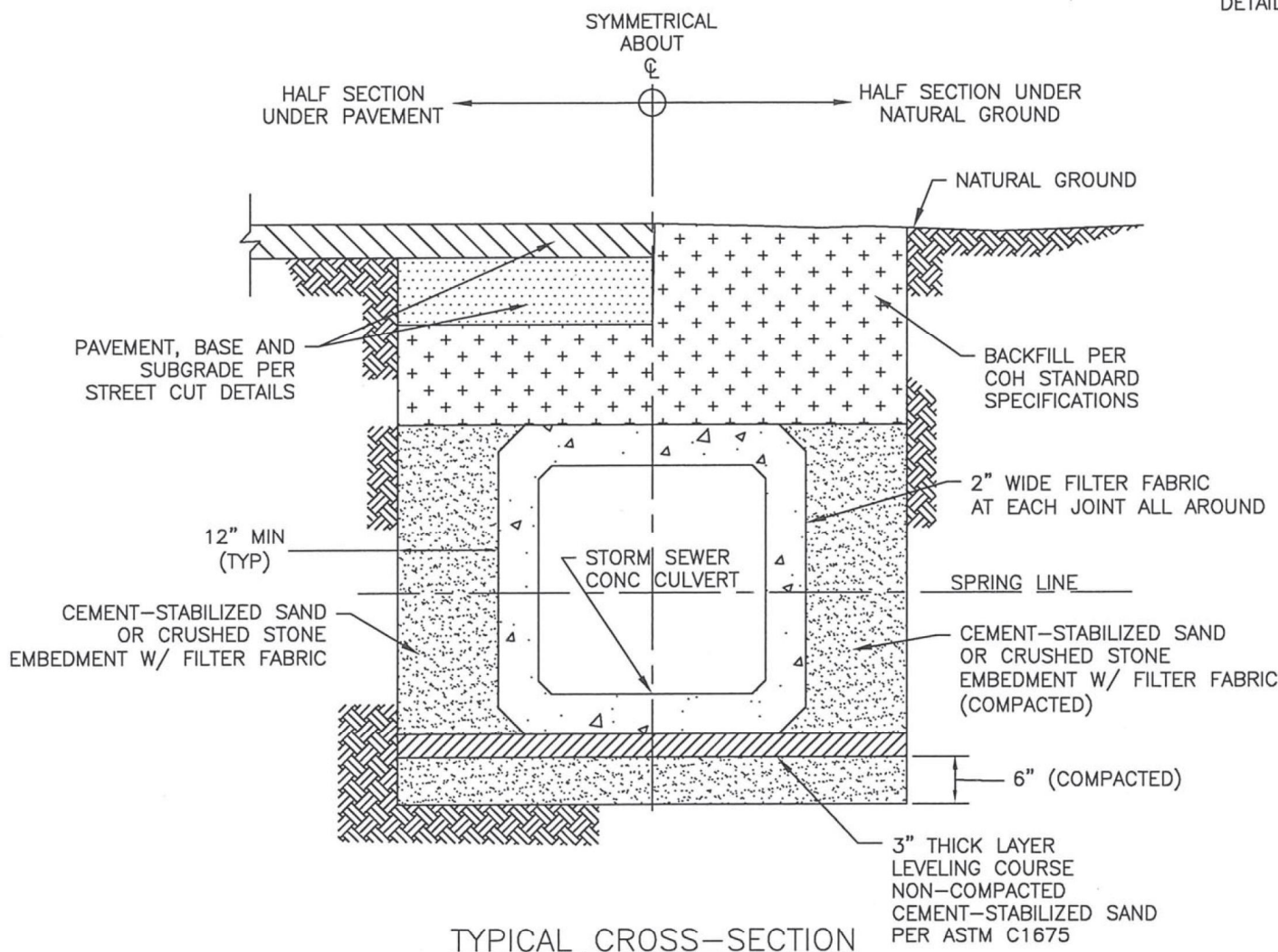


SANITARY OR STORM SEWER BEDDING AND BACKFILL
FOR DRY STABLE TRENCH
NTS

NOTES:

- THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER COH STANDARD. SEE COH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
 - 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" |
- MAX. TRENCH WIDTH SHALL BE NOT GREATER THAN MIN. TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
 - ALTERNATIVE EMBEDMENT BACKFILL MATERIALS FOR FORCE MAINS MAY BE ALLOWED. SEE COH STANDARD SPECIFICATIONS.

02317-05

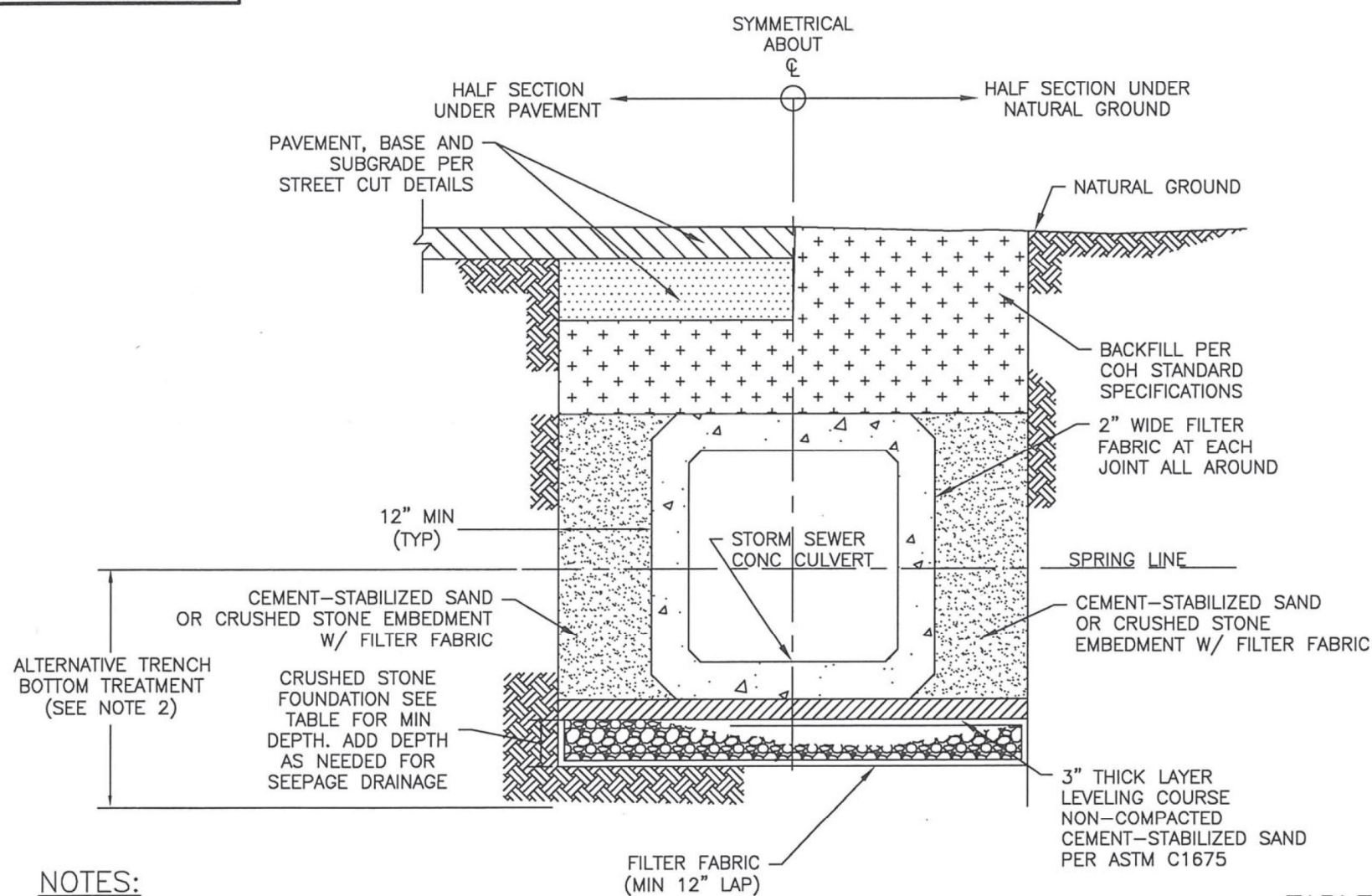


PRECAST CONCRETE BOX STORM SEWER
BEDDING AND BACKFILL FOR DRY STABLE TRENCH
NTS

NOTES:

- WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
- SUBGRADE AND PAVEMENT FOR STREET CUT DETAILS - 02951.

02317-06



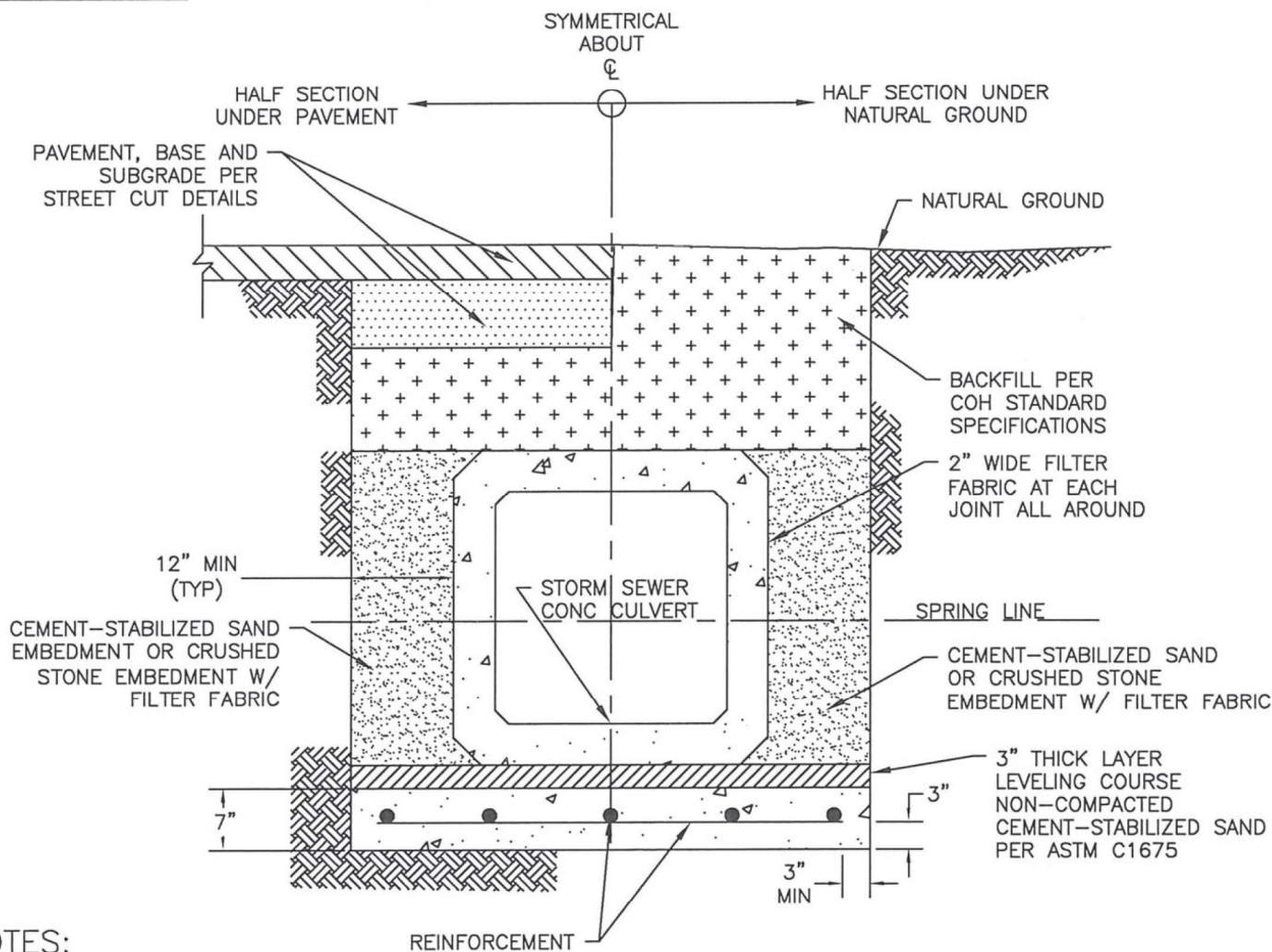
NOTES:

- WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN. OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
- ALTERNATIVE TRENCH BOTTOM TREATMENT MAY BE USED AS APPROVED BY THE CITY OF ENGINEERS AND AS PAID FOR IN THE PROPOSAL.

TABLE	
CULVERT SIZE (FT)	FOUNDATION DEPTH(INCHES)
3' X 2' TO 6' X 6'	12
6' X 6' AND LARGER	18

PRECAST CONCRETE BOX STORM SEWER
BEDDING AND BACKFILL FOR WET STABLE TRENCH
NTS

02317-07



NOTES:

- WHERE MULTIPLE BOX SEWER ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
- REINFORCED CONCRETE SLAB PIPE BEDDING TO BE PLACED IN DRY TRENCH ONLY.
- CONCRETE IN SLAB TO REACH MIN COMPRESSIVE STRENGTH OF 1000 PSI BASED ON MAX DESIGN BEFORE PIPE IS LAID.
- PRECAST SEAL SLAB MAYBE USED AS APPROVED BY CITY ENGINEER.

PRECAST CONCRETE BOX STORM SEWER
BEDDING AND BACKFILL WITH SEAL SLAB
NTS

FIRM INFORMATION		ENGINEER'S SEAL	
CITY OF HOUSTON			
HOUSTON PUBLIC WORKS			
STORM SEWER 02317-03 THROUGH 07			
APPROVED BY: CITY ENGINEER		APPROVED BY: DEPUTY DIRECTOR	
APPROVED BY: DIRECTOR		APPROVED BY: DIRECTOR	
EFFECTIVE DATE: JUL-01-2019			
FOR CITY OF HOUSTON USE ONLY			
SHEET NO.			

BOWMAN
ENGINEERING/CONSULTING INC.

3151 Briarpark Drive, Ste. 275
Houston, TX 77042
713.779.2990
TBPELS Registration No. F-9245

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WILLIE V. BROWN, P.E.
TEXAS REGISTRATION NO. 85396
Jun 02/2025

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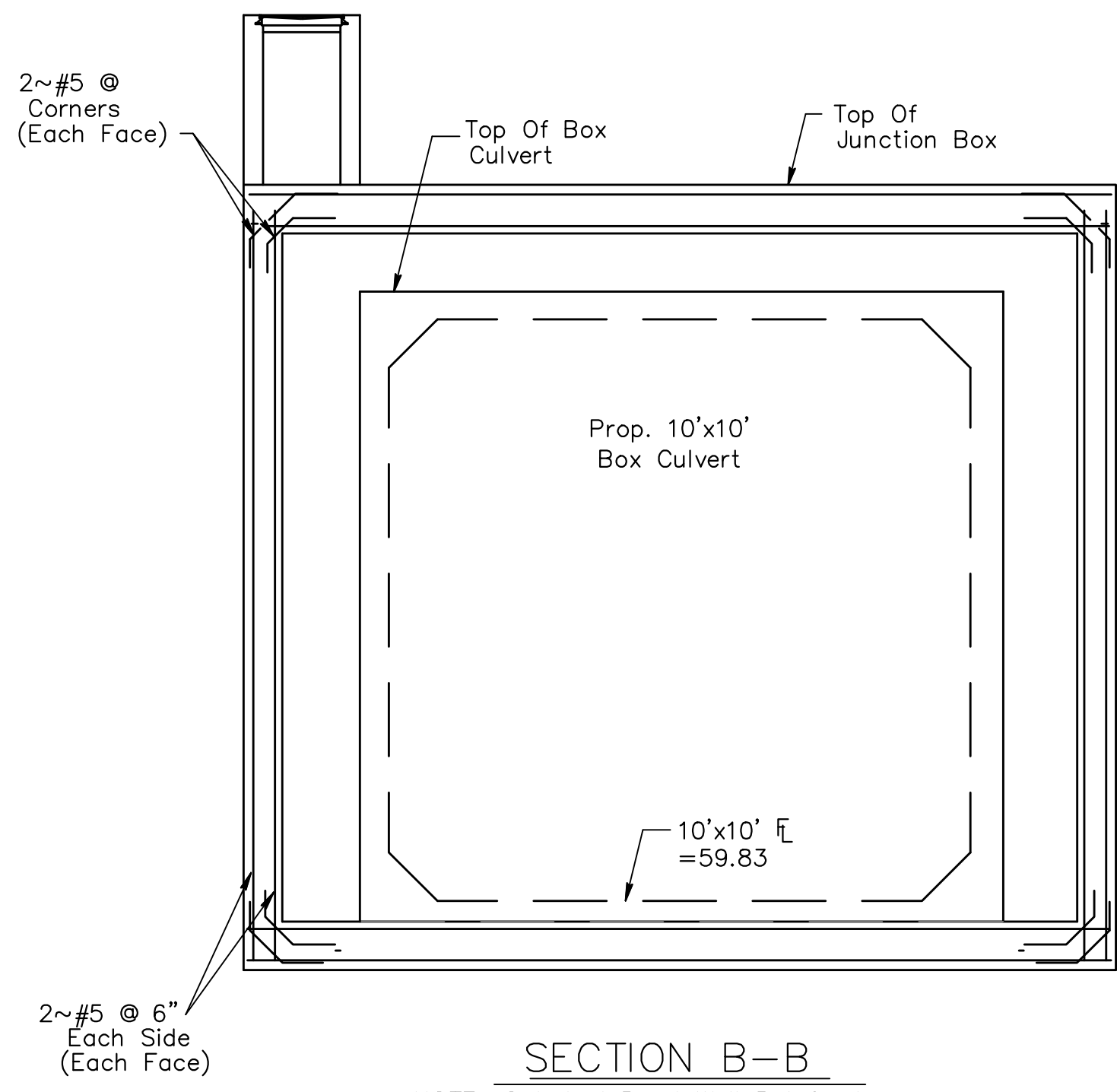
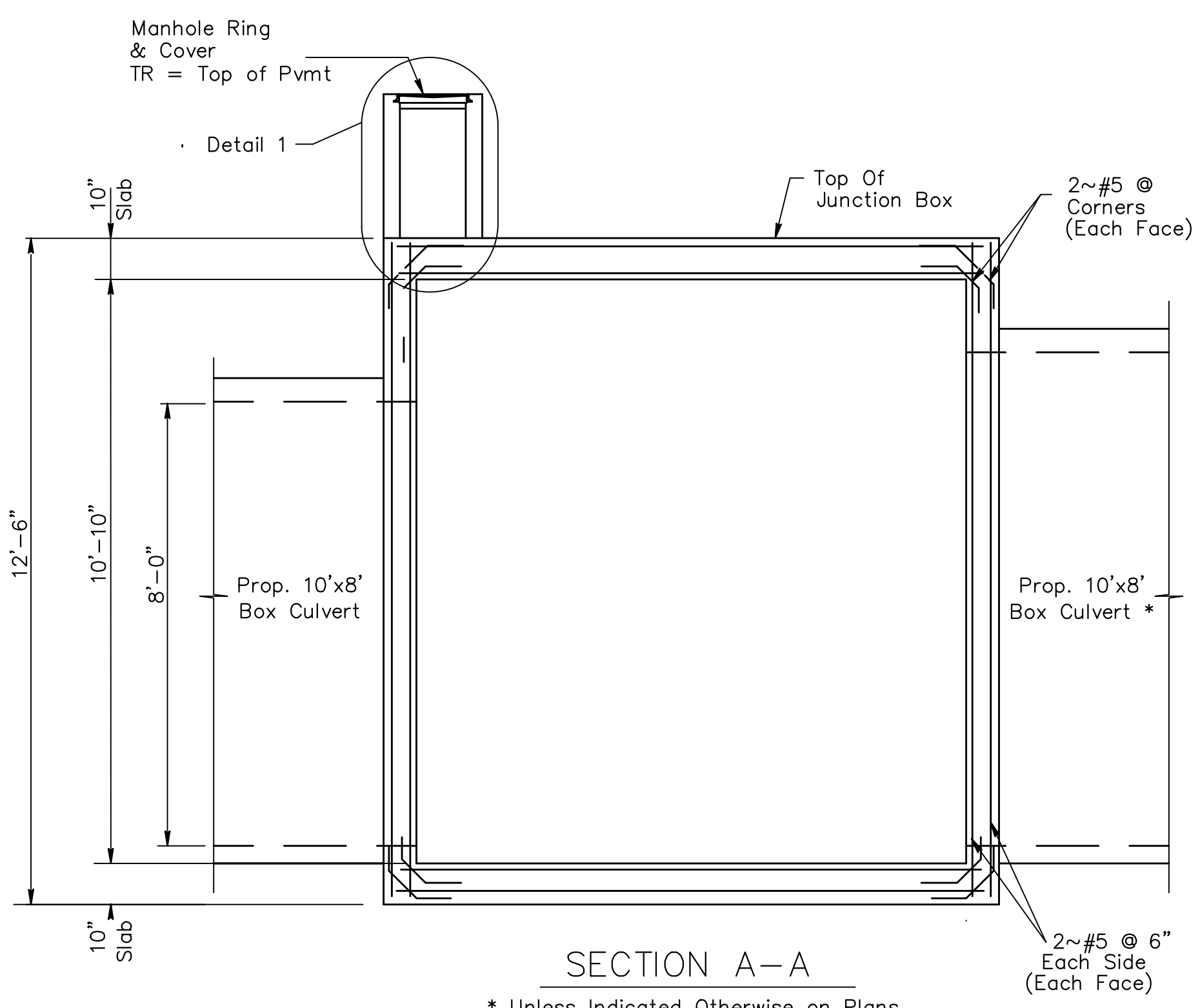
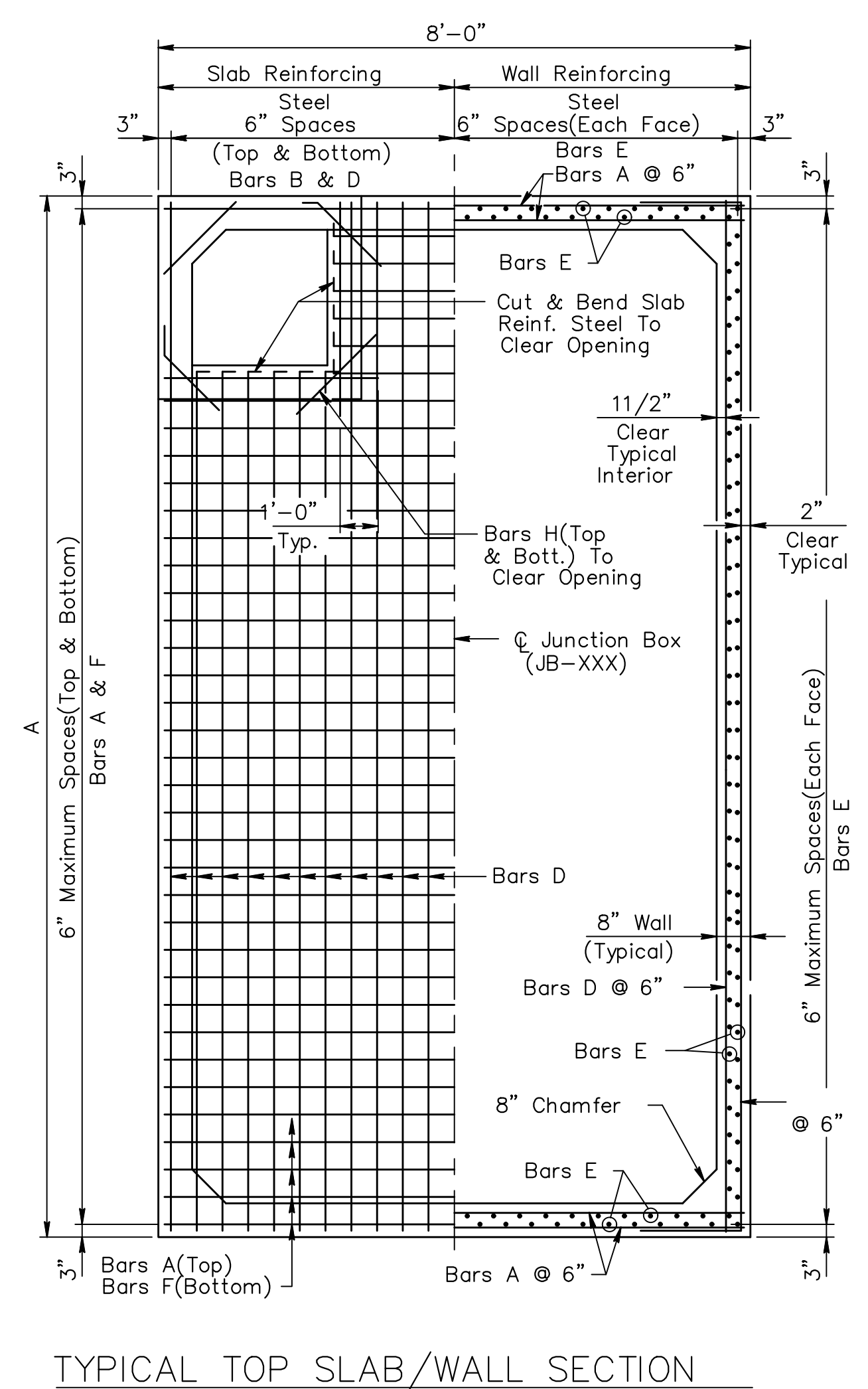
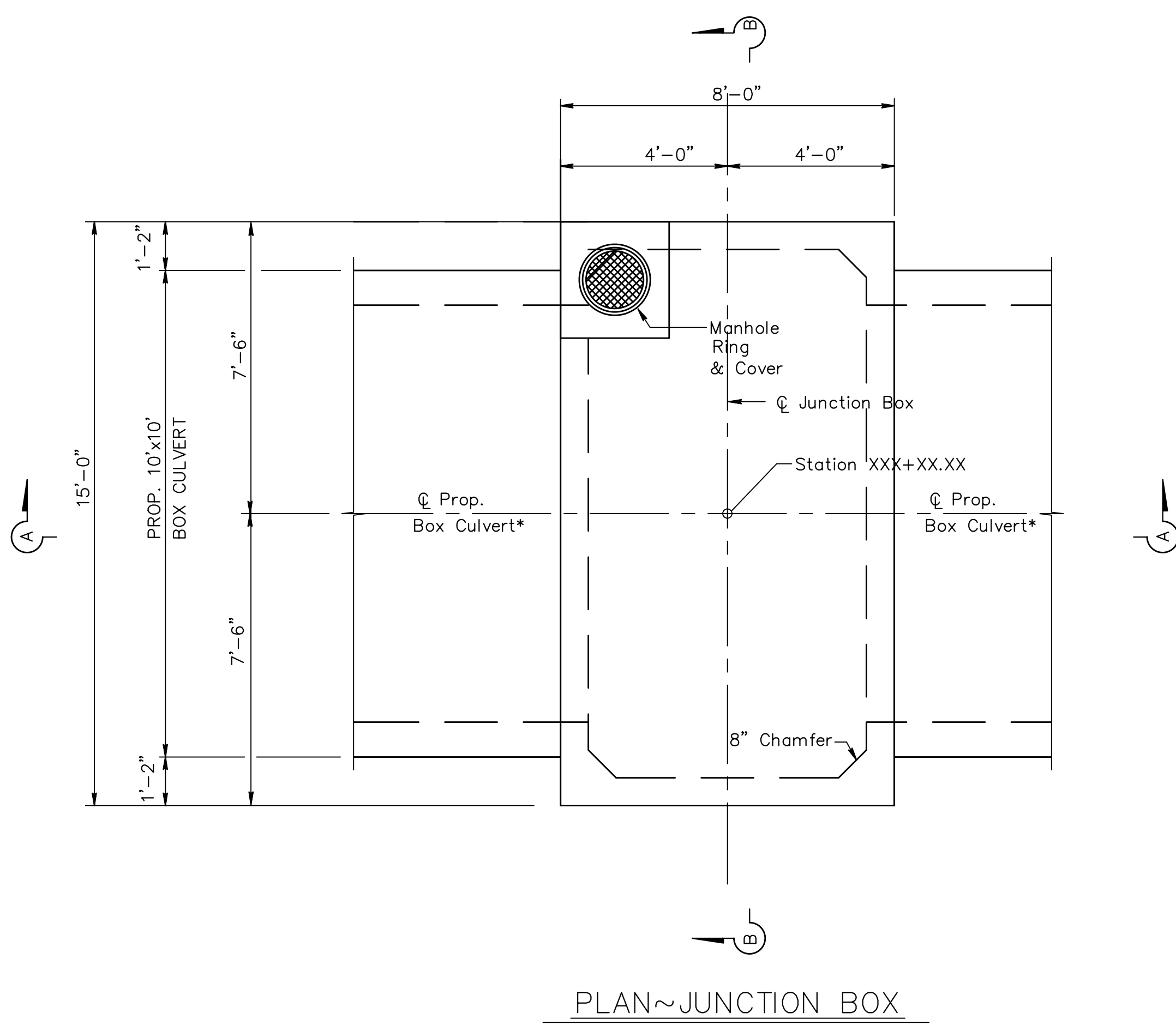
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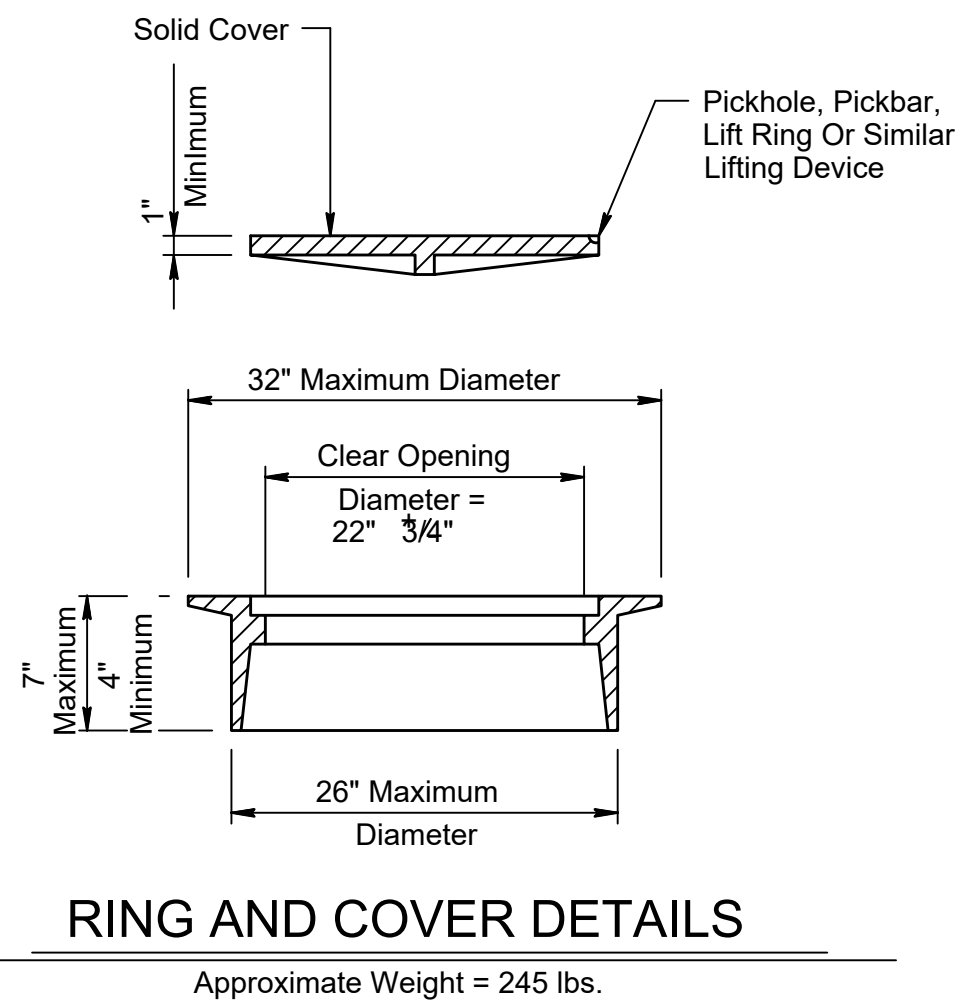
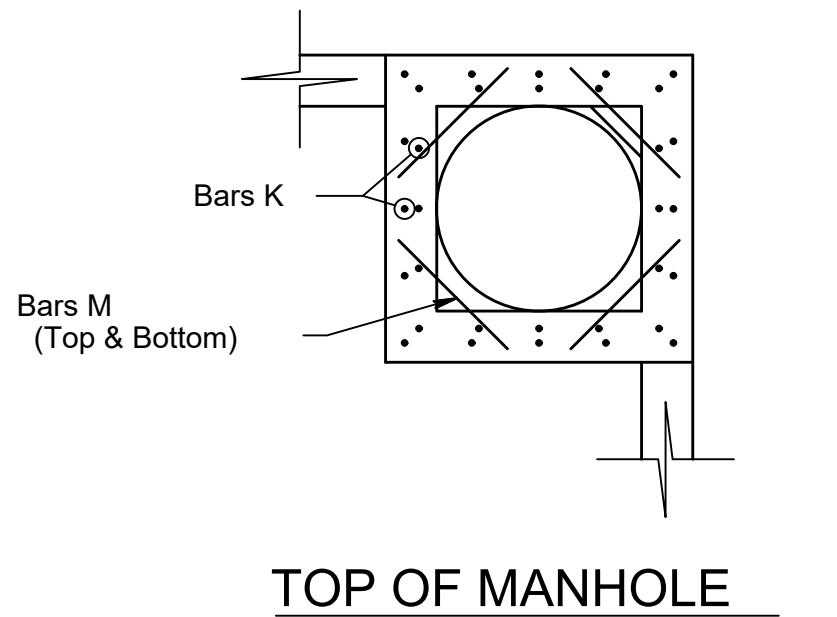
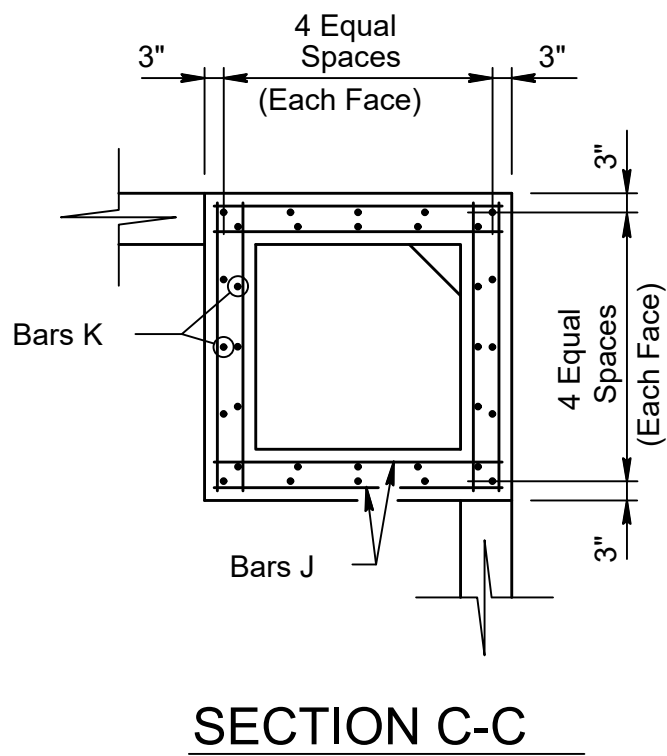
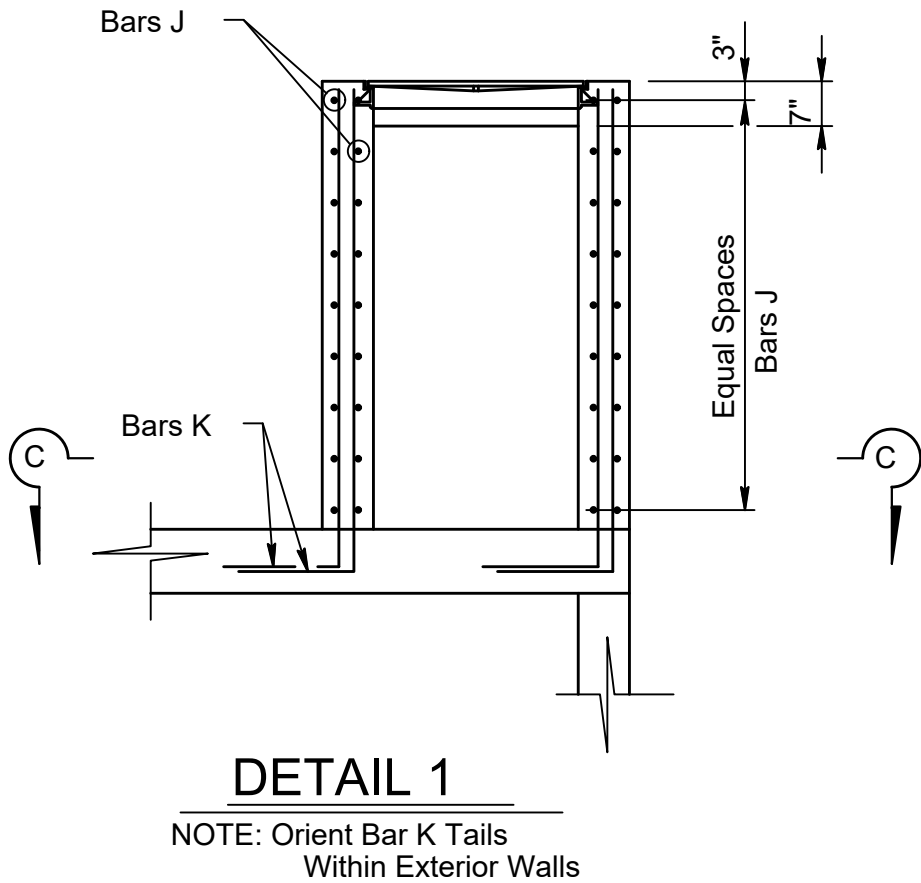
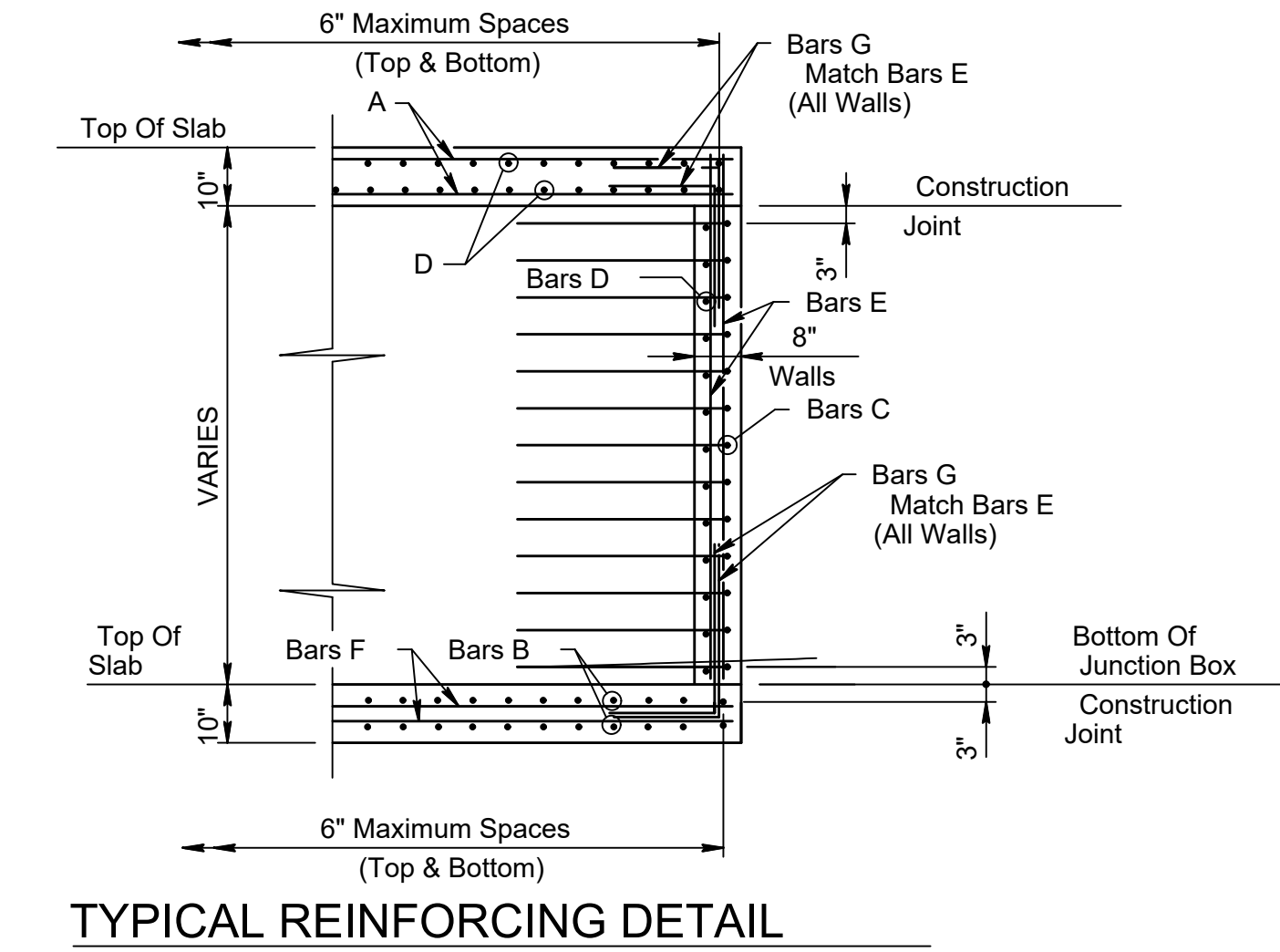
STORM SEWER DETAILS 6

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DRAWING SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 60 OF 69	

L:\060 Frenchtown\PHASE II\Design\ADU\14 - Drainage Details\Type D Junction Box.dwg, 6/7/25 8:13:29 PM, WYDROWN



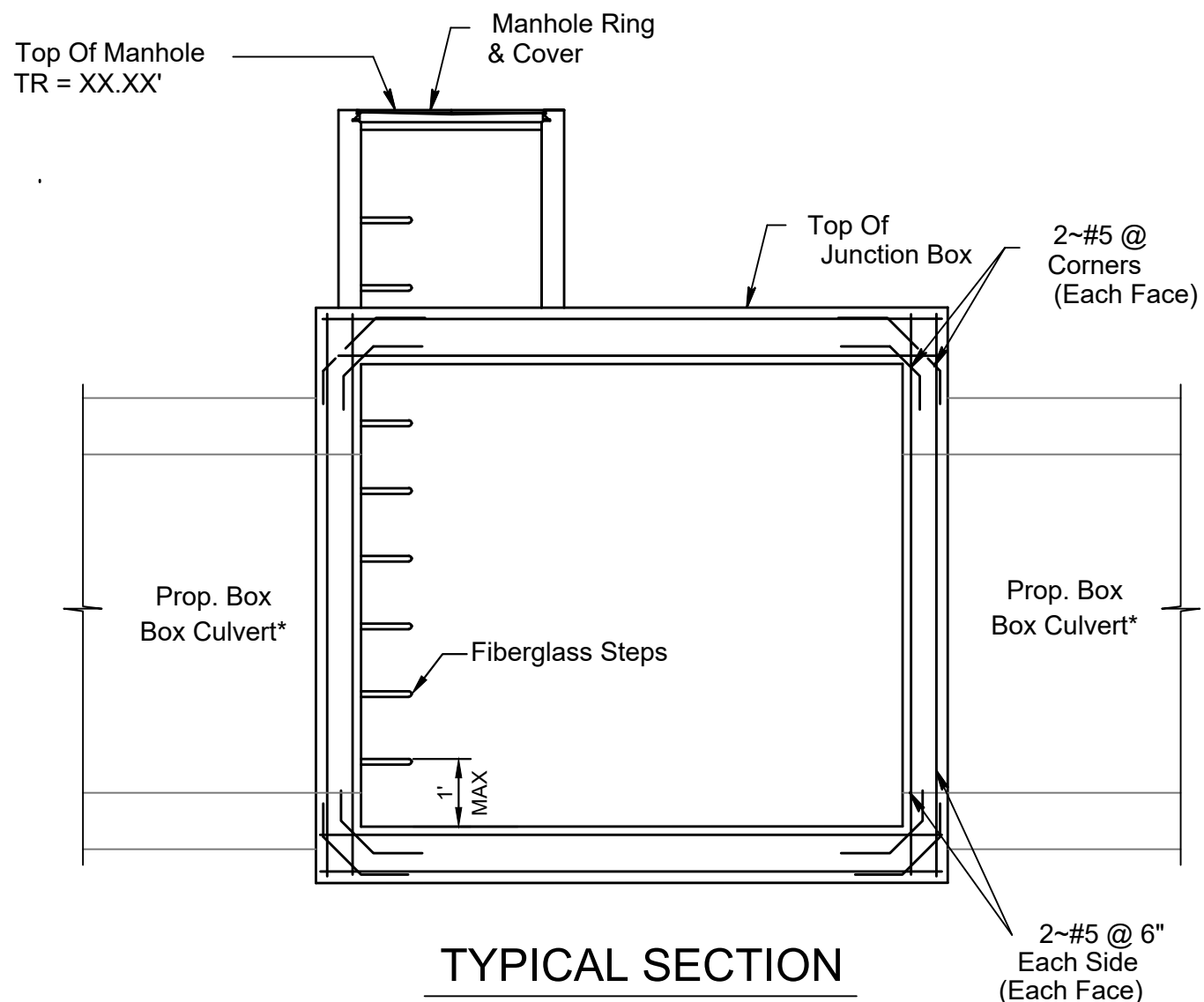
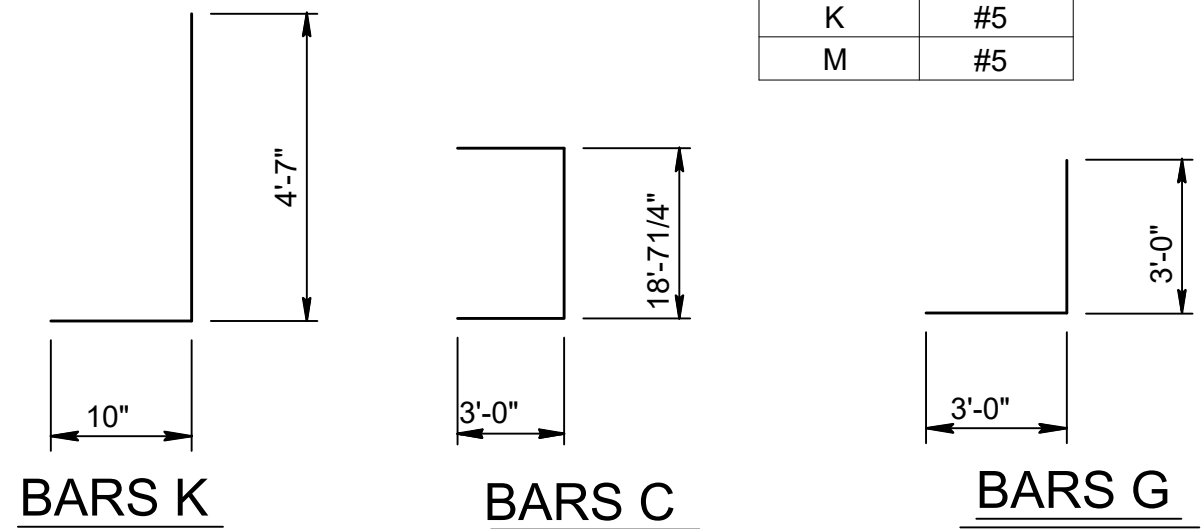
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FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS JUNCTION BOX TYPE D		
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M-42LHUD-0006-3		
DRAWING SCALE		
CITY OF HOUSTON PM		
MASODUR R. MOLLAH, P.E., ENV SP		
SHEET NO. 61 OF 69		



GENERAL NOTES:

1. Ring and cover shall conform to the requirements of AASHTO M306, "Standard Specification for Drainage Structure Castings". Materials shall conform to ASTM A48, Class 35B for gray iron castings or ASTM A536, Grade 65-45-12 for ductile iron castings. Aluminum alloy castings shall not be permitted.
2. Embed anchors 4" Min in Junction Box wall. Position to avoid reinforcement. Attach plate with stainless steel nut and washer.
3. Plates shall be Hot Dip Galvanized.

BAR TABLE	
BARS	SIZE
A	#6
B	#5
C	#5
D	#5
E	#5
F	#6
G	#5
H	#5
J	#5
K	#5
M	#5





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TEXAS REGISTRATION NO. 85396
Jun 01, 2025

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FRENCHTOWN
DRAINAGE AND PAVING
IMPROVEMENTS

JUNCTION BOX DETAILS

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DRAWING SCALE	
CITY OF HOUSTON PM	
MASODUR R. MOLLAH, P.E., ENV SP	
SHEET NO. 62 OF 69	

DATE: _____
FILE: _____

DISCLAIMER:
The use of
this kind of
stand is made
of this stand

- ① For Box Length = 8'-0"
- ② As1 thru As4, As7 and As8 are minimum required areas of reinforcement per linear foot of box length. As6 and As5 are minimum required areas of reinforcement per linear foot of box width.



FILL HEIGHT 2 FT AND GREATER



(TOP AND BOTTOM SLAB
JOINT REINFORCEMENT)



FILL HEIGHT LESS THAN 2 FT

Designs shown conform to ASTM C1577.
Refer to ASTM C1577 for information or details not shown.
All concrete shall be Class "H" Concrete with a minimum compressive strength of 5,000 psi.
See SCP-MD standard sheet for miscellaneous details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Shop plans for alternate designs shall be submitted in accordance with Item "Precast Concrete Structural Members (Fabrication)".

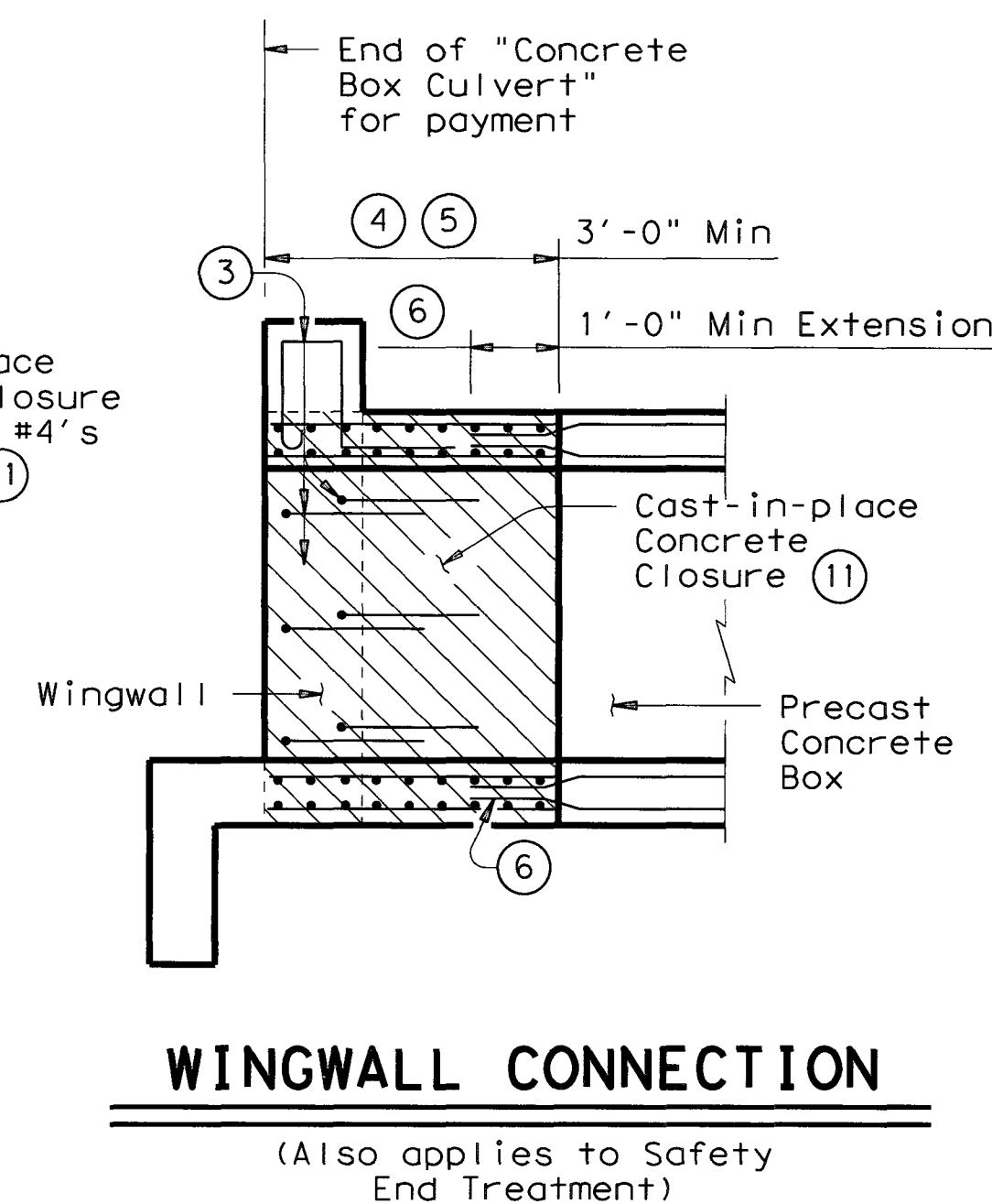
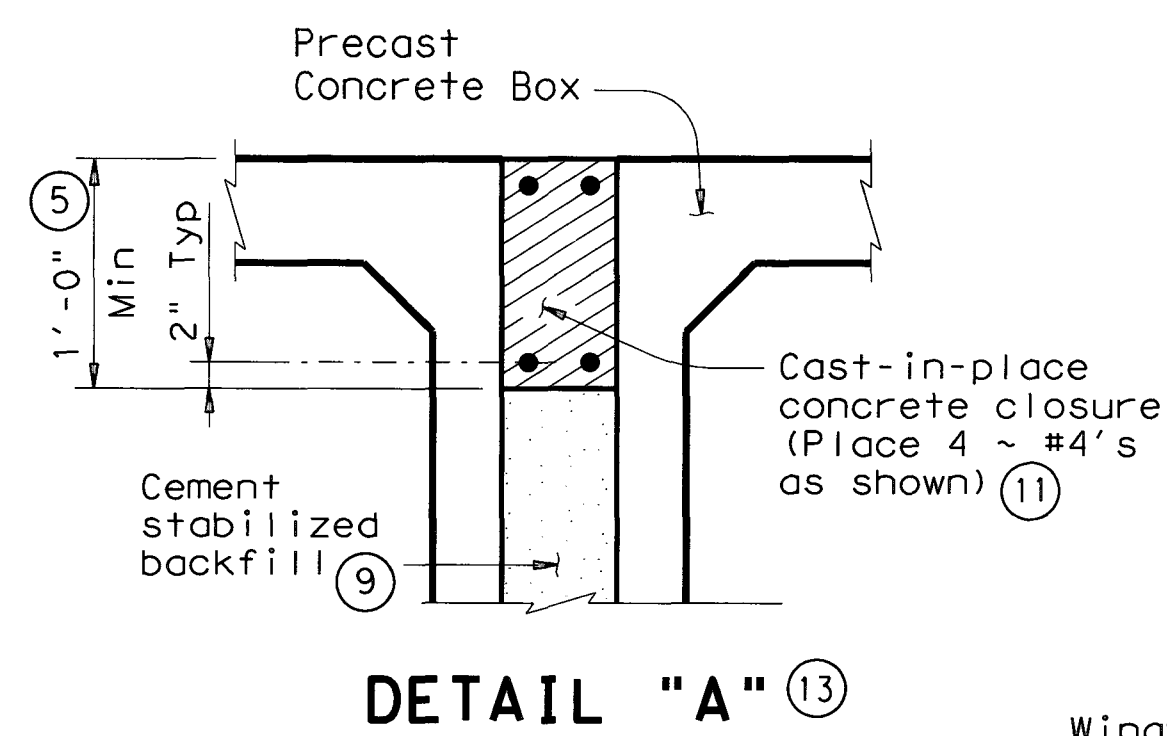
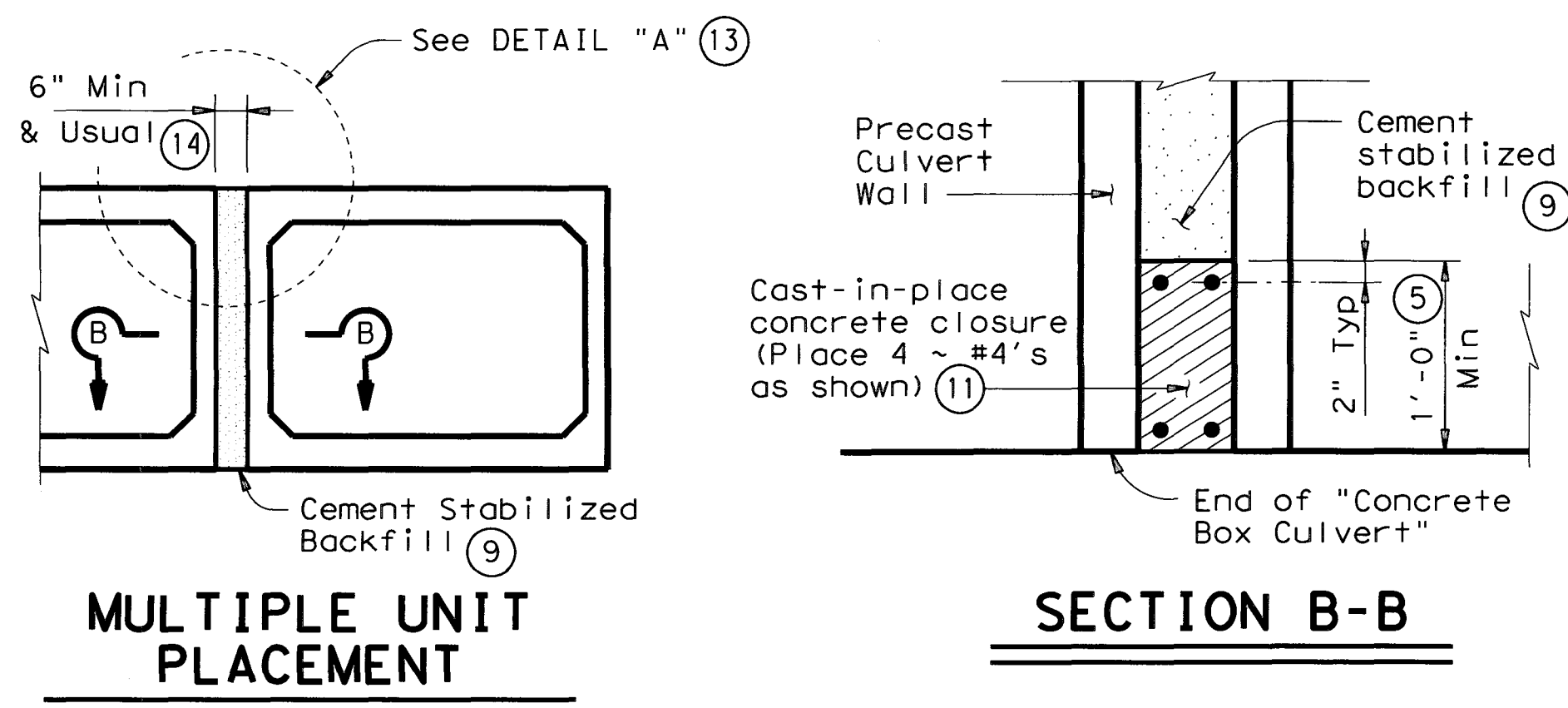
 **Texas Department of Transportation**

SCP-10

FILE:	scp10sts.dgn	DN: GAF	CK: LMW	DW: BWH/TxDOT	CK: GA
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REVISIONS					
		DIST	COUNTY		SHEET N
					63 OF 69

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DATE: FILE:



- 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0", refer to ECD standard. For structures with T6 traffic rail, refer to T6-CM standard. For structures with traffic rail, other than T6, refer to RAC standard.
- For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.
- Curb, Wingwall or Safety End Treatment reinforcing shall extend into concrete closure. Any reinforcing that does not fit into the closure shall be bent or trimmed as necessary.
- Cast-in-place concrete closure shall be 3'-0" min. Boxes shall be cast short or broken back in the field. All reinforcing in the closure shall be the same size and spacing as in the precast box section. Except where shown otherwise, the cast-in-place closure shall be flush with the inside and outside faces of the precast box section.
- For multiple unit placements the length of the closure for the interior walls may be adjusted as necessary. The length of the top slab, bottom slab, and exterior wall closure shall not be less than 3'-0". See Section B-B detail when interior walls are cast full length.
- Precast box reinforcing shall extend a minimum of 1'-0" into concrete closure (Typ).
- Bands of reinforcing matching the inside and outside face reinforcing shall be placed in the gaps of the top and bottom slabs. A band matching the outside face reinforcing of the wall shall be placed in the gaps of the walls (placed in the outside face only). The bands shall be tack welded to the exposed reinforcing at each point of contact.
- For vehicle safety, the following requirements must be met:
 - For structures without bridge rail, curbs shall project no more than 3" above finished grade.
 - For structures with bridge rail, curbs shall be flush with finished grade.Curb heights shall be reduced, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
- Cement Stabilized Backfill between boxes is considered part of the Box Culvert for payment.
- All curb concrete and reinforcing is considered part of the Box Culvert for payment.
- Any additional concrete and reinforcing required for the closures shall be considered as subsidiary to the Concrete Box Culvert.
- 1'-0" typical. 2'-0" when RAC standard is referred to elsewhere in the plans.
- For multiple unit placement with overlay, with 1 to 2 course surface treatment, or with the top slab as the final riding surface, provide wall closure as shown in DETAIL "A".
- This dimension may be increased with approval of the Engineer to allow the precast boxes to be tunneled or jacked in accordance with Item 476, "Jacking, Boring, or Tunneling Pipe or Box". No payment will be made for any additional material in the gap between adjacent boxes.

GENERAL NOTES:

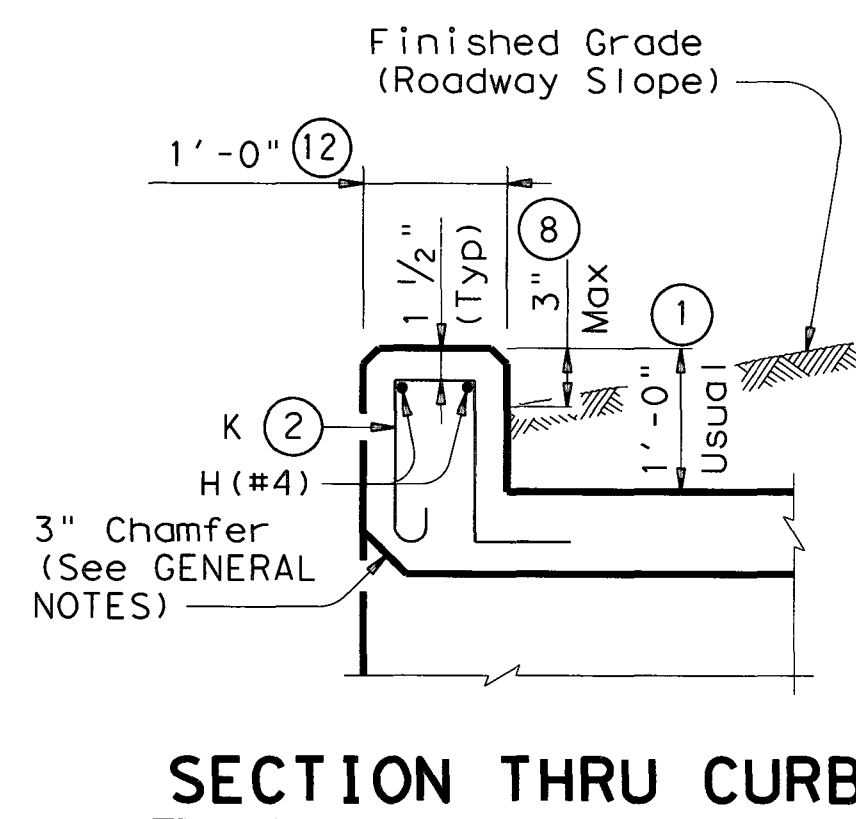
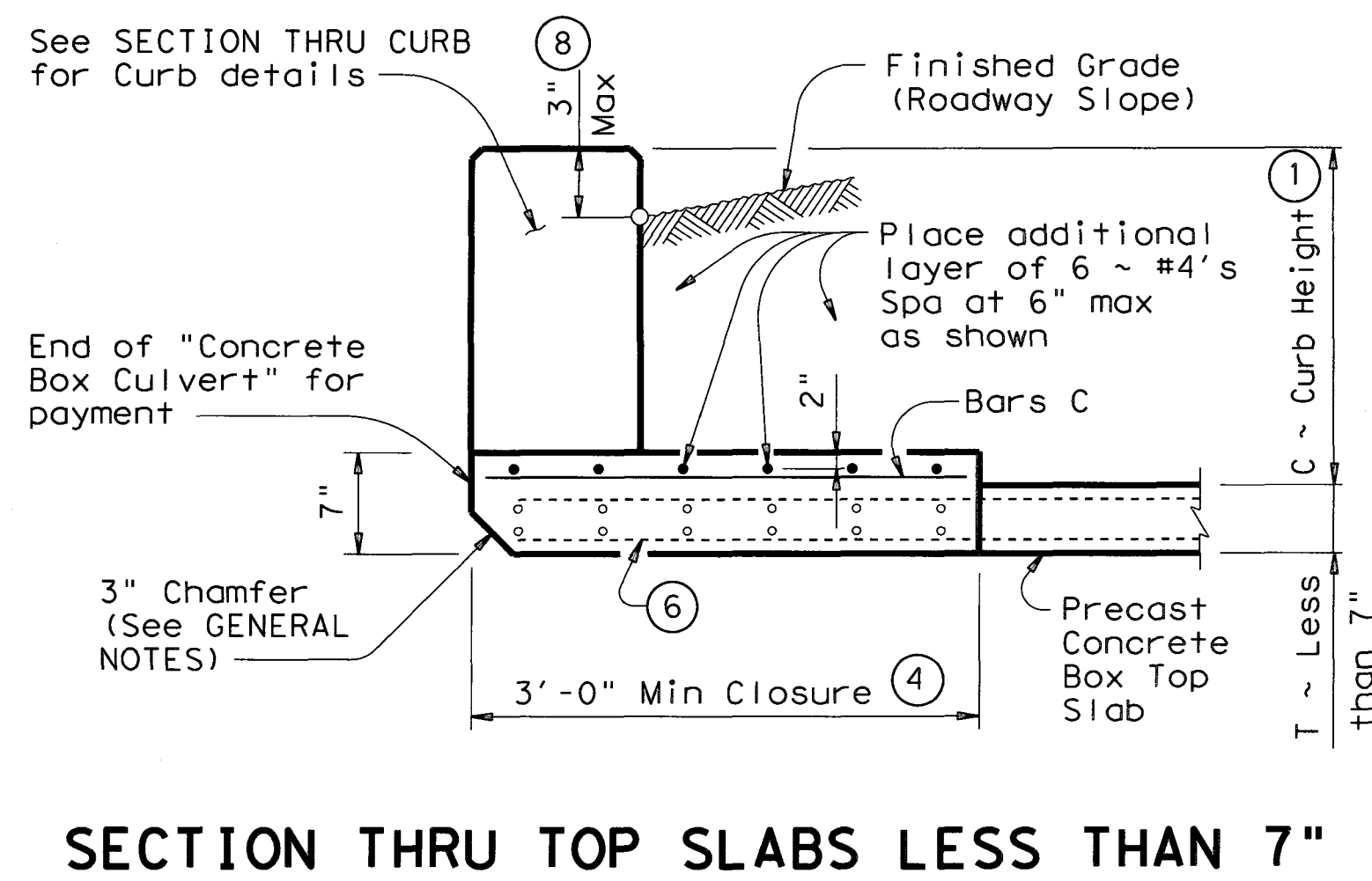
Designed according to AASHTO LRFD Specifications.

All closure concrete shall be Class "C" with a minimum compressive strength of 3600 psi and shall be placed according to the Item, "Concrete Substructures".

Any additional concrete required for the closures shall be considered as subsidiary to the Concrete Box Culvert.

Refer to the Single Box Culverts Precast standard for details not shown.

The bottom edge of the top slab closure shall be chamfered 3 inches at the entrance.



(10) QUANTITIES PER FOOT OF CURB	
Reinforcing Steel	4.18 Lb
Concrete	0.037 CY

2'-9"

BARS C ~ #4
(Spa = 1'-0" Max)

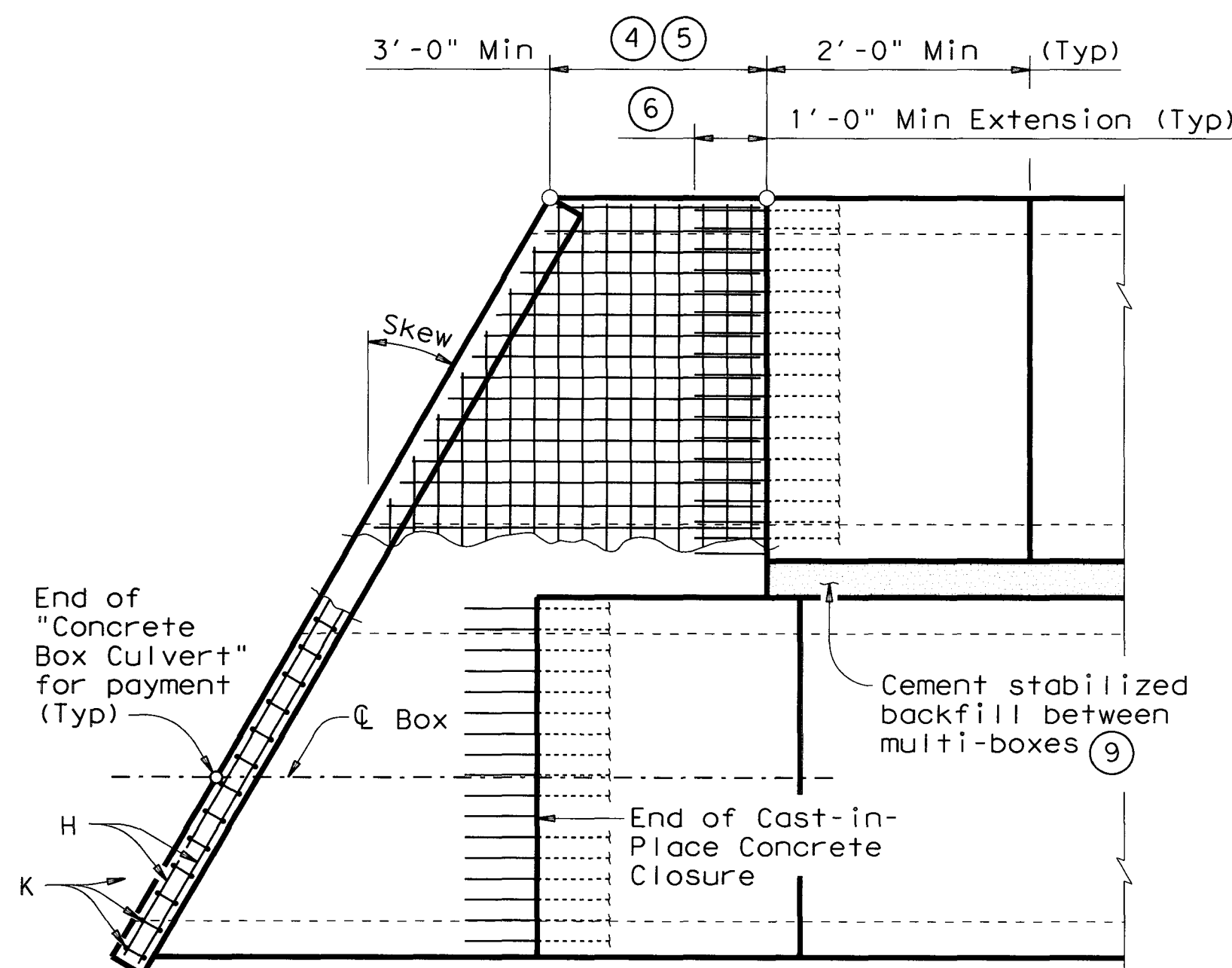
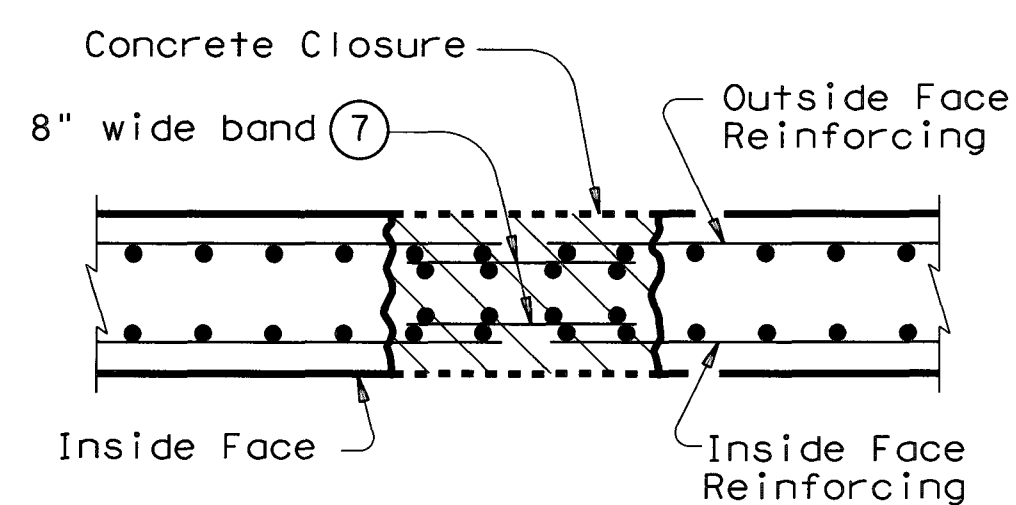
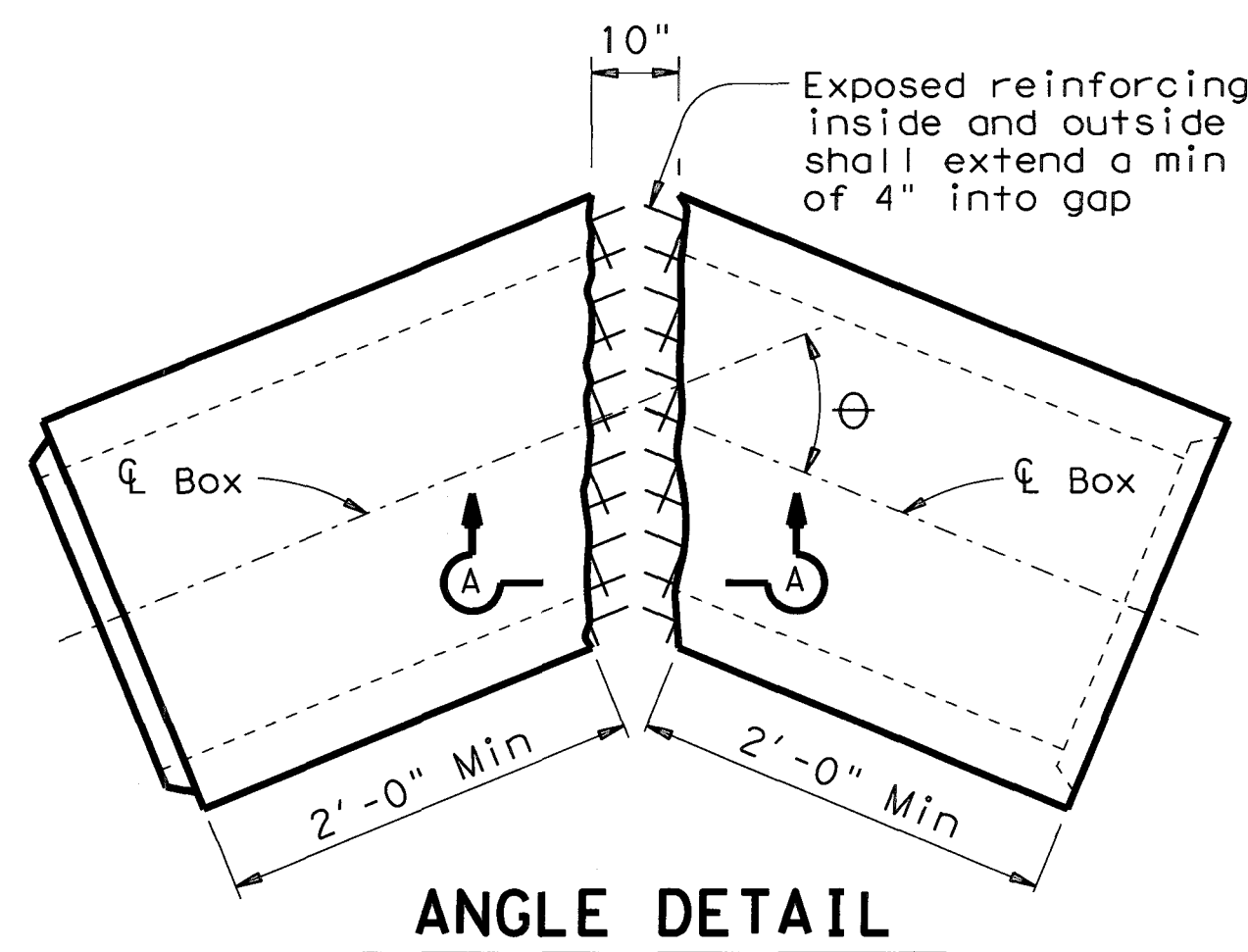
9" 6"

1'-3" (Max)

3"

4"

BARS K ~ #4
(Spa = 1'-0" Max)
(Length = 4'-3")



HL93 LOADING

		Bridge Division Standard	
BOX CULVERTS			
PRECAST			
MISCELLANEOUS DETAILS			
SCP-MD			
FILE: scpmstds.dgn	DN: GAF	CK: LMW	DW: BWH/TxDOT
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DIST		COUNTY	SHEET NO.
		64 OF 69	

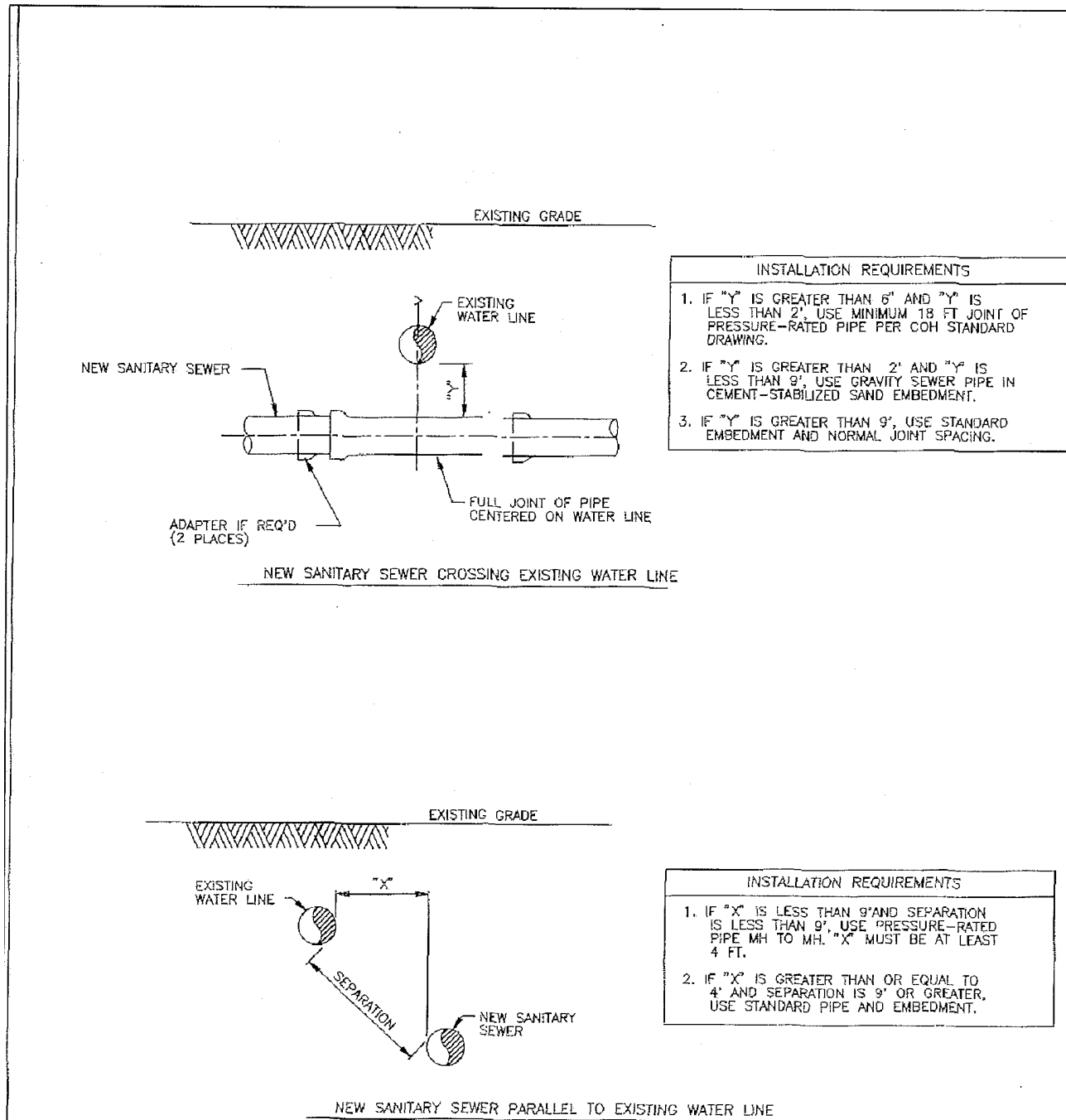
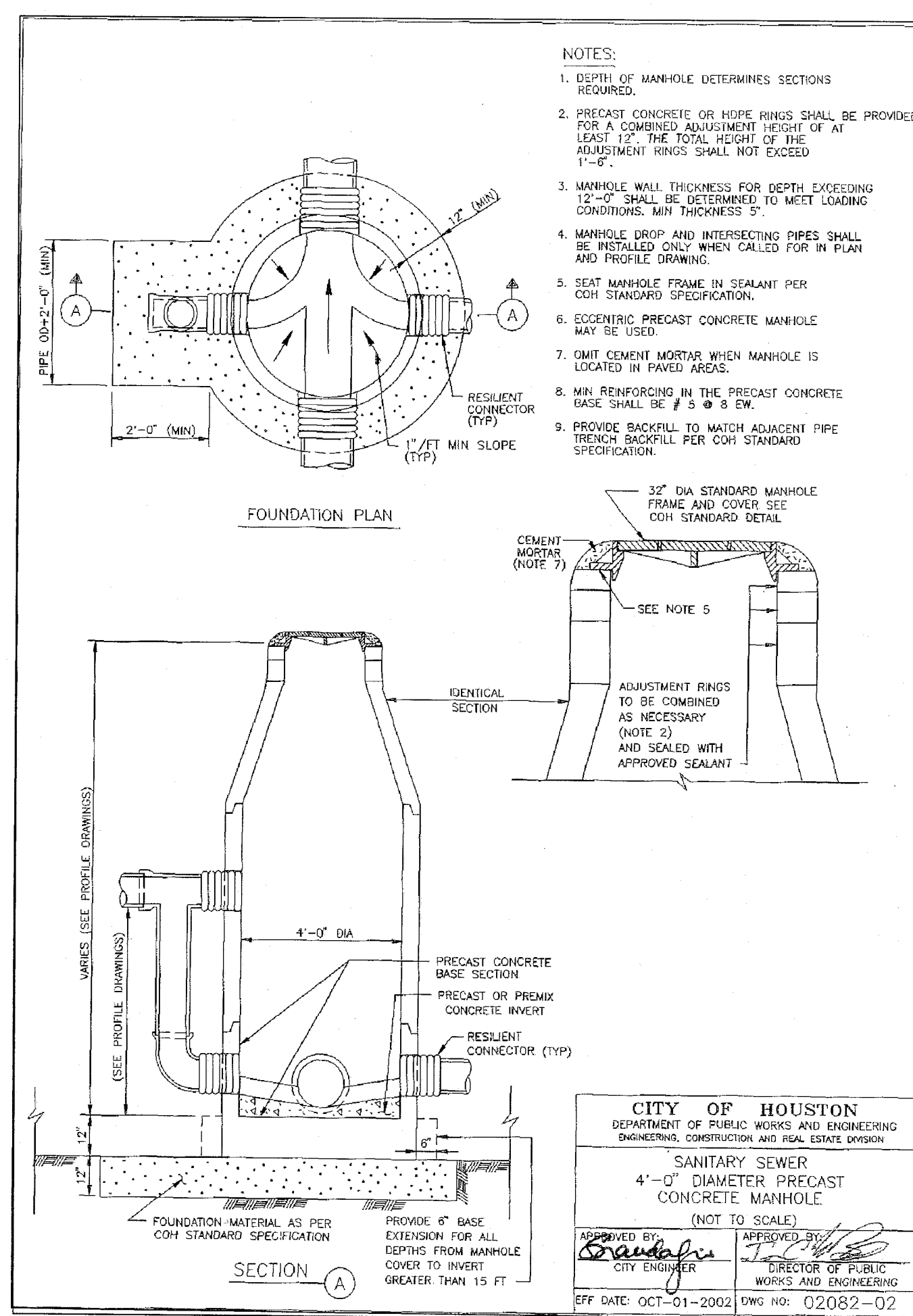
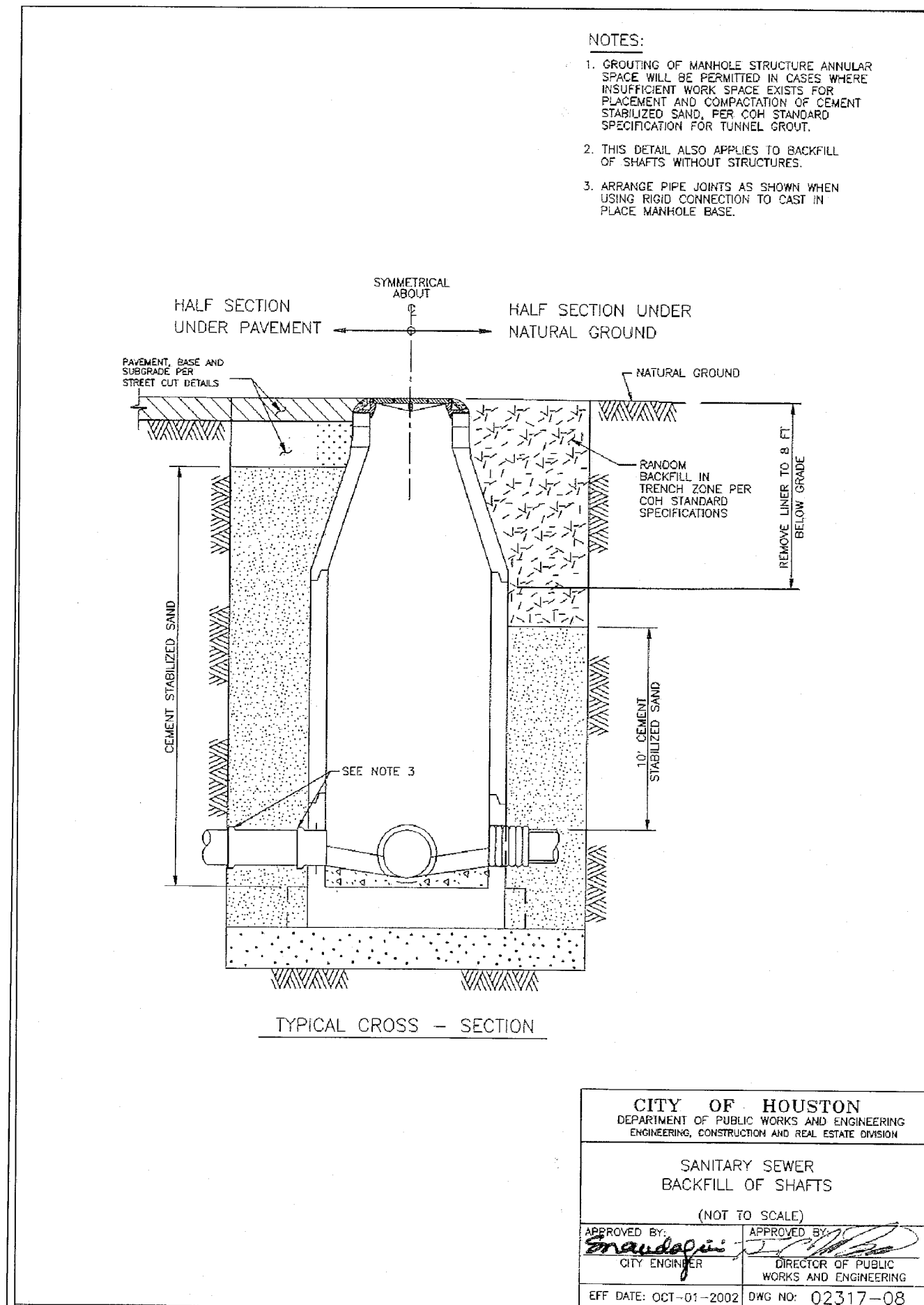
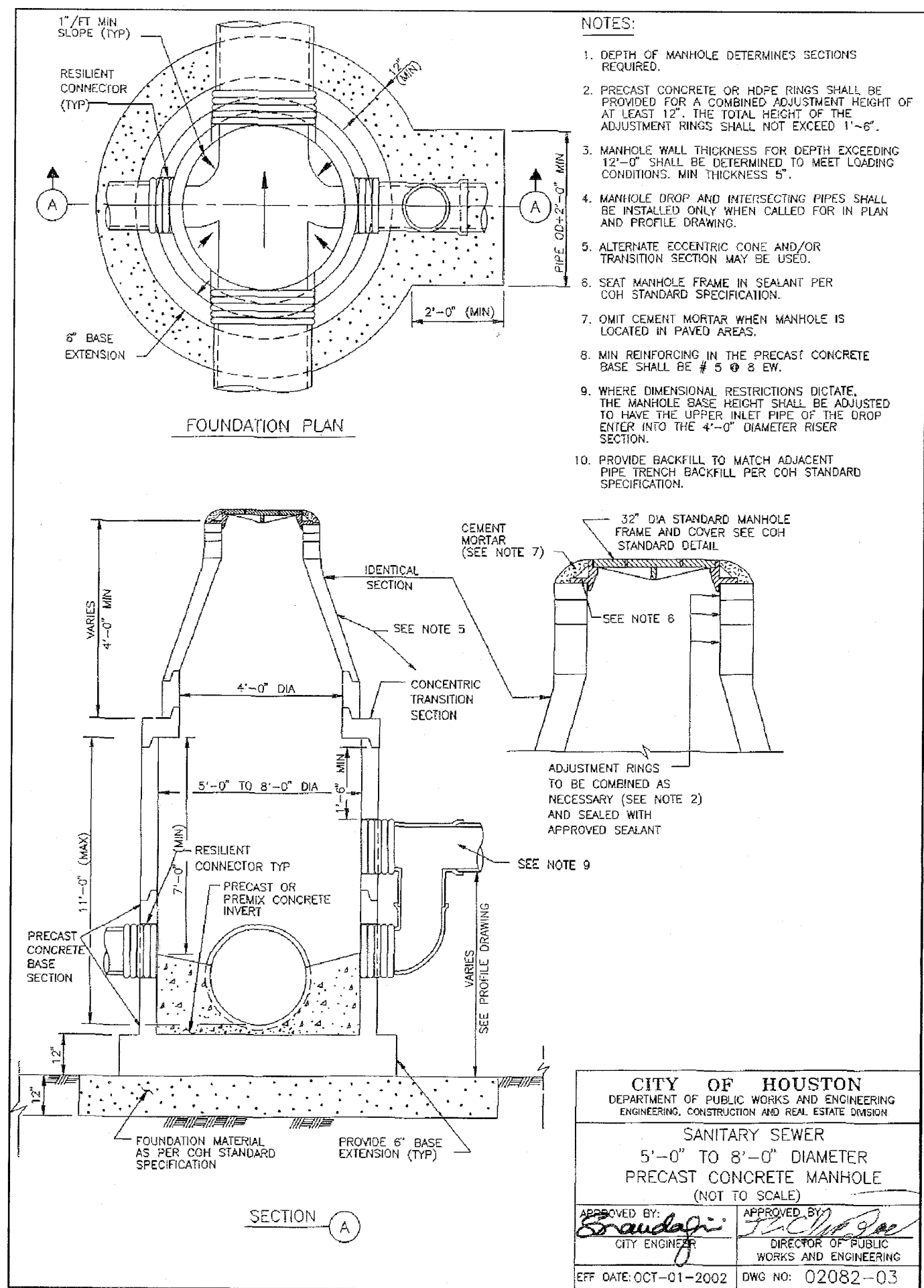
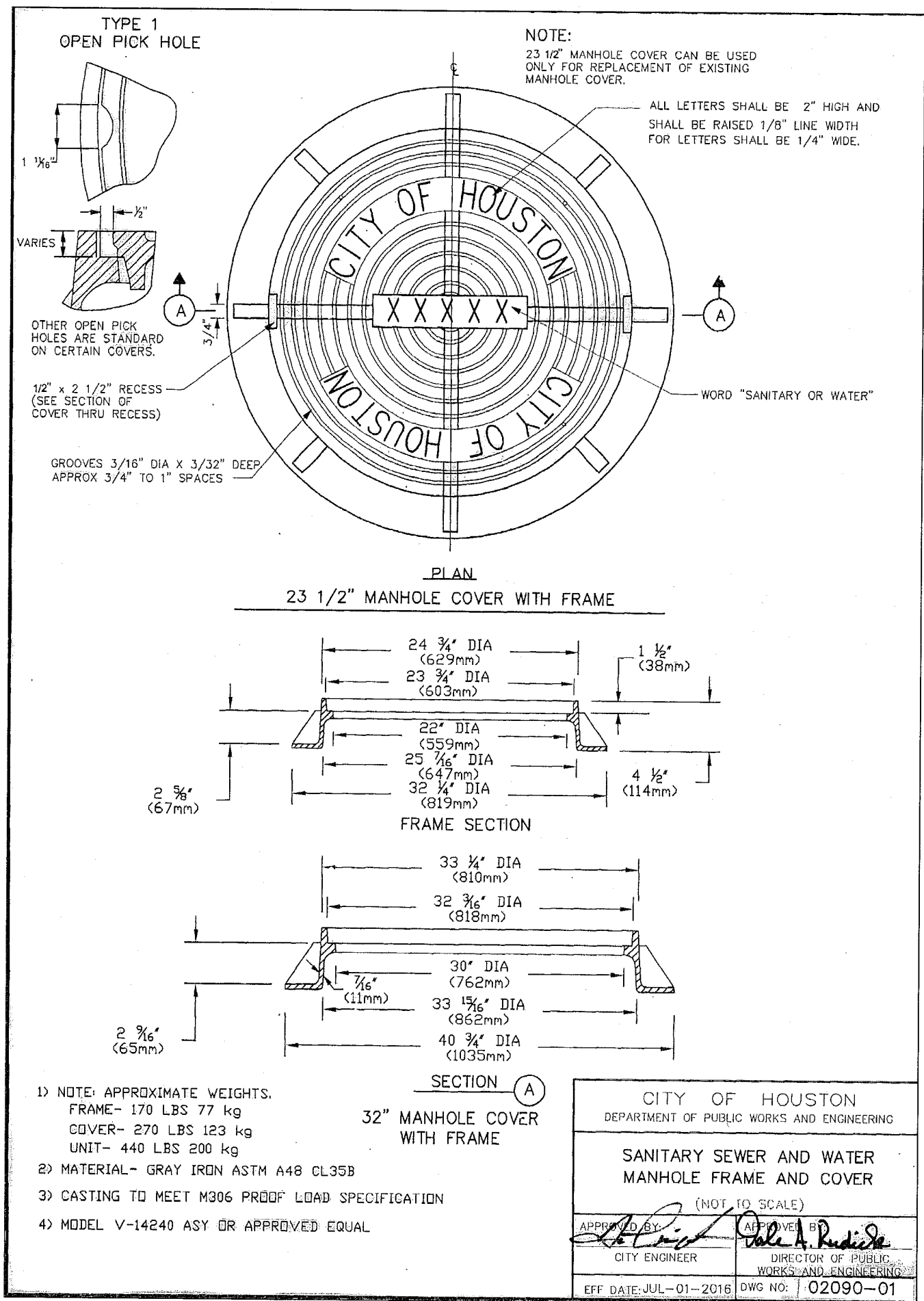
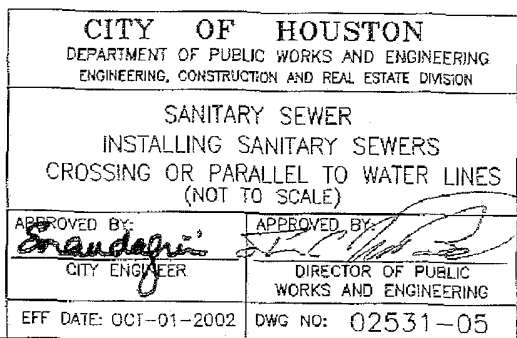


TABLE 02730-04 SEWER LINE CROSSING BELOW WATER LINE WITHIN 2 FT SEPARATION		
GRAVITY SANITARY SEWER PIPE SIZE	PRESSURE-RATED PIPE SIZE & TYPE (NOTE 2)	ADAPTERS REQUIRED
6" TO 12" (ASTM D3034)	SAME SIZE ASTM D2241, SDR 26	ASTM D3034 TO D2245 (SEWER TO D.W.) ADAPTER COUPLING
15" (ASTM D3034)	14" LINED DUCTILE IRON OR AWWA C905, D825	NONE REQUIRED
18" AND 24"	SAME SIZE AWWA C905, PRESSURE-RATED FRP OR LINED DUCTILE IRON, MANHOLE TO MANHOLE	NONE REQUIRED
21" AND 27"	PRESSURE PIPE NOT AVAILABLE, SEE CASING ALTERNATIVE	NOT APPLICABLE
30" AND LARGER	SAME SIZE PRESSURE-RATED FRP OR LINED DUCTILE IRON, MANHOLE TO MANHOLE	NOT APPLICABLE
CASING ALTERNATIVE	INSTALL AS CASING PIPE MIN 18 FT JOINT OF PRESSURE PIPE AT LEAST 2 NOMINAL SIZES LARGER THAN SAN. SEWER CARRIER PIPE, GROUT ANNULAR SPACE WITH TUNING GROUT	NOT APPLICABLE
ANY SIZE AND TYPE		



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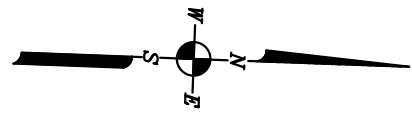
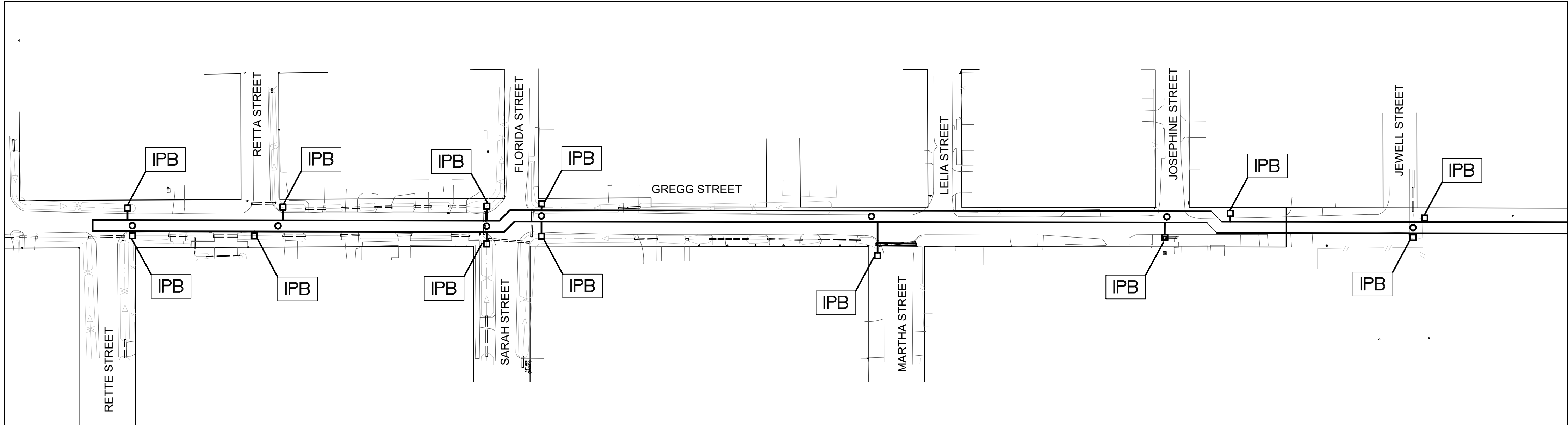
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SANITARY SEWER DETAILS

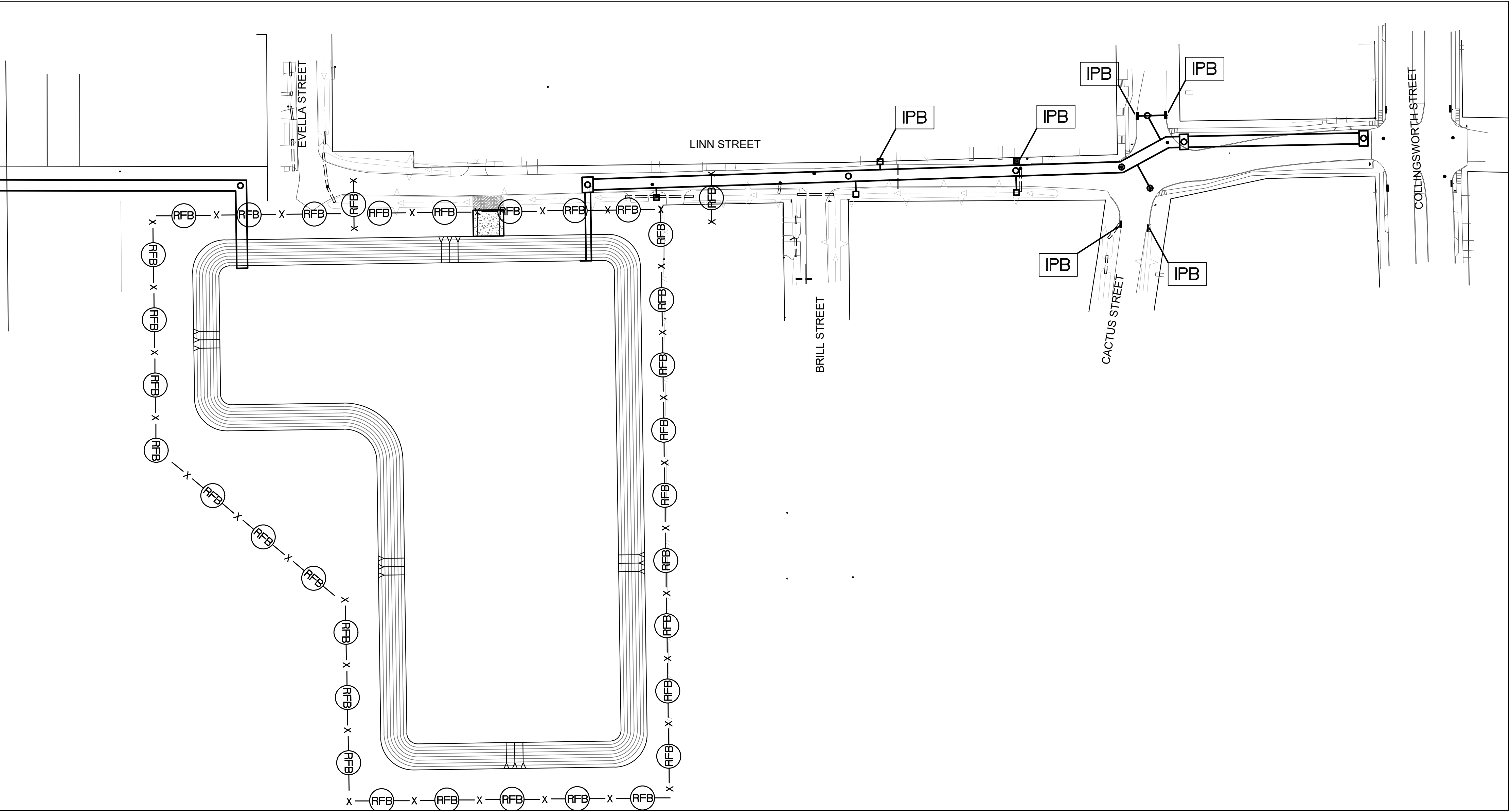
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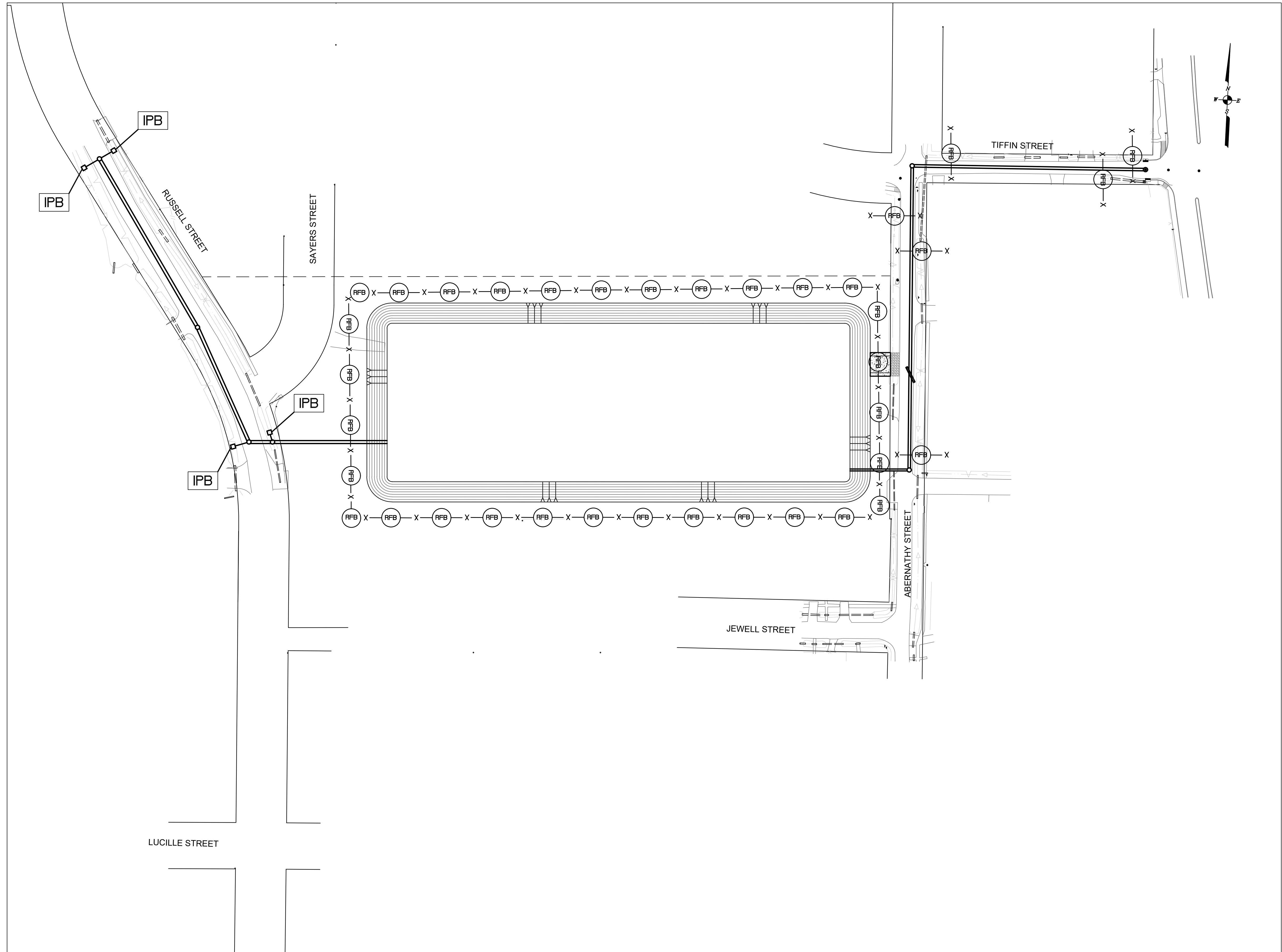


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-  INLET PROTECTION BARRIER
-  STABILIZED CONSTRUCTION ACCESS (REF SHEET 8 OF 8)



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FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS STORM WATER POLLUTION PREVENTION PLAN SHEET 1 OF 3		
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MASODUR R. MOLLAH, P.E., ENV SP		
SHEET NO. 66 OF 69		

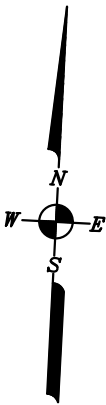
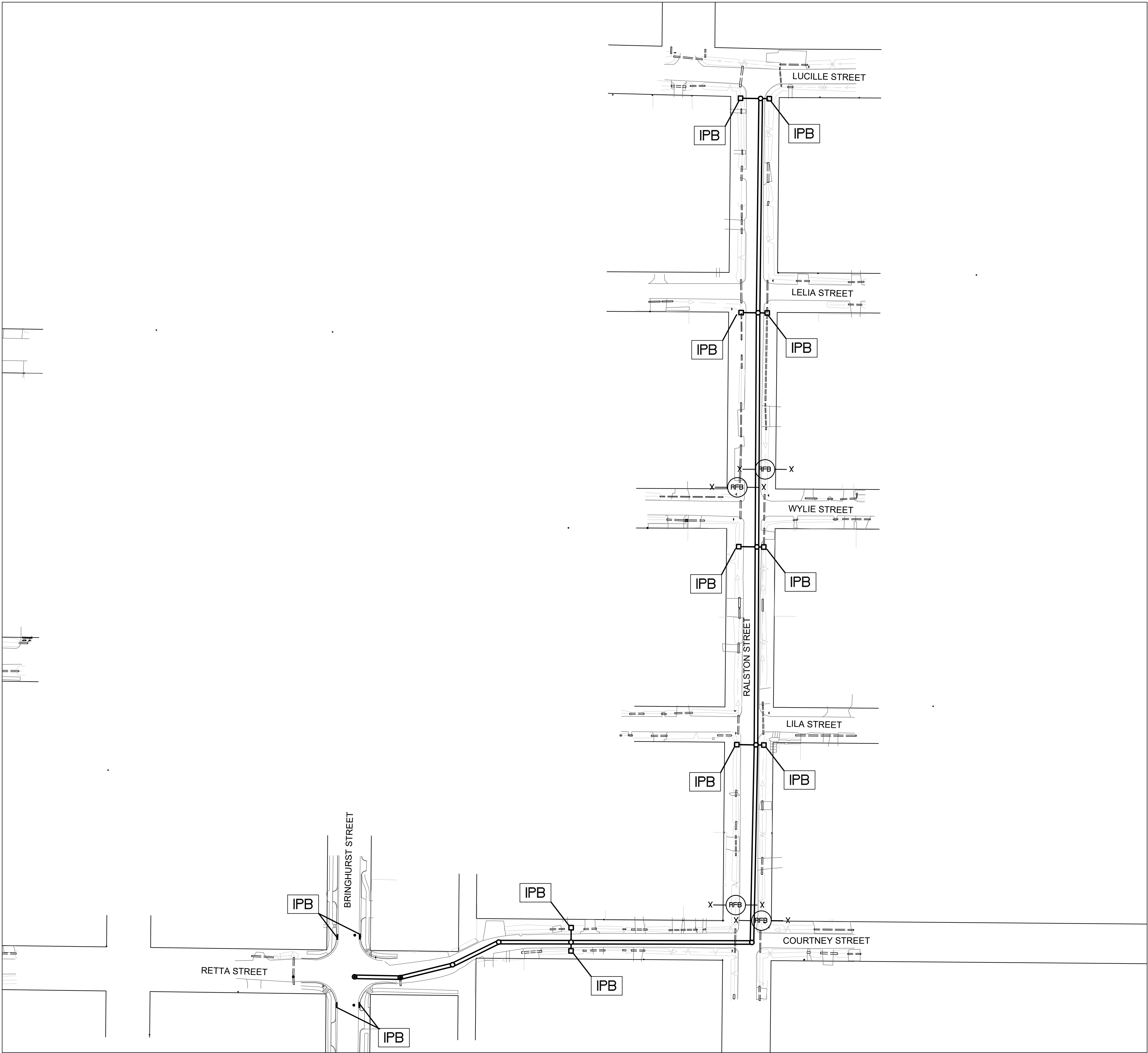


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SHEET NO. 67 OF 69			

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- LEGEND:
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 -  INLET PROTECTION BARRIER
 -  STABILIZED CONSTRUCTION ACCESS

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CITY OF HOUSTON HOUSTON PUBLIC WORKS		
FRENCHTOWN DRAINAGE AND PAVING IMPROVEMENTS STORM WATER POLLUTION PREVENTION PLAN SHEET 3 OF 3		
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY	
M-42LHUD-0006-3		
DRAWING SCALE		
CITY OF HOUSTON PM		
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