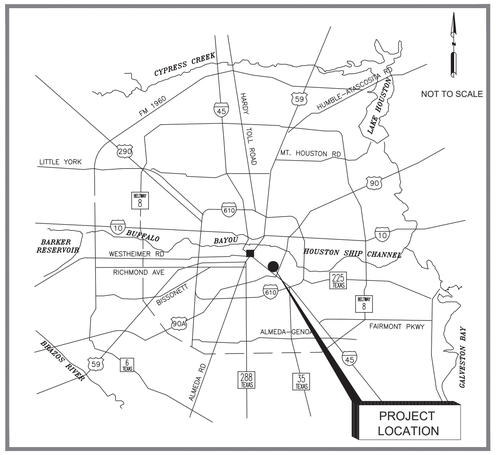
CITY OF HOUSTON

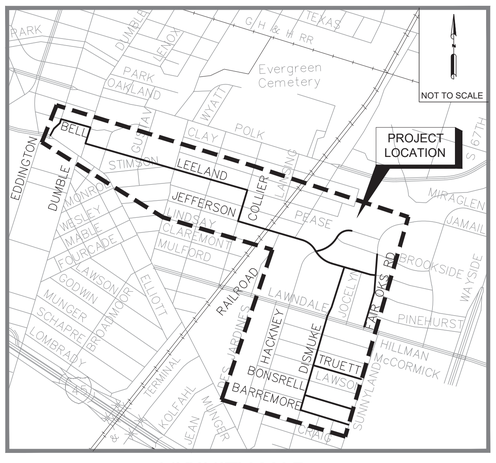
HOUSTON PUBLIC WORKS
CAPITAL PROJECTS

CRMP CIP PACKAGE 5
SANITARY SEWER IMPROVEMENTS
UPSTREAM OF EDDINGTON LIFT STATION
WBS NO. R-01000-0036-3

60% SUBMITTAL



LOCATION MAP



VICINITY MAP

NOT TO SCALE
KEY MAP NO. 494 X, 494 Y & 534 C
GIMS MAP NO. 5456 B, 5556 A & 5556 C
ZIP CODE: 77023
COUNCIL DISTRICT: I

TDLR EABPRJ NA

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.

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DATE 02/10/2026
TBPELS FIRM #F-4526

PARKS–FORESTRY DEPT.

METRO

HOUSTON WATER

TRANSPORTATION & DRAINAGE OPERATIONS

CAPITAL PROJECTS

SURVEY

CITY ENGINEER DATE

DIRECTOR OF HOUSTON PUBLIC WORKS DATE

FOR CITY OF HOUSTON USE ONLY

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114252 — P.E. NO.
02/10/2026 — DATE

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

SHEET INDEX

WBS NO.
R-01000-0036-3

DRAWING SCALE

CITY OF HOUSTON, PM

SABEEN SHAIKH, P.E.

SHEET NO. **2** OF **183**

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\2-INDEX.dwg Feb 10, 2026 4:15pm

ABBREVIATIONS:

&	AND
@	AT
AB	ALL BELL
AC	ACRE / ASBESTOS CEMENT
AI/VR	AIR INLET / VACUUM RELIEF
APPROX	APPROXIMATELY
ASPH	ASPHALT
AVE	AVENUE
℄	BASELINE
B/B	BACK TO BACK
BC	BACK OF CURB
BFV	BUTTERFLY VALVE
BL	BUILDING LINE
BLDG	BUILDING
BLVD	BOULEVARD
℄	CENTER LINE
C/C	CENTER TO CENTER
CGMP	CORRUGATED GALVANIZED METAL PIPE
CMP	CORRUGATED METAL PIPE
CIP	CAST IRON PIPE
CLR	CLEARANCE
CO	CLEAN OUT
COH	CITY OF HOUSTON
CONC	CONCRETE
CONSTR	CONSTRUCTION
CPEE	CENTERPOINT ENERGY ELECTRIC
CPEG	CENTERPOINT ENERGY GAS
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DR	DRIVE
DWG	DRAWING
DWY	DRIVEWAY
E	EAST
EL	ELEVATION
EP	EDGE OF PAVEMENT
E/R	END OF RADIUS
ESMT	EASEMENT
EXST	EXISTING
FC	FACE OF CURB
F/F	FACE TO FACE
FH	FIRE HYDRANT
℄	FLOW LINE
FM	FORCE MAIN
FT	FEET
GPS	GLOBAL POSITIONING SYSTEM
GV	GATE VALVE
GV&B	GATE VALVE AND BOX
HCFCD	HARRIS COUNTY FLOOD CONTROL DISTRICT
HDPE	HIGH-DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HP	HIGH PRESSURE
INV EL	INVERT ELEVATION
IP	INTERMEDIATE PRESSURE
IR	IRON ROD

ABBREVIATIONS:

J-BOX	JUNCTION BOX
JT	JOINT
JUNCT	JUNCTION
LF	LINEAR FEET
LN	LANE
LPT	LOW POINT
LT	LEFT
LS	LIFT STATION
MAX	MAXIMUM
METRO	METROPOLITAN TRANSIT AUTHORITY
MH	MANHOLE
MIN	MINIMUM
MON	MONUMENT
N	NORTH
NA	NOT APPLICABLE
NAVD	NORTH AMERICAN VERTICAL DATUM
NG	NATURAL GROUND
NO	NUMBER
NTS	NOT TO SCALE
OCC	ZERO CURB CUT
OS	OFFSET
OH	OVERHEAD
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVATURE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PERM	PERMANENT
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PNT	POINT
PPCA	POTENTIALLY PETROLEUM CONTAMINATED AREA
PRC	POINT OF REVERSE
PROP	PROPOSED
PSI	POUND PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE PIPE / POINT OF VERTICAL CURVATURE
PVMT	PAVEMENT
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY

ABBREVIATIONS:

(R)	RECORD DRAWING
R	RADIUS
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REINF	REINFORCED
REM	REMOVABLE
RJ	RESTRAINED JOINT
ROW	RIGHT OF WAY
RR	RAILROAD
RRPM	REFLECTIVE REMOVABLE PAVEMENT MARKERS
RT	RIGHT
S	SOUTH
SAN	SANITARY
SCHED	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SSE	SANITARY SEWER EASEMENT
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STM	STORM
SWBT	SOUTHWESTERN BELL TELEPHONE
SWR	SEWER
SY	SQUARE YARD
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TEMP	TEMPORARY
TOB	TOP OF BANK
TOC	TOP OF CURB
TOP	TOP OF PAVEMENT
TOS	TOP OF STACK
TS&V	TAPPING SLEEVE AND VALVE
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TYP	TYPICAL
UE	UTILITY EASEMENT
UGND	UNDERGROUND
VC	VERTICAL CURVE
VPI	VERTICAL POINT OF INTERSECTION
W	WEST
W/	WITH
WL	WATER LINE
WLE	WATER LINE EASEMENT
WM	WATER METER
WP	WOOD POLE
WSEL	WATER SURFACE ELEVATION
WV	WATER VALVE
WWTP	WASTE WATER TREATMENT PLANT

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NAME P.E. NO.

DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

ABBRIVIATIONS

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **3** OF **183**

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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EXISTING PLAN VIEW

- WATER METER
- WATER VALVE (GATE)
- WATER VALVE (BUTTERFLY)
- FIRE HYDRANT/FLUSHING VALVE
- TAPPING SLEEVE & VALVE
- REDUCER
- ROUND CONNECTION
- SANITARY SEWER CLEANOUT & MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER INLETS
- CULVERT PIPE AND HEADWALL
- TOP OF CURB ELEVATION
- GUTTER ELEVATION
- TOP OF PAVEMENT ELEVATION
- CONTOUR LINE
- ROW LINE
- PROPERTY LINE
- LOT LINES
- EASEMENT LINE
- CENTER LINE OF ROW
- TRANSIT LINE
- EDGE OF DITCHES
- CENTER LINE OF DITCHES
- EDGE OF DITCHES
- FENCE LINE, WOOD
- FENCE LINE, CHAIN LINK
- FENCE LINE, BARBED WIRE
- FENCE LINE, HOG WIRE
- EDGE OF CONCRETE
- CURB LINE
- CONCRETE WALK
- EDGE OF ASPHALT
- EDGE OF SHELL OR GRAVEL
- DIMENSION LINE
- AERIAL POWER LINE
- UNDERGROUND POWER LINE
- GAS LINE
- UNKNOWN UNDERGROUND LINE
- OIL PIPELINE
- UNDERGROUND TELECOMM LINE W/VAULT
- AERIAL TELECOMM LINE
- RAILROAD LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON–POTABLE WATER LINE
- GAS METER
- GAS VALVE
- PROPANE LINE
- STEAM LINE
- MISC UNDERGROUND PIPELINE LABLE

PROPOSED PLAN VIEW

- WATER METER
- WATER VALVE (GATE)
- WATER VALVE (BUTTERFLY)
- FIRE HYDRANT/FLUSHING VALVE
- TAPPING SLEEVE & VALVE
- REDUCER
- ROUND CONNECTION
- SANITARY SEWER CLEANOUT & MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER INLETS
- CULVERT PIPE AND HEADWALL
- TOP OF CURB ELEVATION
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- FENCE LINE, WOOD
- FENCE LINE, CHAIN LINK
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- FENCE LINE, HOG WIRE
- EDGE OF CONCRETE
- CURB LINE
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- AERIAL TELECOMM LINE
- RAILROAD LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON–POTABLE WATER LINE
- GAS METER
- GAS VALVE
- PROPANE LINE
- STEAM LINE
- MISC UNDERGROUND PIPELINE LABLE
- MATCH LINE

EXISTING PLAN VIEW

- PAVING HEADER
- BUILDING, RESIDENTIAL
- BUILDING, COMMERCIAL
- TREE
- HEDGE
- IRON PIPE OR IRON ROD MONUMENT
- POINT OF INTERSECTION (PI)
- POINT OF CURVE (PC)
- POINT OF TANGENCY (PT)
- POWER POLE
- POWER POLE W/DOWN GUY

EXISTING PROFILE VIEW

- NORTH OR EAST PROPERTY LINE
- SOUTH OR WEST PROPERTY LINE
- NORTH OR EAST CURB
- SOUTH OR WEST CURB
- NORTH OR EAST DITCH
- SOUTH OR WEST DITCH
- NORTH OR EAST NATURAL GROUND
- SOUTH OR WEST NATURAL GROUND
- NORTH OR EAST CULVERT
- SOUTH OR WEST CULVERT
- CENTERLINE OF ROW
- CENTERPOINT ENERGY CONDUIT
- GAS LINE
- WESTERN UNION
- AT&T CONDUIT
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON–POTABLE WATER LINE
- CENTERPOINT ENERGY MANHOLE
- AT&T MANHOLE
- WATER LINE MANHOLE
- SANITARY SEWER MANHOLE & CLEANOUT
- STORM SEWER MANHOLE
- STORM SEWER INLET

PROPOSED PLAN VIEW

- PAVING HEADER
- BUILDING, RESIDENTIAL
- BUILDING, COMMERCIAL
- TREE
- HEDGE
- IRON PIPE OR IRON ROD MONUMENT
- POINT OF INTERSECTION (PI)
- POINT OF CURVE (PC)
- POINT OF TANGENCY (PT)
- POWER POLE
- POWER POLE W/DOWN GUY

PROPOSED PROFILE VIEW

- NORTH OR EAST PROPERTY LINE
- SOUTH OR WEST PROPERTY LINE
- NORTH OR EAST CURB
- SOUTH OR WEST CURB
- NORTH OR EAST DITCH
- SOUTH OR WEST DITCH
- NORTH OR EAST NATURAL GROUND
- SOUTH OR WEST NATURAL GROUND
- NORTH OR EAST CULVERT
- SOUTH OR WEST CULVERT
- CENTERLINE OF ROW
- CENTERPOINT ENERGY CONDUIT
- GAS LINE
- WESTERN UNION
- AT&T CONDUIT
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- SANITARY SEWER FORCE MAIN
- RECLAIMED WATER LINE
- NON–POTABLE WATER LINE
- CENTERPOINT ENERGY MANHOLE
- AT&T MANHOLE
- WATER LINE MANHOLE
- SANITARY SEWER MANHOLE & CLEANOUT
- STORM SEWER MANHOLE
- STORM SEWER INLET

MISC STANDARD ELEMENTS

- COH NORTH ARROW
- COH BAR SCALE (SCALE: 1"=20')
- REVISION CLOUD/DELTA
- DETAIL/SECTION TITLE (VIEW TITLE, SCALE: 1:1)
- SECTION CALLOUT
- DETAIL CALLOUT

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS (0 1 2 3)

P:\Cadd\2024\24014 – COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\4 – SYMBOLS UPDATED.dwg Feb 10, 2026 3:04pm

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270–5700
Texas Registered Engineering Firm No. F–4528
Texas Registered Surveying Firm No. 100282–00

SURVEYED BY: AMANI
FB NO.: P–6406

PRELIMINARY
FOR INTERIM REVIEW ONLY
THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:
MAHESH DUTTA — NAME — 114252 — P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

SYMBOLS

WBS NO.	R–01000–0036–3
DRAWING SCALE	NTS
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 4 OF 183	

CITY OF HOUSTON SANITARY SEWERS CONSTRUCTION NOTES:

1. ALL SEWERS SHALL 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.

2. 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 THE LATEST VERSION AS APPLICABLE.

3. SANITARY SEWER MANHOLES WILL HAVE BEDDING AND BACKFILL PER CITY OF HOUSTON STANDARD DETAILS DRAWING NO. 02317-08 UNLESS OTHERWISE NOTED.

4. 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.

5. 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-OD AWWA C-900 PVC PIPE CENTERED AT WL WHEN CONNECTING TWO DIFFERENT TYPES OF PVC PIPES FOR SEWER CONSTRUCTION.

6. AWWA C-900 DR-18 PVC PIPE USES EITHER AWWA C900 DR-18 PVC FITTINGS OR DIP FITTINGS.

7. 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 CEMENT/CY STABILIZED SAND BACKFILL UP TO THE BOTTOM OF THE PAVEMENT SUBGRADE. 100 PSI PERFORMANCE RESULTS ARE STILL REQUIRED.

8. ALL NEW SANITARY SEWERS CROSSING WATER LINES WITH A CLEARANCE BETWEEN 12 INCHES AND 9 FEET SHALL HAVE A MINIMUM OF ONE 18' JOINT OF 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.

9. CONTRACTOR SHALL PROVIDE A MINIMUM HORIZONTAL CLEARANCE OF 9' FEET BETWEEN WATER LINES AND SANITARY SEWER MANHOLES AND LINES.

10. 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.

11. IN WET STABLE TRENCH AREAS USE BEDDING PER CITY OF HOUSTON STANDARD DETAILS DRAWING NUMBER 02317-02.

12. 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.

13. 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.

A. 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.

B. 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.

14. "SAN. S. E." INDICATES "SANITARY SEWER EASEMENT"

15. 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 PUBLIC WORKS GENERAL NOTES– INSIDE CITY LIMITS:

1. 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.

2. THE DESIGN MUST BE CONSISTENT WITH THE EFFECTIVE EDITION OF HOUSTON PUBLIC WORKS INFRASTRUCTURE DESIGN MANUAL AND TCEQ (TEXAS COMMISSION ON ENVIRONMENTAL QUALITY) REQUIREMENTS.

3. 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 [GEOTECHNICAL ENGINEERING FIRM] REPORT NO. [NO. OF REPORT], DATED [DATE OF REPORT].

4. 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 800-669-8344 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.

5. 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 EFFECTIVE EDITION OF HOUSTON PUBLIC WORKS, STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEM, WATER LINES, STORM DRAINAGE, STREET PAVING, AND TRAFFIC AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, STREET PAVING, AND TRAFFIC, REFERENCED ABOVE AND SUPPLEMENTS, ADDENDA AND AMENDMENTS THERETO, AT NO ADDITIONAL COST TO THE CITY OF HOUSTON.

6. 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.

7. 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 AND TO THE SATISFACTION OF THE OWNING AUTHORITY.

8. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG THE AREA OF EXCAVATION.

9. CONTRACTOR SHALL COMPLY WITH LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION.

10. CONTRACTOR SHALL MAINTAIN A SET OF REDLINE DRAWINGS AND RECORD AS-BUILT CONDITIONS DURING CONSTRUCTION. THESE AS-BUILT 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.

STANDARD HCFCD NOTES FOR CONSTRUCTION DRAWING:

1. OBTAIN AND COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL PERMITS AND APPROVALS, WITH ASSISTANCE FROM ENGINEER, IF NECESSARY. OBTAIN PERMIT (CERTIFICATION) FROM HARRIS COUNTY ENGINEER TO ENTER HARRIS COUNTY FLOOD CONTROL DISTRICT PIGHT-OF-WAY.

2. NOTIFY THE HARRIS COUNTY FLOOD CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT IN WRITING AT LEAST 48-HOURS PRIOR TO CONSTRUCTION. SUBMIT THE HCFCD 48-HOUR PRE-CONSTRUCTION NOTIFICATION FORM, A COPY OF THE APPROVED CONSTRUCTION DRAWINGS, AND A COPY OF THE CORPS OF ENGINEERS INDIVIDUAL SECTION 404 PERMIT, IF APPLICABLE, TO HCFCD, 9900 NORTHWEST FREEWAY, HOUSTON TEXAS, 77092, ATTN: PROPERTY MANAGEMENT DEPT. BY HAND DELIVERY, OR FAX TO 713-684-4129(FAX NUMBER).

3. ENGINEER SHALL SUBMIT CERTIFICATION LETTER AND RECORD DRAWINGS TO THE HARRIS COUNTY CONTROL DISTRICT'S PROPERTY MANAGEMENT DEPARTMENT REQUESTING INSPECTION OF ITEMS CONSTRUCTED IN HARRIS COUNTY FLOOD CONTROL DISTRICT RIGHT-OF-WAY. PRIOR TO REQUESTING INSPECTION, THE DRAINAGE RIGHT-OF-WAY AND/OR EASEMENTS SHALL BE STAKED AND FLAGGED.

4. PROTECT, MAINTAIN AND RESTORE EXISTING BACK-SLOPE DRAINAGE SYSTEMS.

5. BACK-SLOPE, SWALE AND INTERCEPTOR STRUCTURE ELEVATIONS AND LOCATIONS SHOWN ON PLANS ARE APPROXIMATE, FINALELEVATIONS AND LOCATIONS SHALL BE FIELD VERIFIED BY THE ENGINEER PROIR TO INSTALLATION.

6. ESTABLISH TURF GRASS ON ALL DISTURBED AREAS WITHIN THE CHANNEL OR DETENTION RIGHT-OF-WAY, EXCEPT THE CHANNEL BOTTOM AND WHERE STRUCTURAL EROSION MEASURES ARE USED. MINIMUM ACCEPTANCE CRITERIA ARE 75% COVERAGE OF LIVE BERMUDA GRASS AND NO EROSION OR RILLS DEEPER THAN 4'.

7. BACKFILL IN ACCORDANCE WITH THE HARRIS COUNTY FLOOD CONTROL DISTRICT STANDARD SPECIFICATION, SECTION 02315-EXCAVATING AND BACKFILLING, OR EQUIVALENT.

8. EXCAVATE CHANNEL FLOWLINE TO DESIGN ELEVATION AS SHOWN ON PLANS AND DOWNSTREAM, AS NECESSARY, TO ENSURE NO WATER REMAINS IN THE FACILITY (STORM SEWER, LATERAL CHANNEL, OR DRY BOTTOM DENTION BASIN) DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL, SO THE FACILITY WILL FUNCTION AS INTENDED. FOR WET BOTTOM DETENTION BASINS, ENSURE NO WATER IS ABOVE THE DESIGN LEVEL IN THE WET BOTTOM DURING NORMAL WATER SURFACE CONDITIONS IN THE CHANNEL.

9. MAINTAIN FLOW IN CHANNEL DURING CONSTRUCTION AND RESTORE CHANNEL TO ORIGINAL CONDITION.

10. REMOVE ALL EXCAVATED MATERIAL FROM THE HARRIS COUNTY FLOOD CONTROL DISTRICT OR DRAINAGE RIGHT-OF-WAY. NO FILL IS TO BE PLACED WITHIN A DESIGNATED FLOOD PLAIN AREA WITHOUT FIRST OBTAINING A FILL PERMIT FROM THE APPROPRIATE JURISDICTIONAL AUTHORITY.

PRIVATE UTILITY NOTES:

AT&T TEXAS/ SWBT FACILITIES:

1. 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.

2. THE CONTRACTOR SHALL CALL 1-800-344-8377 (TEXAS 811) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.

3. 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.

4. 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.

5. 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.

6. PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANAGER KEVIN RAY AT (713) 614-1983 OR EMAIL HIM AT KR7896@ATT.COM, IF CABLE LOCATE REQUESTS ARE NOT COMPLETED FOR OUR AT&T TEXAS/SWBT FACILITIES.

CENTERPOINT ENERGY NOTES:

CAUTION: UNDERGROUND GAS FACILITIES

1. 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 AM TO 4:30 PM) 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
2. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL LINES:

1. 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 PERSONS 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.
2. 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

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

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.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA (NAME) 114252 (P.E. NO.)
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

GENERAL NOTES (1 OF 2)

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **5** OF **183**	

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 – COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\5-GENERAL NOTES.dwg Feb 10, 2026 3:04pm

CITY OF HOUSTON TRAFFIC NOTES:

1. 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.

2. NO WORK SHALL BE PERFORMED IN RESIDENTIAL AREAS FROM 7:00PM TO 7:00AM.

3. 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.

4. 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.

5. CONTRACTOR SHALL SECURE ROADWAY/SIDEWALK/STREET/BICYCLE FACILITY PERMITS AS DESCRIBED IN CITY OF HOUSTON ORDINANCE, CHAPTER 40 – STREETS & SIDEWALKS, SECTION 40-361 FROM HOUSTON PERMITTING CENTER (MOBILITY PERMIT SECTION AT HTTPS://GEOHUB.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.

6. CONTRACTOR SHALL HAVE APPROVED TRAFFIC CONTROL PLAN AND PERMIT AT THE JOB SITE FOR INSPECTION AT ALL TIMES.

7. 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.

8. 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.

CITY OF HOUSTON STREET & BRIDGE CONSTRUCTION NOTES:

1. 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.

2. UTILITY CONTRACTOR SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURBED INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.

3. CONTRACTOR SHALL PROVIDE SILT BARRIER FENCE ON ALL STAGE 1 CURB INLETS.

4. 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.

5. 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.

6. EXPOSED 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.

7. WHEELCHAIR 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.

8. 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.

9. 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 STORM CONSTRUCTION NOTES:

1. 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. 2317-02, 02317-3, 02317-05, 02317-06, AND 02317-07 (JULY 2019) AS APPLICABLE UNLESS OTHERWISW SHOWN ON THE DRAWINGS.

2. 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.

3. 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. STABLIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE. THE REMAINING DEPTH OF TRENCH SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL.

4. ALL TRENCH BACKFILL SHALL BE IN 8" LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS IN EACH LIFT, AND MECHNICALLY 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).

5. CIRCULAR AND ELLIPTICAL REINFORCED CONCRETE PIPE SHALL BE INSTALLED USING RUBBER GASKET JOINT CONFORMING TO ASTM C443 AND ASTM C877 RESPECTIVELY.

6. ALL STORM SEWER PIPES AND INLET LEADS SHALL BE 24" AND LARGER R.C.P. (C-76, CLASSIII).

7. ALL PRPOSED PIPE STUB-OUTS FROM MANHOLES AND INLET LEADS ARE TO BE PLUGGED WITH 8" BRICK WALLS UNLESS OTHERWISE NOTED.

8. 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 24-INCHES FROM EXTERIOR OF THE STORM PIPE OR BOX TO THE EXTERIOR OF THE EXISTING OR PROPOSED PUBLIC OR PRIVATE UTILITY AND OTHER APPURTENANCES.

9. ADJUST MANHOLE COVERS TO GRADE CONFORMING TO REQUIREMENTS OF SECTION 02086-ADJUSTING MANHOLES, INLETS, AND VALAVE BOXES TO GRADE.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACK SLOPE DRAINAGE SYSTEM DISTURBED AS A RESULT OF THIS WORK.

11. 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.

12. ALL DRIVEWAYS WILL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES.

CITY OF HOUSTON SWPPP CONSTRUCTION NOTES:

1. CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND SIDE DITECHES 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 DITCHED EVENTUALLY POLLUTING THE RECEIVING STORM.

2. DURING THE EXCAVATION PHASE OF THE PROJECT, CONTRACTOR SHALL SCHEDULE THE WORK IN SHORT SEGMENTSSO 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 SWEPT BACK INTO THE EXCAVATED AREA.

3. 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.

4. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.

5. 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

6. 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.

7. CONTRACTOR SHALL REMOVE AND REPLACE INLET PROTECTION BEFORE AND/OR AFTER A SEVERE RAIN EVENT PER REQUEST BY CITY OF HOUSTON.

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.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

GENERAL NOTES (2 OF 2)

WBS NO.
R-01000-0036-3

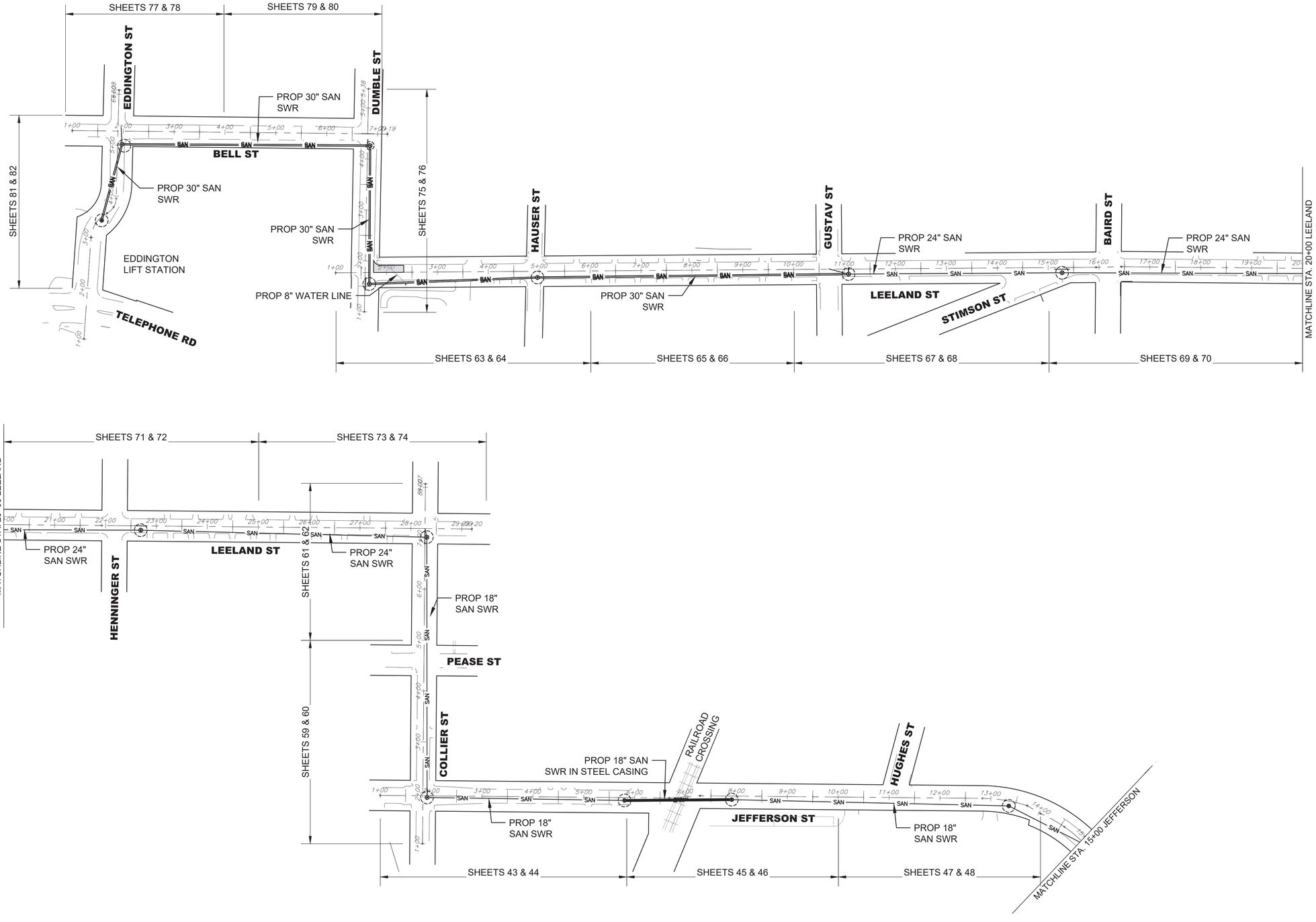
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **6** OF **183**

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\5-GENERAL NOTES.dwg Feb 10, 2026 3:04pm

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3



N

100 50 0 100

22" X 34" : 1" = 100'
11" X 17" : 1" = 200'

LEGEND

- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SHAFT
- SAN — PROPOSED SANITARY SEWER BY TRENCHLESS

P:\Cadd\2024\24014 – COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\6-PROJECT LAYOUT.dwg Feb 10, 2026 3:04pm

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

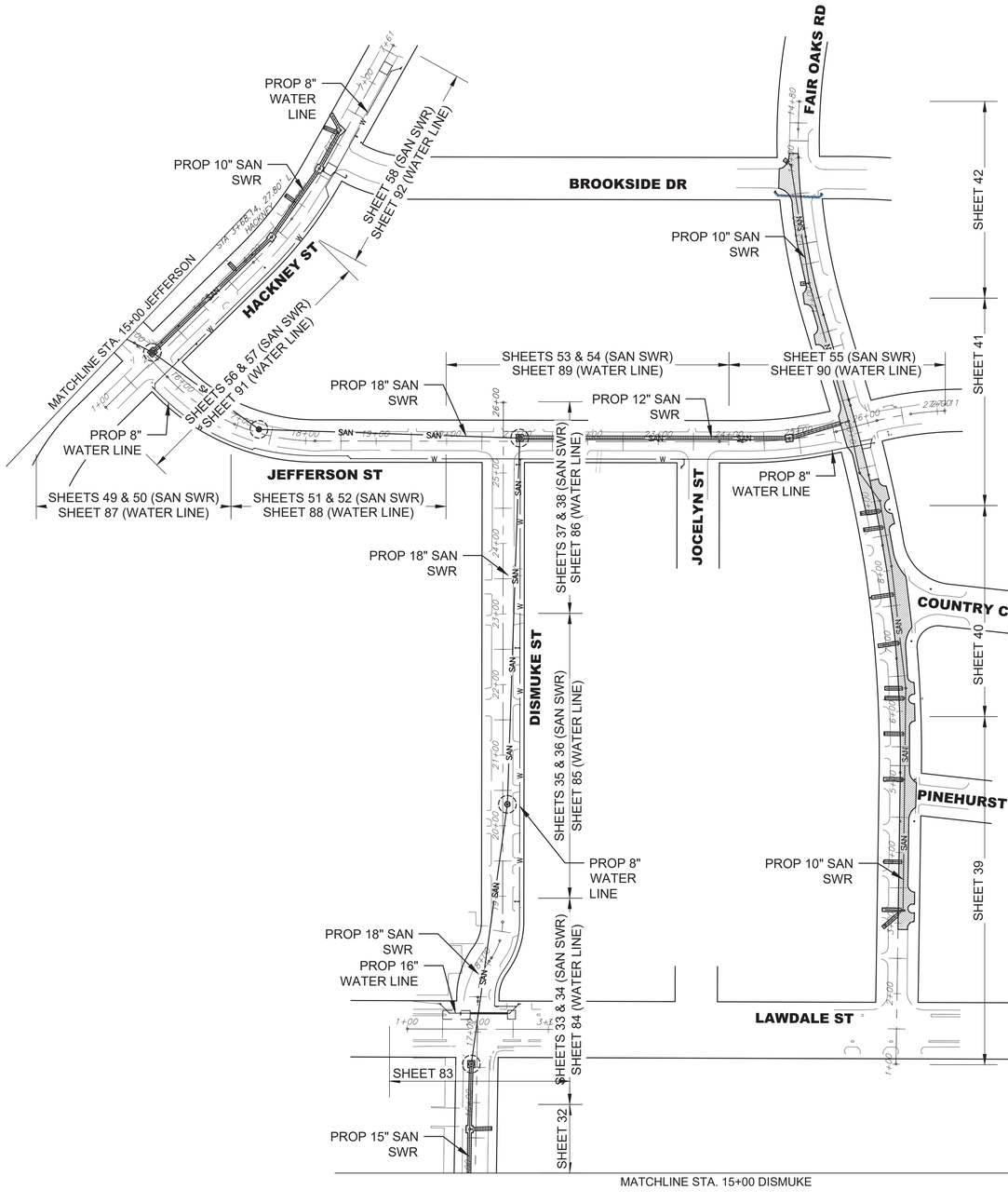
PROJECT OVERALL LAYOUT (1 OF 2)

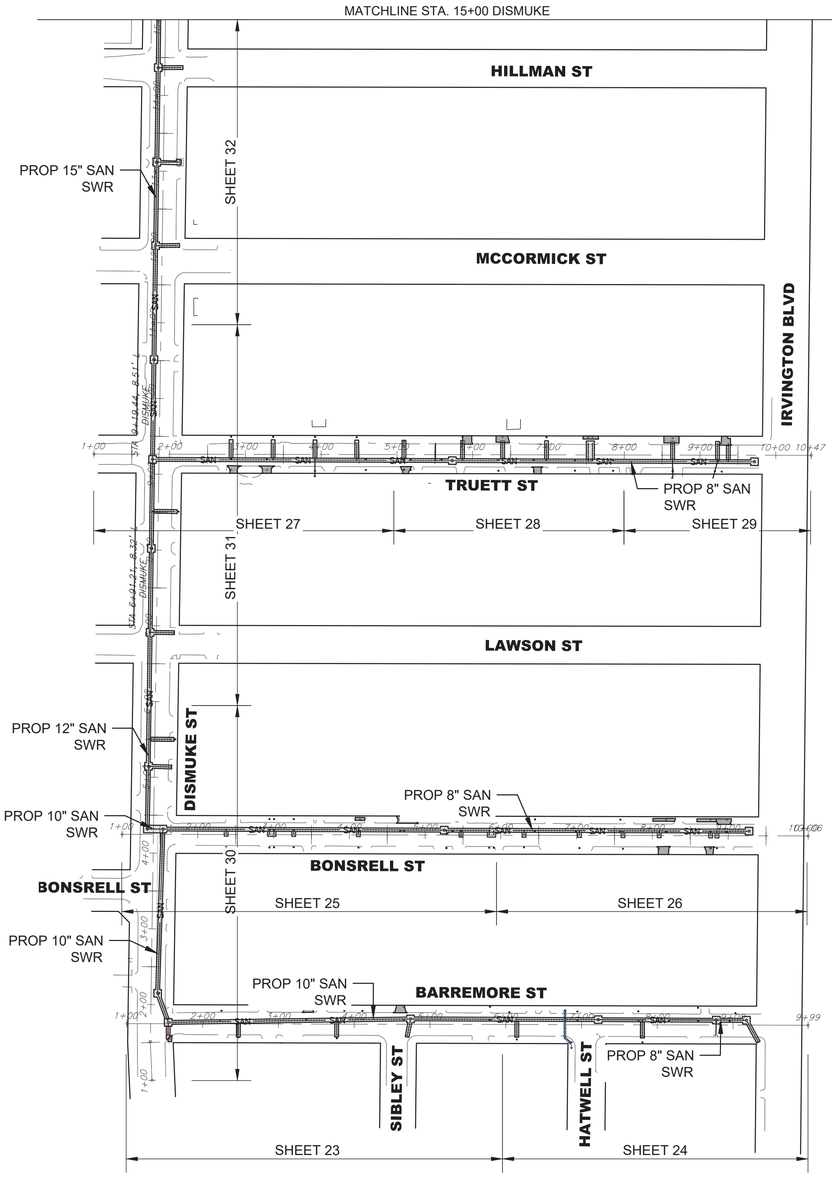
WBS NO.
R-01000-0036-3

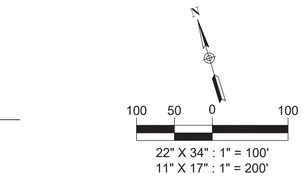
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 7 OF **183**







LEGEND

- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SHAFT
- SAN — PROPOSED SANITARY SEWER BY TRENCHLESS
- W — PROPOSED WATER LINE
- SAN — PROPOSED SANITARY SEWER BY OPEN CUT

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

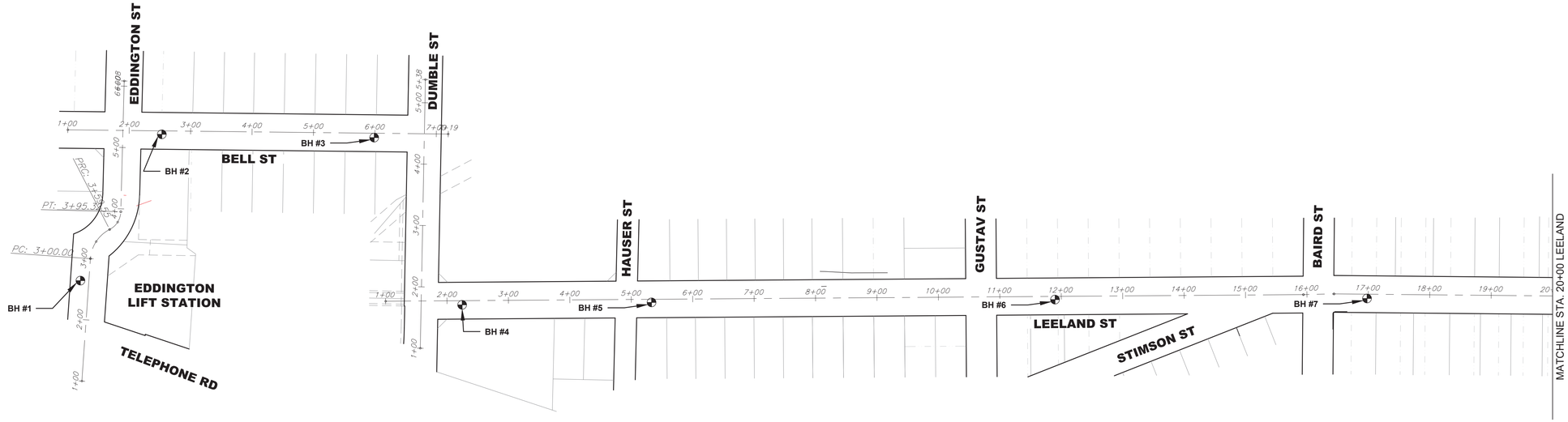
CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

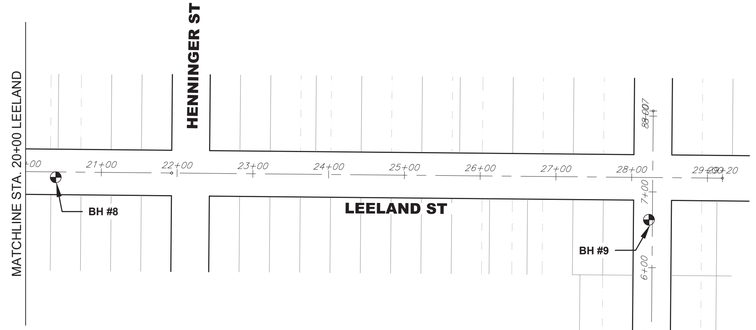
PROJECT OVERALL LAYOUT (2 OF 2)

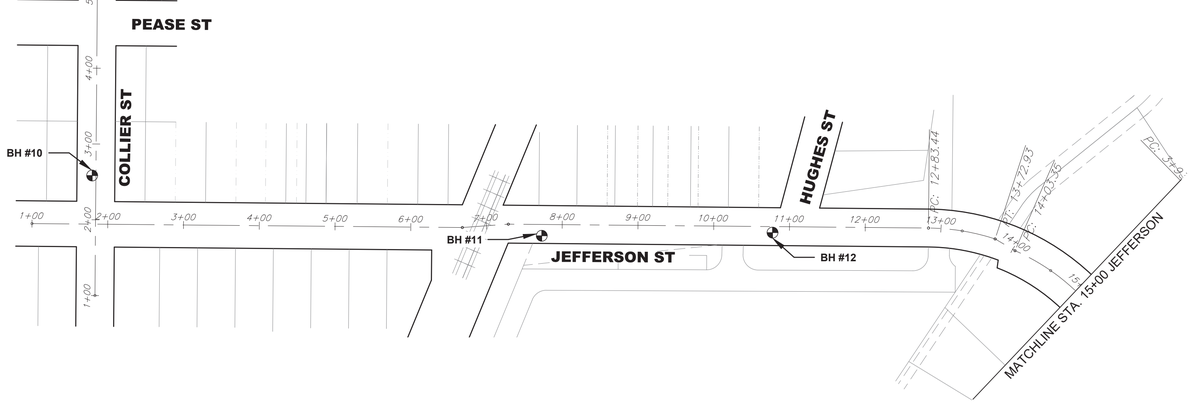
WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO. 8 OF 183	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

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BH #	BASELINE	STATION	OFFSET	NORTHING	EASTING	ELEVATION (FT)
BH - 1	EDDINGTON ST	2+63.13	13.66 LT	13834710.08'	3133002.20'	32.18'
BH - 2	BELL ST	2+53.20	5.64 RT	13834899.58'	3133198.30'	32.55'
BH - 3	BELL ST	5+98.93	7.17 RT	13834793.91'	3133527.49'	32.47'
BH - 4	LEELAND ST	2+24.62	6.81 RT	13834491.57'	3133585.27'	32.70'
BH - 5	LEELAND ST	5+33.03	5.03 RT	13834405.71'	3133881.49'	33.97'
BH - 6	LEELAND ST	11+89.82	5.27 RT	13834219.00'	3134511.18'	34.89'
BH -7	LEELAND ST	16+97.94	6.98 RT	13834073.04'	3134997.75'	34.45'
BH - 8	LEELAND ST	20+39.94	7.08 RT	13833970.40'	3135323.99'	34.10'
BH - 9	COLLIER ST	6+63.19	4.49 LT	13833689.04'	3136056.74'	34.89'
BH - 10	COLLIER ST	2+58.35	4.88 LT	13833302.78'	3135935.49'	33.55'
BH - 11	JEFFERSON ST	7+73.24	14.93 RT	13833054.10'	3136480.11'	35.09'
BH - 12	JEFFERSON ST	10+77.73	7.92 RT	13832969.55'	3136772.70'	34.06'

N

100 50 0 100

22" X 34" : 1" = 100'
11" X 17" : 1" = 200'

LEGEND

SOIL BORING LOCATION (BH)

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MAHESH DUTTA — NAME
114252 — P.E. NO.
02/10/2026 — DATE
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

GEOTECHNICAL BOREHOLES LAYOUT (1 OF 2)

WBS NO.
R-01000-0036-3

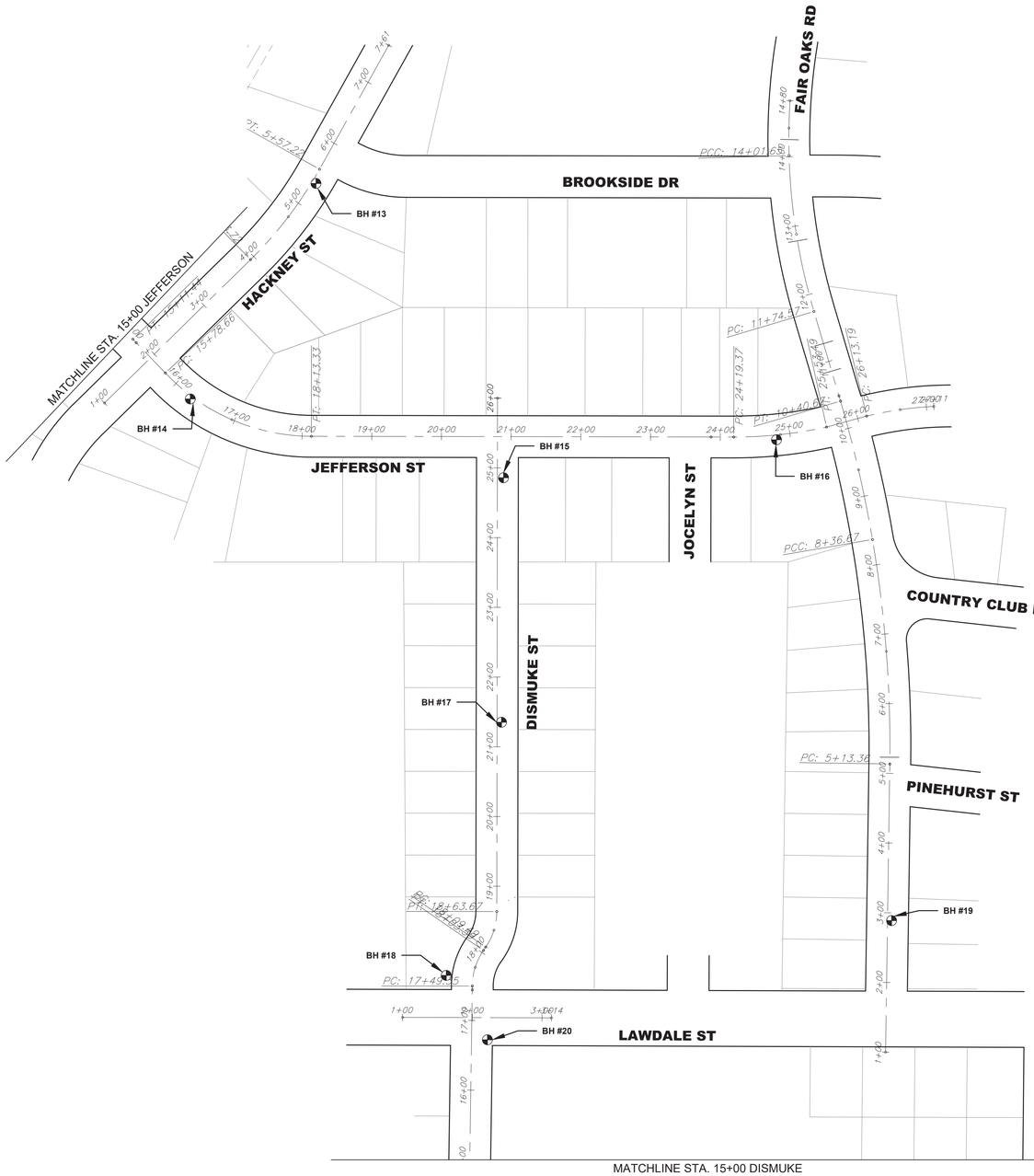
DRAWING SCALE
1"=20'

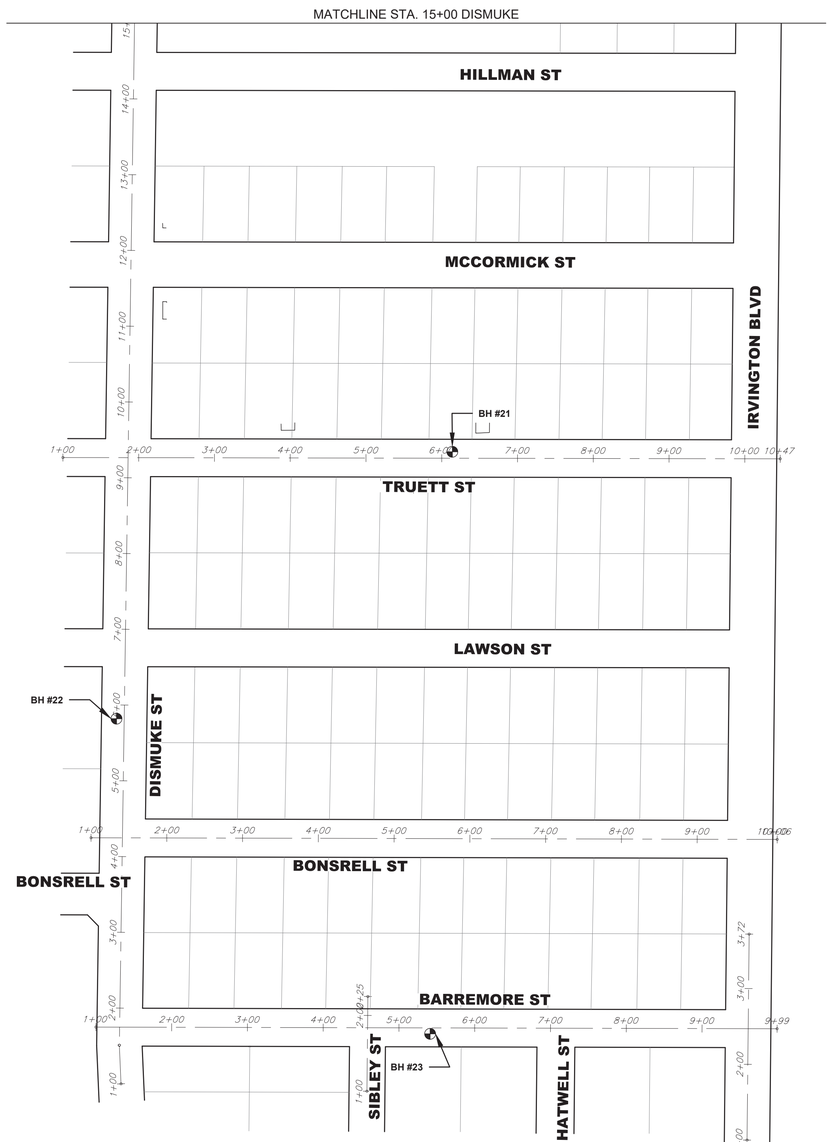
CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

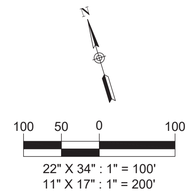
SHEET NO. 9 OF **183**

0 1 2 3
ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

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LEGEND

SOIL BORING LOCATION (BH)

BH #	BASELINE	STATION	OFFSET	NORTHING	EASTING	ELEVATION (FT)
BH - 13	HACKNEY ST	5+37.15	5.86 RT	13832906.80'	3137454.86'	30.21'
BH - 14	JEFFERSON ST	16+29.86	4.05 RT	13832663.54'	3137192.49'	30.89'
BH - 15	DISMUKE ST	24+85.81	8.79 RT	13832424.73'	3137589.53'	31.45'
BH - 16	JEFFERSON ST	24+80.13	6.79 RT	13832362.98'	3137980.13'	30.70'
BH - 17	DISMUKE ST	21+35.13	6.38 RT	13832090.05'	3137484.78'	31.72'
BH - 18	DISMUKE ST	17+60.04	38.33 LT	13831765.77'	3137303.33'	35.35'
BH - 19	FAIR OAKS RD	2+88.76	5.86 RT	13831655.08'	3137937.51'	32.74'
BH - 20	DISMUKE ST	16+72.57	22.85 RT	13831660.23'	3137333.04'	30.72'
BH - 21	TRUETT ST	6+13.95	8.51 LT	13830839.64'	3137495.42'	33.83'
BH - 22	DISMUKE ST	5+81.81	10.12 LT	13830631.51'	3136968.92'	33.65'
BH - 23	BARREMORE ST	5+41.16	7.90 RT	13830113.17'	3137243.95'	33.72'

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MAHESH DUTTA (NAME) 114252 (P.E. NO.)

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

GEOTECHNICAL BOREHOLES LAYOUT (2 OF 2)

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM

SABEEN SHAIKH, P.E.

SHEET NO. 10 OF **183**

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\6-BORE LAYOUT.dwg Feb 10, 2026 3:05pm

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

LOG OF BORING B-1

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13834710.08; E 3133002.2 Eddington St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 32.2 FT
DATE: 10/3/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 50 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %
30	0	ASPHALT PAVMENT (3.5" in thickness)		74		20	47	18	29
		CONCRETE PAVMENT (7.5" in thickness)				18			
	5	FILL: LEAN CLAY WITH SAND (CL), brown, light brown, with root fibers to 2', sand seams and layers				20			
25		FAT CLAY WITH SAND (CH), stiff, brown, reddish brown, with root fibers to 12', gravels			103	22			
	10	- very stiff 4' to 6'		83	105	23	51	19	32
20						23			
	15	- firm 14' to 16'			97	22			
15		LEAN CLAY (CL), stiff, reddish brown, light gray, with gravels, sand seams and layers				25			
	20	- soft 18' to 20'		98		26			
10		FAT CLAY (CH), very stiff, reddish brown, light gray, with gravels				29	65	21	44
	25	- stiff 22' to 26'				31			
5		LEAN CLAY WITH SAND (CL), stiff, reddish brown, light gray, with gravels, sand seams and layers			113	29			
	30					19			
0				81		21	34	16	18
	35	FAT CLAY (CH), very stiff, reddish brown, light gray, with calcareous nodules, gravels			108	18			
-5						17			
	40					17			
-10		- stiff 42' to 48'		98		22	55	20	35
	45					25			
-15						26			
	50					18			
						17			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/3/2025

Drilled By: Blake,(T) Logged By: Dalton
Geotech Engineering & Testing
PLATE A-16

LOG OF BORING B-2

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13834899.58; E 3133198.3 Bell St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 32.6 FT
DATE: 10/3/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 50 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %
30	0	ASPHALT PAVMENT (4" in thickness)		35		10			
		BASE COURES (9" in thickness)				10			
	5	FILL: SILTY SAND (SM), brown, light brown, with root fibers to 2'				29			
25		SANDY LEAN CLAY (CL), firm, dark brown, light brown, with root fibers to 8', gravels, sand seams and layers		61	118	13	35	16	19
	10	- hard 6' to 8'			88	37			
20		FAT CLAY (CH), very stiff, brown, dark brown, with root fibers to 12', gravels				28			
	15	- stiff 10' to 14'			89	34			
15		- reddish brown 12' to 50'				34			
	20			97		22	62	21	41
10						14			
	25					16			
5		- stiff 26' to 30'			104	24			
	30					24			
0		- stiff 32' to 34'				33			
	35			97		25			
-5		- firm 36' to 40'				22			
	40					31			
-10		- soft 40' to 42'				28	64	21	43
	45	- firm 42' to 44'		91		21			
-15		- soft 44' to 46'				26			
	50	- firm 46' to 48'				26			
						25	63	21	42
						31			
						23			
						23			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/3/2025

Drilled By: Blake,(T) Logged By: Dalton
Geotech Engineering & Testing
PLATE A-17

LOG OF BORING B-3

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13834793.91; E 3133527.49 Dumble St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 32.5 FT
DATE: 10/15/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 50 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %
30	0	ASPHALT PAVMENT (2.5" in thickness)		95		26	66	21	45
		BASE COURES (6.5" in thickness)				24			
	5	FILL: FAT CLAY (CH), very stiff, brown, dark brown, with root fibers to 2', gravels				26			
25		FAT CLAY (CH), stiff, brown, dark brown, with root fibers to 12', gravels		96		27			
	10					36	76	23	53
20		- very stiff 12' to 14', reddish brown, gray 12' to 50				86			
	15	- firm 14' to 16'				35			
15						22			
	20			99		98			
10		- very stiff 20' to 22'				24			
	25			96		23			
5						33			
	30					29			
0		- firm 30' to 32'		87		26	65	21	44
	35					29			
-5		- very stiff 36' to 44'				24			
	40					99			
-10						22	52	19	33
	45	- firm 44' to 46'				19			
-15						17			
	50	- firm 48' to 50'				17			
						23			
						22			
						27			
						25			
						23			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/15/2025

Drilled By: Blake,(T) Logged By: Dalton
Geotech Engineering & Testing
PLATE A-18

LOG OF BORING B-4

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13834491.57; E 3133585.27 Dumble St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 32.7 FT
DATE: 10/15/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 40 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %
30	0	ASPHALT PAVMENT (5" in thickness)		72		25			
		BASE COURES (7.5" in thickness)				27	68	22	46
	5	FILL: SILTY SAND (SM), dark gray, gray, with root fibers to 2'			88	33			
25		FAT CLAY WIH SAND (CH), dark gray, gray, with root fibers to 4', gravels				31			
	10	- stiff 4' to 8'		97		32	61	21	40
20		- redish brown 6' to 50'				34			
	15	FAT CLAY (CH), stiff, dark gray, gray, with root fibers to 4', gravels			101	27			
15						24			
	20			99		28			
10		- very stiff 20' to 22'			107	25	58	20	38
	25			99		21			
5					99	24	56	20	36
	30	- very stiff 28' to 30'				26			
0		- firm 30' to 32'		99		23			
	35					32	59	20	39
-5		- very stiff 34' to 38'				23			
	40					20			
-10		- soft 38' to 40'				19			
	45	- soft 42' to 48'				20			
-15						19			
	50	- very stiff 48' to 50'				21			
						25			
						26			
						19			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/15/2025

Drilled By: Blake,(T) Logged By: Dalton
Geotech Engineering & Testing
PLATE A-19

LOG OF BORING B-5

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13834405.71; E 3133881.49 Leeland St.
COMPLETION DEPTH: 40 FT

SURFACE ELEVATION: 34.0 FT
DATE: 10/3/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 40 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %
30	0	ASPHALT PAVMENT (2-inch thickness)		89		31	73	22	51
		BASE COURES (7.0-inch thickness)				27			
	5	FILL: FAT CLAY (CH), stiff, brown, dark brown, with root fibers to 2', gravels				24			
25		FAT CLAY (CH), very stiff, brown, dark brown, with root fibers to 14', gravels		99	88	33	86	24	62
	10	- light gray, reddish brown 8' to 40'				21			
20						27			
	15					23			
15				94		20			
	20					21	66	21	45
10					103	25			
	25					18			
5		- hard 26' to 28'				21			
	30	- soft 28' to 30'			103	29			
0		- stiff 30' to 32'		98		28	78	23	55
	35					20			
-5		- stiff 36' to 38'				20			
	40					26			
						29			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 40.0 FT. ON 10/3/2025

Drilled By: Blake,(T) Logged By: Dalton
Geotech Engineering & Testing
PLATE A-20

LOG OF BORING B-6

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13834219; E 3134511.18 Leeland St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 34.9 FT
DATE: 10/24/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 50 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %
30	0	ASPHALT PAVMENT (4-inch thickness)		94	95	32	79	23	56
		BASE COURES (9.5-inch thickness)				28			
	5	FILL: FAT CLAY (CH), firm, gray, dark gray, with root fibers to 2', gravels				26			
25		FAT CLAY (CH), firm, gray, dark gray, with root fibers to 12', gravels		94		31	70	22	48
	10	- stiff 8' to 10'				26			
20		- stiff 12' to 14'				36			
	15					30			
15		- soft 16' to 18'		91		32			
	20					31	78	23	55
10		- stiff 20' to 22'			93	32			
	25	- soft 22' to 24'				28			
5		- stiff 24' to 28'		88		27			
	30					21			
0				99	102	20	55	20	35
	35	LEAN CLAY (CL), stiff, reddish brown, brown,gravels, sand seams and layers - soft 34' to 38'				25			
-5						28			
	40	FAT CLAY (CH), very stiff, gray, dark gray, with root fibers to 12', gravels				26	56	20	36
-10		- soft 42' to 44'				22			
	45					26			
-15		- stiff 46' to 48'				23			
	50					20			
						25			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/24/2025

Drilled By: Blake,(T) Logged By: Dalton
Geotech Engineering & Testing
PLATE A-21

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

GEOTECHNICAL BORE LOGS (1 OF 4)

WBS NO.
R-01000-0036-3

DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 11 OF 183

0 1 2 3
ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\7-BORE LOGS.dwg Feb 10, 2026 3:05pm

LOG OF BORING B-7

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13834073.04; E 3134997.75 Leeland St.
COMPLETION DEPTH: 40 FT

SURFACE ELEVATION: 34.5 FT
DATE: 10/3/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 40 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			ASPHALT PAVMENT (3.5-inch thickness)		95	102	22	67	21	46
				CONCRETE PAVMENT (7-inch thickness)				22			
30	5			FILL: FAT CLAY (CH), very stiff, brown, dark brown, with root fibers to 2', gravels		95		27	76	23	53
				FAT CLAY (CH), very stiff, brown, dark brown, with root fibers to 14', gravels				25			
25	10			- stiff 4' to 6'			91	30			
				- stiff 8' to 16'				26			
20	15					96		32	80	24	56
				- firm 16' to 20'			94	29			
15	20			- reddish brown 18' to 40'				29			
				- stiff 20' to 28'				25			
10	25					98	93	27	69	22	47
								30			
5	30					98		28			
								25	67	21	46
0	35			- stiff 32' to 36'				21			
								23			
-5	40			- firm 36' to 38'				21			
								25			
								22			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 40.0 FT. ON 10/3/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-22

LOG OF BORING B-8

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13833970.41; E 3135323.99 Leeland St.
COMPLETION DEPTH: 40 FT

SURFACE ELEVATION: 31.1 FT
DATE: 10/30/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 40 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			ASPHALT PAVMENT (3.5-inch thickness)		94		29			
30				BASE COURES (4.5-inch thickness)				28	74	23	51
25	5			FILL: FAT CLAY (CH), stiff, gray, dark gray, with root fibers to 2', gravels		101		27			
				FAT CLAY (CH), stiff, gray, dark gray, gravels				29			
20	10			- reddish brown, brown 6' to 40'		96		22	56	20	36
				- very stiff 8' to 10'				32			
15	15					96		26			
								26			
10	20			- soft 18' to 20'		100		25	55	20	35
				- very stiff 20' to 22'				30			
5	25			- firm 22' to 24'		104		22			
				- very stiff 24' to 26'				18			
0	30							20	54	19	35
				- very stiff 28' to 30'		105		19			
-5	35			- soft 30' to 32'		93		17			
								29	60	20	40
				- firm 34' to 36'				27			
	40							24			
				- soft 38' to 40'				25			
								30			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 40.0 FT. ON 10/30/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-23

LOG OF BORING B-9

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13833689.04; E 3136056.74 Collier St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 34.9 FT
DATE: 10/30/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 50 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			ASPHALT PAVMENT (5-inch thickness)		92		30	73	22	51
				BASE COURES (4.5-inch thickness)			94	30			
30	5			FILL: FAT CLAY (CH), very stiff, gray, dark gray, with root fibers to 2', gravels		93	99	28	63	21	42
				FAT CLAY (CH), stiff, gray, dark gray, with root fibers to 8', gravels				29			
25	10			- very stiff 10' to 12'				25			
							100	29	80	24	56
20	15			- very stiff 14' to 16'				26			
							96	28			
15	20			- very stiff 18' to 32'				24			
						98		30	81	24	57
10	25						105	27			
						86		25	52	19	33
5	30						105	22			
				- stiff 32' to 34'				26			
0	35			- very stiff 34' to 36'		93		26	68	22	46
								18			
-5	40			- very stiff 38' to 44'				21			
								24			
-10	45							23			
								18			
-15	50			- very stiff 48' to 50'				19			
								27			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/30/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-24

LOG OF BORING B-10

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13833302.78; E 3135935.49 Collier St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 33.6 FT
DATE: 10/31/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 50 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			ASPHALT PAVMENT (4.5-inch thickness)				30			
				BASE COURES (4.5-inch thickness)				29			
30	5			FILL: FAT CLAY (CH), very stiff, gray, dark gray, with root fibers to 2', gravels		89	100	29	71	22	49
				FAT CLAY (CH), very stiff, gray, dark gray, gravels				29			
25	10			- stiff 6' to 8'		93		27	66	21	45
							101	28			
20	15			- stiff 12' to 14'				22			
							104	23			
15	20			- stiff 16' to 22'		99		23	31	16	15
				LEAN CLAY (CL), stiff, reddish brown, gray, gravels			103	23			
10	25			FAT CLAY (CH), stiff, gray, dark gray, gravels - very stiff 22' to 24'				22			
				LEAN CLAY (CL), soft, reddish brown, gray, gravels				20			
5	30			FAT CLAY WITH SAND (CH), stiff, reddish brown, gray, gravels		81		20	57	20	37
								20			
0	35			FAT CLAY (CH), stiff, reddish brown, gray, gravels - firm 34' to 40'		86		19			
								23	56	20	36
-5	40							27			
				- stiff 40' to 44'				24			
-10	45			- firm 44' to 46'				36			
				- stiff 46' to 50'				31			
-15	50							29			
								36			
								18			
								19			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/31/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-25

LOG OF BORING B-11

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13833054.1; E 3136480.11 Collier St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 35.1 FT
DATE: 10/21/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 24 FT
WET ROTARY: 24 TO 50 FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			FILL: SILTY SAND (SM), gray, light gray, with root fibers to 6'		45		6			
35								4			
30	5			FAT CLAY WITH SAND (CH), very stiff, gray, light gray, with root fibers to 8', gravels - stiff 8' to 10'		79		5			
25	10						96	24	69	22	47
				- firm 12' to 14'				27			
20	15					91		34			
								27			
15	20			FAT CLAY (CH), very stiff, gray, light gray, gravels		89		25			
							100	22	74	23	51
10	25			LEAN CLAY (CL), stiff, gray, light gray, gravels, sand seams and layers - soft 22' to 24'				26			
							110	18	32	16	16
5	30			SILTY SAND (SM), medium dense, gray, light gray, gravels	21	19		26			
					24			20			
0	35				27			18			
					29	13		23			
-5	40			FAT CLAY (CH), soft, gray, reddish brown, gravels - stiff 34' to 42'				22			
								31	75	23	52
-10	45							20			
				LEAN CLAY (CL), soft, gray, reddish brown, gravels, sand seams and layers				18			
								20			
	50			- very stiff 48' to 50'				35			
								16			
								21			
								21			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/21/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-26

LOG OF BORING B-12

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13832969.55; E 3136772.7 Collier St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 34.1 FT
DATE: 10/24/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 50 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			ASPHALT PAVMENT (7-inch thickness)		92		23			
				BASE COURES (7-inch thickness)			95	31	61	21	40
30	5			FILL: FAT CLAY (CH), very stiff, dark gray, gray, with root fibers to 2', with calcareous and ferrous noules, gravels				26			
				FAT CLAY (CH), very stiff, dark gray, gray, with root fibers to 14', with calcareous and ferrous noules, gravels		93		22	59	20	39
25	10			- stiff 4' to 6'				22			
				- stiff 12' to 14'			97	26			
20	15							23			
				LEAN CLAY (CL), very stiff, light brown, brown, with calcareous and ferrous noules, gravels		96		21	46	18	28
15	20			- firm 18' to 20'			110	17			
				SANDY SILT (ML), medium dense, light brown, brown, with calcareous and ferrous noules, gravels	15			21			
10	25				14			22			
					15			22			
5	30			LEAN CLAY (CL), very stiff, light brown, brown, with calcareous and ferrous noules, gravels	15	69		22			
				- stiff 32' to 34'				24			
0	35						110	22	44	18	26
				FAT CLAY (CH), very stiff, light brown, brown, with calcareous and ferrous noules, gravels		94		21			
-5	40							22			
								26			
-10	45							28			
								18			
-15	50							22			
								23			
								18			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/24/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-27

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY
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MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

GEOTECHNICAL BORE LOGS (2 OF 4)

WBS NO.
R-01000-0036-3

DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 12 OF 183

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\7-BORE LOGS.dwg Feb 10, 2026 3:05pm

0 1 2 3
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

LOG OF BORING B-13

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13832906.8; E 3137454.86 Hackney St.
COMPLETION DEPTH: 15 FT

SURFACE ELEVATION: 30.2 FT
DATE: 11/7/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 15 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
30	0			ASPHALT PAVMENT (4-inch thickness)		81		28	54	19	35
				CONCRETE PAVMENT (6-inch thickness)				23			
25	5			FILL: FAT CLAY WITH SAND (CH), stiff, brown, dark brown, with root fibers to 2', gravels		89	99	26			
				FAT CLAY (CH), stiff, brownish yellow, gray, with root fibers to 15', gravels				29	67	21	46
20	10			- very stiff 8' to 12'				28			
								19			
	15							18			
								24			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 15.0 FT. ON 11/7/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-28

LOG OF BORING B-14

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13832663.54; E 3137192.49 Collier St.
COMPLETION DEPTH: 40 FT

SURFACE ELEVATION: 30.9 FT
DATE: 10/31/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 40 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
30	0			ASPHALT PAVMENT (4-inch thickness)		95		30	72	22	50
				CONCRETE PAVMENT (5-inch thickness)				28			
25	5			FILL: FAT CLAY (CH), firm, brown, dark brown, with root fibers to 2', gravels		94		29			
				FAT CLAY (CH), stiff, brown, light brown, with root fibers to 14', gravels				30			
20	10			- reddish brown, brown 6' to 40'		93		30	76	23	53
				- very stiff 8' to 10'				21			
	15			- very stiff12' to 16'		98	101	25			
15								25	72	22	50
								21			
	20						99	27			
10				- very stiff 20' to 22'		99		25	60	20	40
								24			
	25			- firm 24' to 26'				23			
5				LEAN CLAY WITH SAND (CL), soft, light brown, brown, gravels		77		18	29	15	14
	30			FAT CLAY (CH), firm, brown, light brown, gravels			97	24			
0				- stiff 30' to 32'				25			
				- soft 32' to 34'				22			
	35			- stiff 34' to 36'				16			
-5				- very stiff 36' to 38'				16			
				- stiff 38' to 40'				18			
	40										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 40.0 FT. ON 10/31/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-29

LOG OF BORING B-15

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13832424.73; E 3137589.53 Dismuke St.
COMPLETION DEPTH: 40 FT

SURFACE ELEVATION: 31.5 FT
DATE: 10/24/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 40 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
30	0			ASPHALT PAVMENT (4.5-inch thickness)		94		32	77	23	54
				CONCRETE PAVMENT (5.5-inch thickness)				32			
25	5			FILL: FAT CLAY (CH), stiff, brown, dark brown, with root fibers to 2', gravels		84		35			
				FAT CLAY (CH), stiff, light brown, brown, gravels		94		35	76	23	53
20	10			- firm 4' to 6'				38			
				- soft 10' to 12'		87		36			
	15			- very stiff 14' to 18'		95		35	82	24	58
15								23			
							102	22			
	20					90		22	57	20	37
10								22			
				LEAN CLAY (CL), stiff, light gray, gray, gravels				19			
	25			FAT CLAY (CH), firm, light gray, gray, gravels		99	101	33	77	23	54
5				- very stiff 26' to 30'				28			
								24			
	30			- stiff 30' to 36'				30			
0								34			
								34			
-5	35			- very stiff 36' to 40'				31			
								30			
	40										

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 40.0 FT. ON 10/24/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-30

LOG OF BORING B-16

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13832362.86; E 3137980.13 Fair Oaks Road
COMPLETION DEPTH: 20 FT

SURFACE ELEVATION: 30.7 FT
DATE: 11/7/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
30	0			ASPHALT PAVMENT (3" in thickness)				27			
				CONCRETE PAVMENT (6-inch thickness)		91		23	68	22	46
25	5			FILL: FAT CLAY (CH), very stiff, brown, dark brown, with root fibers to 2', gravels			103	20			
				FAT CLAY (CH), stiff, brownish yellow, gray, with root fibers to 20', gravels		93		21			
20	10			- very stiff 4' to 6'				27	80	24	56
				- hard 6' to 8'				26			
	15			- very stiff 8' to 18'				27			
15								27			
	20							24			
								25			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 20.0 FT. ON 11/7/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-31

LOG OF BORING B-17

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13832090.05; E 13832090.05 Dismuke St.
COMPLETION DEPTH: 50 FT

SURFACE ELEVATION: 31.7 FT
DATE: 10/31/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 50 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
30	0			ASPHALT PAVMENT (3-inch thickness)		95		30	76	23	53
				BASE COURES (7-inch thickness)			94	29			
25	5			FILL: FAT CLAY (CH), firm, brown, dark brown, with root fibers to 2', gravels		94		31			
				FAT CLAY (CH), stiff, brown, dark brown, gravels				30	76	23	53
20	10			- firm 4' to 6'				32			
				- firm 8' to 12'		84		38			
	15					97		37	87	25	62
15				LEAN CLAY (CL), stiff, reddish brown, brown, gravels			109	33			
				- soft 18' to 20'				23			
	20							21			
10				FAT CLAY WITH SAND (CH), firm, reddish brown, brown, gravels		76		18	52	19	33
				- stiff 22' to 30'				34			
5	25					85		35			
								27			
	30							30			
0				FAT CLAY (CH), stiff, reddish brown, gray, gravels		97		40	108	28	80
								32			
-5	35							24			
				- firm 38' to 40'				25			
	40							33			
-10				LEAN CLAY (CL), soft, reddish brown, brown, gravels				27			
	45			- firm 44' to 48'				19			
-15								16			
	50			-stiff 48' to 50'				19			
								20			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 50.0 FT. ON 10/31/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-32

LOG OF BORING B-18

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13831765.77; E 3137303.33 Dismuke St.
COMPLETION DEPTH: 54 FT

SURFACE ELEVATION: 35.4 FT
DATE: 10/21/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 50 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %
35	0			FILL: SANDY LEAN CLAY (CL), brown, light brown, gravels, with root fibers to 8', sand seams and layers		57		7	28	15	13
								6			
30	5							5			
				FAT CLAY (CH), very stiff, brownish yellow, light brown, gravels		95		38	82	24	58
25	10						84	39			
				- stiff 12' to 14'				31			
20	15							39			
						99		25	65	21	44
15	20						101	26			
								24			
10	25					99		25	71	22	49
								22			
5	30			LEAN CLAY WITH SAND (CL), stiff, gray, light gray, gravels, sand seams and layers				31			
								18			
0	35			- very stiff 36' to 38'		83	112	20			
								17	38	17	21
-5	40			FAT CLAY (CH), very stiff, gray, reddish brown, gravels				15			
								30			
-10	45			- firm 44' to 46'			102	27			
								28			
-15	50			- stiff 46' to 48'				22			
								30			
								19			
								20			
								21			

UNDRAINED SHEAR STRENGTH, TSF
○ HAND PENETROMETER
● UNCONFINED COMPRESSION
■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION
△ TORVANE
0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 54.0 FT. ON 10/21/2025

Drilled By: Blake,(J) Logged By: Dylan

Geotech Engineering & Testing

PLATE A-33

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

GEOTECHNICAL BORE LOGS (3 OF 4)

WBS NO.
R-01000-0036-3

DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 13 OF 183

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\7-BORE LOGS.dwg Feb 10, 2026 3:06pm

0 1 2 3
ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

LOG OF BORING B-19

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13631655.06; E 3137937.51 Fair Oaks Road
COMPLETION DEPTH: 15 FT

SURFACE ELEVATION: 32.7 FT
DATE: 11/7/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 15 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			CONCRETE PAVMENT (10-inch thickness)								
30	5			BASE COURES (4-inch thickness)								
				FILL: FAT CLAY (CH), stiff, brown, dark brown, with root fibers to 2', gravels		91		24				
25	10			FAT CLAY (CH), stiff, brownish yellow, gray, with root fibers to 15', gravels - very stiff 8' to 14'			99	25	65	21	44	
								28				
20	15						101	23				
								25				
								20				
								19				
								24				

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 15.0 FT. ON 11/7/2025

Drilled By: Blake,D Logged By: Dallen

Geotech Engineering & Testing

PLATE A-34

LOG OF BORING B-20

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13631660.23; E 3137333.04 Dismuke St.
COMPLETION DEPTH: 20 FT

SURFACE ELEVATION: 30.7 FT
DATE: 9/17/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			ASPHALT PAVMENT (4-inch thickness)		22		5				
30	5			BASE COURES (6-inch thickness)			93	29				
				FILL: SILTY SAND (SM), brown, light brown, with root fibers to 2'				33	78	23	55	
25	10			FAT CLAY (CH), stiff, brownish yellow, light gray, with root fibers to 8', gravels - firm 8' to 10'			91	30				
						95		29	77	23	54	
20	15							38				
								36				
15				- firm 16' to 18'				36				
	20							33				
								35				

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 20.0 FT. ON 9/17/2025

Drilled By: Blake,D Logged By: Dallen

Geotech Engineering & Testing

PLATE A-35

LOG OF BORING B-21

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13630639.64; E 3137495.42 Truett St.
COMPLETION DEPTH: 15 FT

SURFACE ELEVATION: 33.8 FT
DATE: 9/17/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 15 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			ASPHALT PAVMENT (5-inch thickness)				7				
30	5			BASE COURES (4-inch thickness)				29	71	22	49	
				FILL: SILTY SAND (SM), brown, light brown, with root fibers to 2'		96		28				
25	10			FAT CLAY (CH), very stiff, light brown, brown, gravels - stiff 6' to 10'				29				
						95		32				
20	15			- stiff 12' to 14'				27				
								31				
								32				

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 15.0 FT. ON 9/17/2025

Drilled By: Blake,D Logged By: Dallen

Geotech Engineering & Testing

PLATE A-36

LOG OF BORING B-22

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13630631.51; E 3136968.92 Bonsrell St.
COMPLETION DEPTH: 20 FT

SURFACE ELEVATION: 33.7 FT
DATE: 9/17/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 20 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			ASPHALT PAVMENT (7-inch thickness)		23		5				
30	5			BASE COURES (3-inch thickness)			83	37				
				FILL: SILTY SAND (SM), brown, light brown, with root fibers to 2'				33				
25	10			FAT CLAY (CH), firm, light brown, brown, gravels - stiff 4' to 20'			90	32				
						98		31				
20	15							38	95	26	69	
								39				
								38				
15	20							38				
								35				

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 20.0 FT. ON 9/17/2025

Drilled By: Blake,D Logged By: Dallen

Geotech Engineering & Testing

PLATE A-37

LOG OF BORING B-23

PROJECT: G/S for Sanitary Sewer Improvement Upstream of Eddington Lift Station, CRMP CIP Package 5, City of Houston, Texas. WBS No. S-001000-0036-3
PROJECT NO.: 23-845E

LOCATION: N 13630113.17; E 3137243.95 Barremore St.
COMPLETION DEPTH: 15 FT

SURFACE ELEVATION: 33.7 FT
DATE: 9/17/2025

SAMPLER: Shelby Tube/Split Spoon
DRY AUGER: 0 TO 15 FT
WET ROTARY: TO FT

ELEVATION, FT	DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
	0			ASPHALT PAVMENT (5-inch thickness)			98	5				
30	5			BASE COURES (4-inch thickness)		95		27				
				FILL: SILTY SAND (SM), brown, light brown, with root fibers to 2'				25	67	21	46	
25	10			FAT CLAY (CH), very stiff, dark gray, gray, with root fibers to 10', gravels - stiff 4' to 6'		94	100	24				
				- stiff 10' to 14', light gray 10' to 15'				26	65	21	44	
20	15							30				
								29				
								29				

UNDRAINED SHEAR STRENGTH, TSF: ○ HAND PENETROMETER; ● UNCONFINED COMPRESSION; ■ UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION; △ TORVANE; 0.5 1.0 1.5 2.0 2.5

DEPTH TO WATER IN BORING:
▽ FREE WATER 1ST ENCOUNTERED AT FT. DURING DRILLING; AFTER 15.0 MIN. AT FT.
▼ WATER DEPTH AT FT., HOLE OPEN TO 15.0 FT. ON 9/17/2025

Drilled By: Blake,D Logged By: Dallen

Geotech Engineering & Testing

PLATE A-38

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

GEOTECHNICAL BORE LOGS (4 OF 4)

WBS NO.
R-01000-0036-3

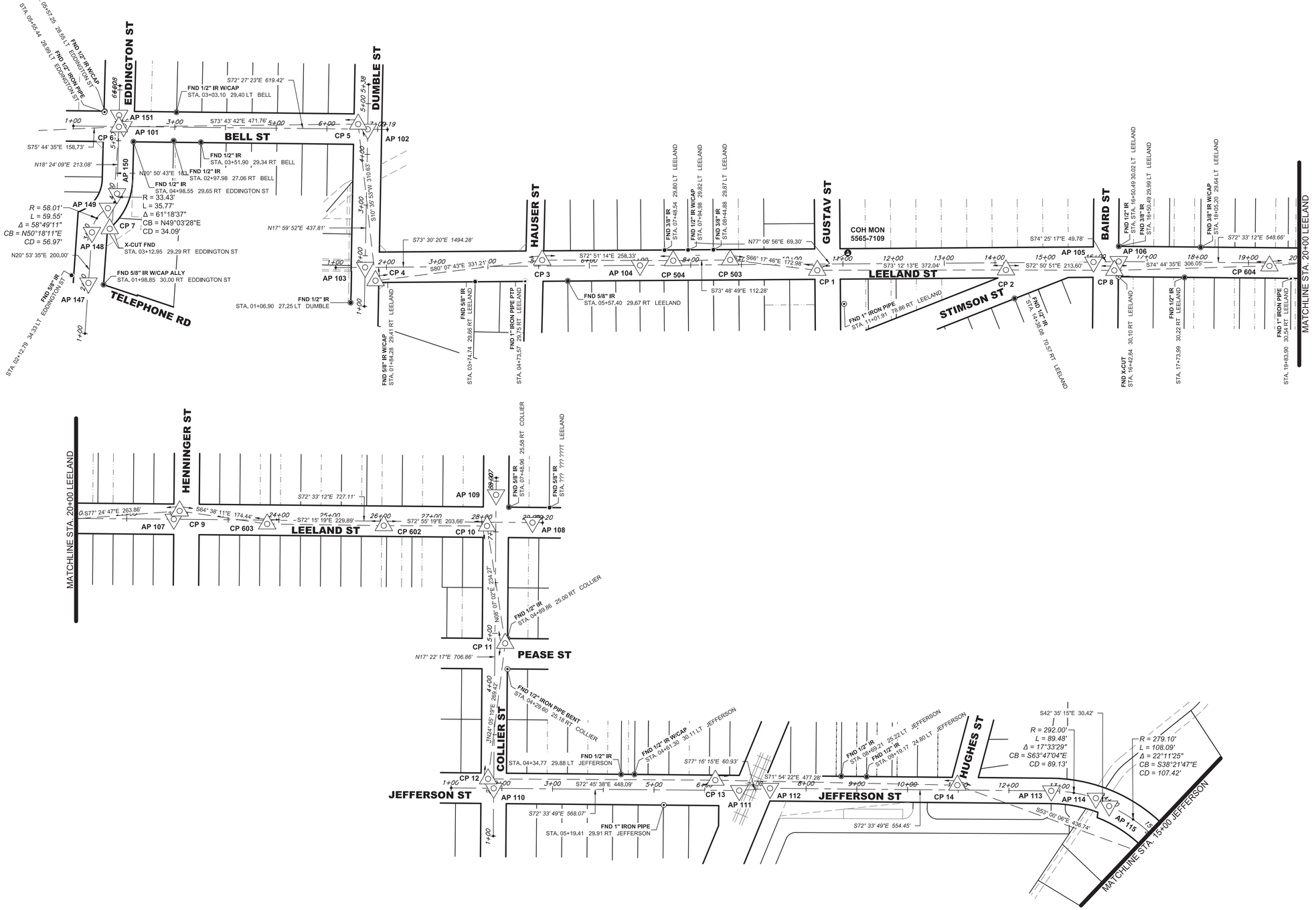
DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 14 OF 183

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0 1 2 3
ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS



NO.	DATE	REVISION	APP.

NOTES :

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATAUM OF 1983 (2011 ADJ.) 2010 EPOCH.
COORDINATES SHOWN HEREON ARE GRID VALUES AND MAY BE CONVERTED TO SURFACE BY APPLYING THE COMBINED SCALE FACTOR OF 0.999889376.

GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.

HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED AUGUST 2025.

ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (2001 ADJ.), WITH ALL CONTROL NETWORK ELEVATIONS TIED VIA DIFFERENTIAL LEVELING TO THE PROJECT BENCH MARK AS PUBLISHED BY AGS, INC.

PROJECT BENCH MARK :

CITY OF HOUSTON REFERENCE MONUMENT 5556-7109.
AN ALUMINUM DISC AT THE NORTHEAST CORNER OF LEELAND STREET AND GUSTAV STREET INTERSECTION.

PUBLISHED ELEVATION : 34.16' (NAVD 88 (2001 ADJ.)), AGS, INC.

OBSERVED ELEVATION : 33.96' (NAVD 88 GEOID 18), AMANI

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77042
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No.100282-00

SURVEYED BY: AMANI
FB NO. P-6406

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE, NOT INTENDED FOR PERMIT, BIDDING, OR CONSTRUCTION

WILLIAM H. REIMER III, R.P.L.S.
Surveyor
4044
Registration Number
2/10/2026
Date

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

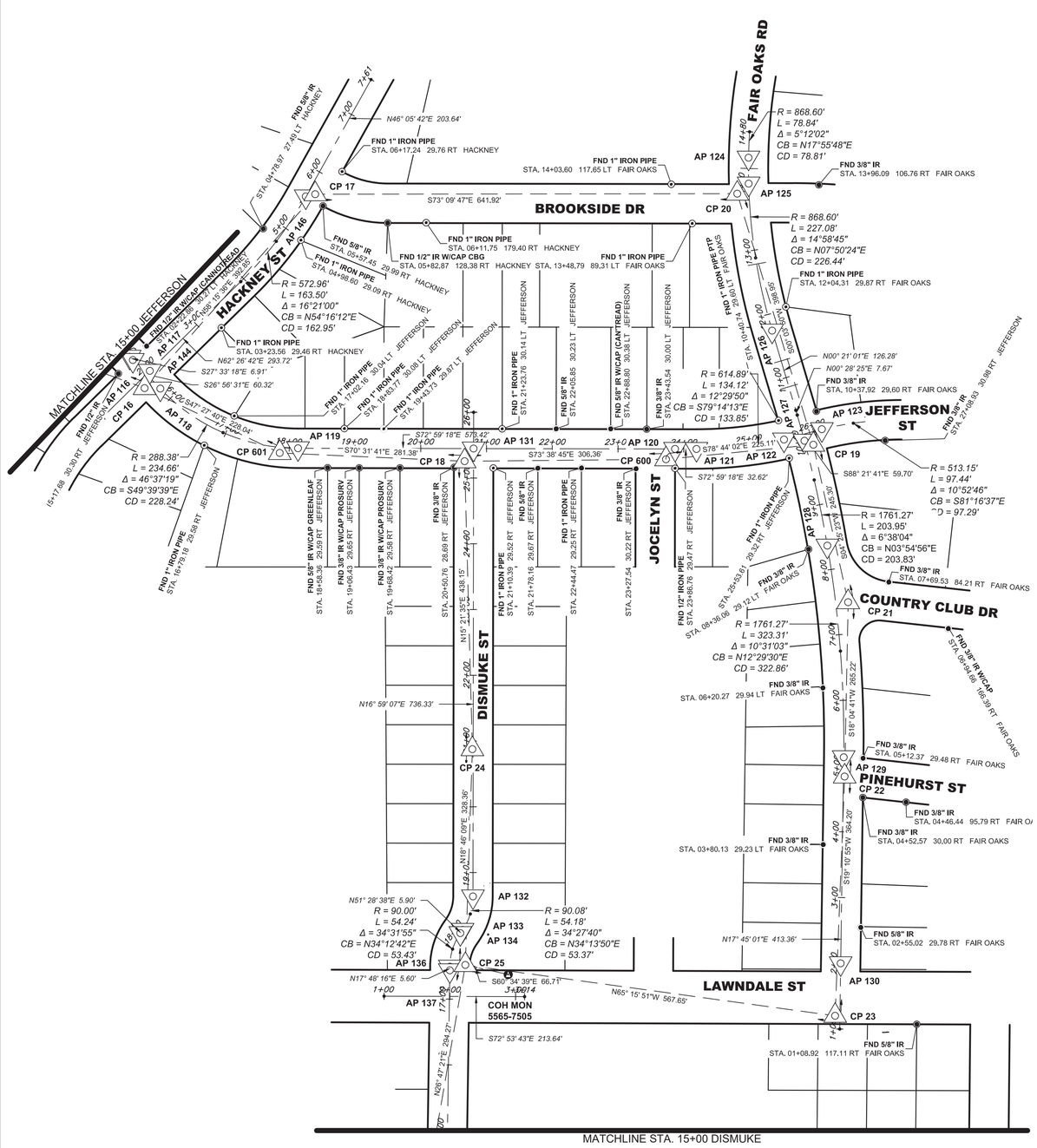
CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

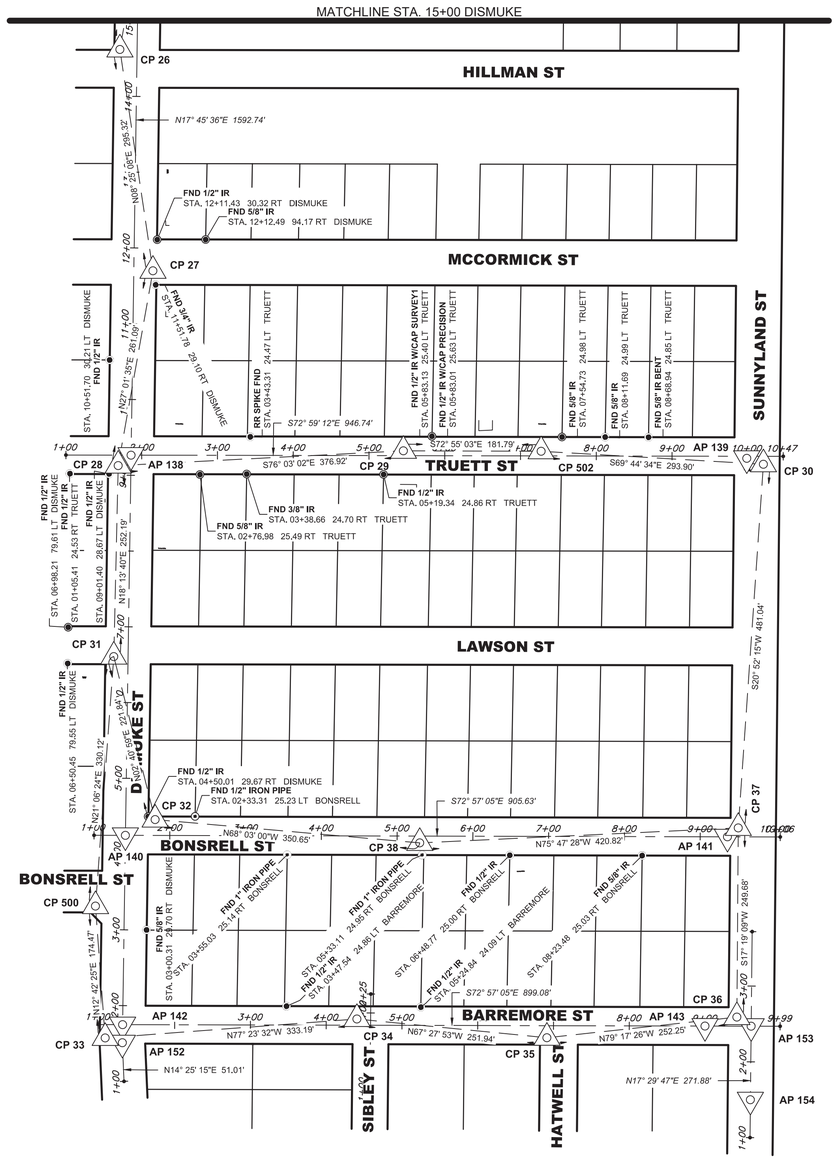
SURVEY CONTROL
OVERALL MAP
(SHEET 1 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
R-01000-0036-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 15 OF **183**	

FILE PATH: P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Survey Control Drawings\24014-SurveyControl-Overall.dwg

0 1 2 3
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS





100 50 0 100

22" X 34" : 1" = 100'
11" X 17" : 1" = 200'

NO.	DATE	REVISION	APP.

NOTES :

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GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.

HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED AUGUST 2025.

ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (2001 ADJ.), WITH ALL CONTROL NETWORK ELEVATIONS TIED VIA DIFFERENTIAL LEVELING TO THE PROJECT BENCH MARK AS PUBLISHED BY AGS, INC.

PROJECT BENCH MARK :

CITY OF HOUSTON REFERENCE MONUMENT 5556-7109.
AN ALUMINUM DISC AT THE NORTHEAST CORNER OF LEELAND STREET AND GUSTAV STREET INTERSECTION.

PUBLISHED ELEVATION : 34.16' (NAVD 88 (2001 ADJ.)), AGS, INC.

OBSERVED ELEVATION : 33.96' (NAV 88 GEOID 18), AMANI

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77042
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No.100282-00

SURVEYED BY: AMANI
FB NO. P-6406

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE, NOT INTENDED FOR PERMIT, BIDDING, OR CONSTRUCTION

WILLIAM H. REIMER III, R.P.L.S.
Surveyor
4044
Registration Number
2/10/2026
Date

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

SURVEY CONTROL
OVERALL MAP
(SHEET 2 OF 8)

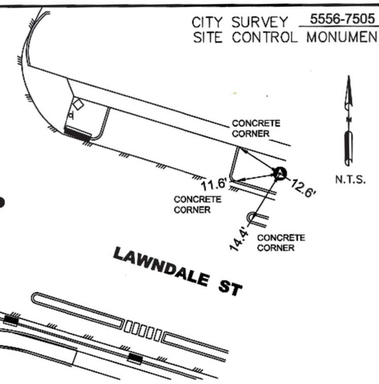
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
R-01000-0036-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 16 OF 183	

FILE PATH: P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Survey Control Drawings\24014-SurveyControl-Overall.dwg

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ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

CITY OF HOUSTON

CITY SURVEY 5556-7505
SITE CONTROL MONUMENT



Project WBS# R-001000-0036-3
Texas Coordinate System of 1983,
South Central Zone, U. S. Survey Feet
X= 3,137,068.99
Y= 13,830,172.99
Lat.= N 29° 43' 36.1385"
Lon.= W 95° 19' 3.0157"

Keymap Page: 494Y
Orthometric Elevation = 31.99
Ellipsoid Height= -57.53
Geoid: GEOID 18
Datum Source & Adjustment:
2-HR STATIC GPS OBSERVATION
MADE ON MONUMENT ON 08/30/2025

Reference Frame Used: NAD_83(2011)(EPOCH: 2010.0000)
Vertical Adjustment used: NAVD 88 GEOID18
General Location: AT THE NORTH SIDE OF LAWNDALE ST., APPROXIMATELY 60 FEET EAST OF THE DISMUKE ST. INTERSECTION.

Date Set: Sept. 3, 2025 Type of Mark: Aluminum Disk

3 Nearest project control points (bearings and distances stated below):
1. CP #25, X-CUT, N 60° 34' 39" W, 66.71'
2. CP #26, X-CUT, S 39° 40' 45" W, 298.73'
3. CP #24, MAG NAIL, N 07° 52' 36" E, 346.94'

NOTE:
1. Bearings are grid bearings.
2. Combined Factor (C.F)= 0.99988929.

Surface= Grid
C.F.

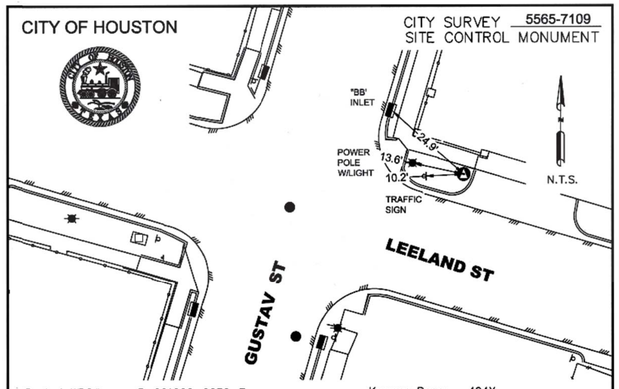
Surveyed By: Amani Engineering, Inc.
11011 Richmond Avenue, Suite 700
Houston, TX 77042
Tel. (713)270-5700
Texas Registered Survey Firm 10028200

STATE OF TEXAS REGISTERED CHRISTINA I. WEAVERS 6753 PROFESSIONAL LAND SURVEYOR
12.15.25

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CITY OF HOUSTON

CITY SURVEY 5565-7109
SITE CONTROL MONUMENT



Project WBS# R-001000-0036-3
Texas Coordinate System of 1983,
South Central Zone, U. S. Survey Feet
X= 3,134,095.47
Y= 13,832,737.33
Lat.= N 29° 44' 2.4387"
Lon.= W 95° 19' 35.8136"

Keymap Page: 494X
Orthometric Elevation = 33.96
Ellipsoid Height= -55.59
Geoid: GEOID 18
Datum Source & Adjustment:
2-HR STATIC GPS OBSERVATION
MADE ON MONUMENT ON 08/23/2025

Reference Frame Used: NAD_83(2011)(EPOCH: 2010.0000)
Vertical Adjustment used: NAVD 88 GEOID18
General Location: AT NORTHEAST CORNER OF LEELAND STREET AND GUSTAV STREET INTERSECTION.

Date Set: APRIL 7, 2025 Type of Mark: ALUMINUM DISC SURVEY MARKER

3 Nearest project control points (bearings and distances stated below):
1. CP #1, MAG NAIL, S 77° 06' 56" W, 69.30'
2. CP #2, MAG NAIL, S 66° 55' 25" E, 313.72'
3. CP #8, MAG NAIL, S 69° 19' 22" E, 526.64'

NOTE:
1. Bearings are grid bearings.
2. Combined Factor (C.F)= 0.99989008.

Surface= Grid
C.F.

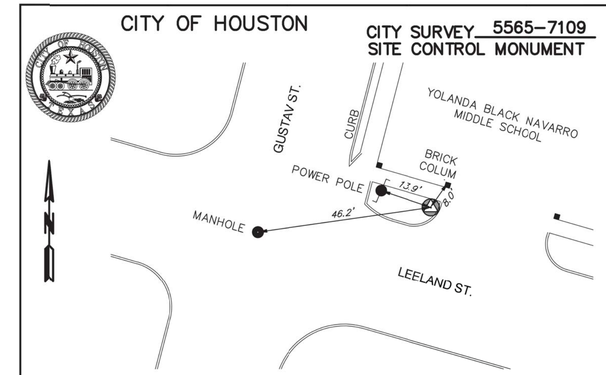
Surveyed By: Amani Engineering, Inc.
11011 Richmond Avenue, Suite 700
Houston, TX 77042
Tel. (713)270-5700
Texas Registered Survey Firm 10028200

STATE OF TEXAS REGISTERED CHRISTINA I. WEAVERS 6753 PROFESSIONAL LAND SURVEYOR
12.12.25

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CITY OF HOUSTON

CITY SURVEY 5565-7109
SITE CONTROL MONUMENT



Project WBS# R-001000-0035-3
Texas Coordinate System of 1983,
South Central Zone, U. S. Survey Feet
X= 3,134,095.45 (GRID)
Y= 13,832,737.20 (GRID)
Lat.= 29° 44' 02.43742" N
Lon.= 95° 19' 35.81390" W

Keymap Page: 494-X
Orthometric Elevation = 34.16'
Ellipsoid Height= -55.39'
Geoid: GEOID 18
Vertical Adjustment used:
NAVD 88 (2001 ADJ)
ELEV. BASED OF DIGITAL LEVELS

Reference Frame Used: NAD 83 (2011)(EPOCH2010,00)
Datum Source & Adjustment: NAD 83 (2011 ADJ.) Date Surveyed: 04/21/2025
General Location: LOCATED AT NORTHEAST CORNER OF LEELAND ST. AND GUSTAV ST.

Date Set: 04/07/2025 Type of Mark: ALUMINUM DISC STAMPED SURVEY MARKER

3 Nearest project control points (bearings and distances stated below):
S 80° 25' 43" W - 1,097.42' CP110 - X CUT IN CONC.
S 89° 27' 19" W - 1,031.99' CP111 - X CUT IN CONC.
N 86° 04' 40" W - 1,010.95' CP112 - X CUT IN CONC.

NOTE:
1. Bearings are grid bearings.
2. Scale Factor = (S.F. 0.999889376)

3. Surface= Grid
S.F.

Surveyed By: ALLY GENERAL SOLUTION, LLC
5300 HOLLISTER RD. STE. 111
HOUSTON, TX, 77040

STATE OF TEXAS REGISTERED DANIEL PAUL COYER 4867 PROFESSIONAL LAND SURVEYOR
06/09/2025

City of Houston, Harris County, Texas

T:\0060-014-24 COH Eddington LS - Arduino\DWG\Coh Mon 902.dwg ADS36 6/3/2025

NO.	DATE	REVISION	APP.

NOTES :

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GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.

HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED AUGUST 2025.

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PROJECT BENCH MARK :

CITY OF HOUSTON REFERENCE MONUMENT 5556-7109.
AN ALUMINUM DISC AT THE NORTHEAST CORNER OF LEELAND STREET AND GUSTAV STREET INTERSECTION.

PUBLISHED ELEVATION : 34.16' (NAVD 88 (2001 ADJ.)), AGS, INC.

OBSERVED ELEVATION : 33.96' (NAVD 88 GEOID 18), AMANI

CONTROL POINTS

POINT	GRID NORTHING	GRID EASTING	ELE.	DESC.	STA.	BASELINE
1	13,832,721.75	3,134,027.90	33.80	CP MAG NAIL	STA. 10+49.49' 12.26' RT	Leeland
2	13,832,614.25	3,134,384.03	35.28	CP MAG NAIL	STA. 14+21.52' 14.22' RT	Leeland
3	13,832,898.73	3,133,514.88	33.98	CP MAG NAIL	STA. 5+07.27' 11.78' LT	Leeland
4	13,832,954.75	3,133,188.16	32.32	CP X-CUT	STA. 1+78.05' 27.27' RT	Leeland
5	13,833,260.80	3,133,245.74	32.21	CP MAG NAIL	STA. 5+61.61' 9.86' LT	Bell
6	13,833,392.97	3,132,792.92	32.51	CP MAG NAIL	STA. 1+89.97' 0.62' RT	Bell
7	13,833,205.86	3,132,717.02	32.19	CP X-CUT	STA. 3+22.24' 32.50' RT	Eddington
8	13,832,551.26	3,134,588.11	34.04	CP MAG NAIL	STA. 16+34.84' 17.32' RT	Leeland
9	13,832,413.24	3,135,140.82	33.46	CP MAG NAIL	STA. 22+04.14' 16.43' LT	Leeland
10	13,832,208.67	3,135,712.02	33.58	CP MAG NAIL	STA. 7+11.54' 17.31' LT	Collier
11	13,831,976.76	3,135,678.95	34.08	CP X-CUT	STA. 4+80.31' 20.37' RT	Collier
12	13,831,730.83	3,135,568.99	33.39	CP MAG NAIL	STA. 1+72.72' 18.51' LT	Jefferson
13	13,831,598.05	3,135,996.90	34.34	CP X-CUT	STA. 6+20.81' 20.05' LT	Jefferson
14	13,831,449.83	3,136,450.54	33.96	CP MAG NAIL	STA. 10+98.26' 9.58' LT	Jefferson
15	13,831,381.39	3,136,670.67	31.62	CP X-CUT	STA. 13+26.95' 13.63' LT	Jefferson
16	13,831,187.03	3,136,799.30	30.59	CP MAG NAIL	STA. 15+61.51' 16.79' RT	Jefferson
17	13,831,393.68	3,137,133.37	29.76	CP MAG NAIL	STA. 5+67.26' 10.91' RT	Hackney
18	13,830,939.08	3,137,232.57	31.10	CP MAG NAIL	STA. 20+66.66' 19.27' RT	Jefferson
19	13,830,808.85	3,137,747.26	30.50	CP X-CUT	STA. 9+90.75' 11.50' RT	FairOaks
20	13,831,207.76	3,137,747.70	30.07	CP X-CUT	STA. 13+87.12' 17.85' LT	FairOaks
21	13,830,564.31	3,137,728.34	32.12	CP X-CUT	STA. 7+47.47' 19.02' RT	FairOaks
22	13,830,312.21	3,137,646.05	32.17	CP X-CUT	STA. 4+44.09' 1.80' RT	FairOaks
23	13,829,968.27	3,137,526.40	33.18	CP 758C	STA. 1+20.00' 7.30' LT	FairOaks
24	13,830,516.63	3,137,116.53	32.23	CP MAG NAIL	STA. 20+87.57' 1.23' LT	Dismuke
25	13,830,205.77	3,137,010.89	32.26	CP X-CUT	STA. 17+52.79' 23.49' RT	Dismuke
26	13,829,943.11	3,136,878.28	33.18	CP X-CUT	STA. 14+61.61' 22.68' LT	Dismuke
27	13,829,651.01	3,136,835.05	33.46	CP MAG NAIL	STA. 11+70.20' 25.26' RT	Dismuke
28	13,829,418.46	3,136,716.42	33.59	CP MAG NAIL	STA. 1+69.04' 13.79' RT	Truett
29	13,829,327.61	3,137,082.18	34.13	CP MAG NAIL	STA. 5+45.42' 6.35' LT	Truett
30	13,829,172.47	3,137,531.62	33.62	CP MAG NAIL	STA. 10+20.63' 10.50' RT	Truett
31	13,829,178.94	3,136,637.55	33.21	CP MAG NAIL	STA. 6+60.34' 18.84' LT	Dismuke
32	13,828,957.37	3,136,627.16	34.84	CP X-CUT	STA. 1+80.56' 20.93' LT	Bonsrell
33	13,828,700.83	3,136,480.31	33.99	CP X-CUT	STA. 1+08.35' 17.60' RT	Barremore
34	13,828,628.11	3,136,805.43	34.15	CP MAG NAIL	STA. 4+40.54' 8.20' LT	Barremore
35	13,828,531.57	3,137,038.10	33.25	CP MAG NAIL	STA. 6+91.32' 15.89' RT	Barremore
36	13,828,484.70	3,137,285.94	33.84	CP MAG NAIL	STA. 9+42.03' 11.96' LT	Barremore
37	13,828,723.03	3,137,360.26	33.61	CP MAG NAIL	STA. 9+50.23' 11.82' LT	Bonsrell
38	13,828,826.32	3,136,952.36	34.21	CP MAG NAIL	STA. 5+29.93' 9.03' RT	Bonsrell
502	13,829,274.21	3,137,255.93	33.66	CP MAG NAIL	STA. 7+27.21' 6.13' LT	Truett
503	13,832,791.28	3,133,869.53	34.15	CP MAG NAIL	STA. 8+77.87' 9.45' LT	Leeland
504	13,832,822.58	3,133,761.71	34.37	CP MAG NAIL	STA. 7+65.59' 8.85' LT	Leeland
600	13,830,852.83	3,137,526.51	32.04	CP MAG NAIL	STA. 23+73.00' 15.76' RT	Jefferson
601	13,831,032.87	3,136,967.31	31.17	CP MAG NAIL	STA. 17+86.29' 8.51' RT	Jefferson
602	13,832,268.47	3,135,517.36	33.83	CP MAG NAIL	STA. 26+06.81' 8.79' RT	Leeland
603	13,832,338.53	3,135,298.43	33.72	CP MAG NAIL	STA. 23+76.92' 7.60' RT	Leeland
604	13,832,470.74	3,134,883.33	34.29	CP MAG NAIL	STA. 19+41.23' 5.92' RT	Leeland

ADDITIONAL POINTS

POINT	GRID NORTHING	GRID EASTING	DESC.	STA.	BASELINE
100	13,833,390.53	3,132,802.67	MAG NAIL	STA. 2+00.00'	Bell
102	13,833,245.69	3,133,260.82	MAG NAIL	STA. 6+80.55'	Bell
103	13,832,986.60	3,133,176.65	MAG NAIL	STA. 1+57.97'	Leeland
104	13,832,832.72	3,133,696.32	MAG NAIL	STA. 7+00.00'	Leeland
105	13,832,578.84	3,134,553.70	MAG NAIL	STA. 15+94.28'	Leeland
106	13,832,565.47	3,134,601.65	MAG NAIL	STA. 16+44.06'	Leeland
107	13,832,400.99	3,135,125.00	MAG NAIL	STA. 21+92.72'	Leeland
108	13,832,188.96	3,135,799.67	MAG NAIL	STA. 29+00.00'	Leeland
109	13,832,262.28	3,135,746.92	MAG NAIL	STA. 7+73.14'	Collier
110	13,831,709.83	3,135,574.10	MAG NAIL	STA. 1+94.22'	Collier
111	13,831,564.76	3,136,035.98	MAG NAIL	STA. 6+68.07'	Jefferson
112	13,831,551.34	3,136,095.41	MAG NAIL	STA. 7+29.00'	Jefferson
113	13,831,385.21	3,136,624.32	MAG NAIL	STA. 12+83.45'	Jefferson
114	13,831,345.84	3,136,704.28	MAG NAIL	STA. 13+72.93'	Jefferson
115	13,831,323.45	3,136,724.86	MAG NAIL	STA. 14+03.35'	Jefferson
116	13,831,239.23	3,136,791.52	MAG NAIL	STA. 15+11.44'	Jefferson
117	13,831,233.11	3,136,794.72	MAG NAIL	STA. 15+18.35'	Jefferson
118	13,831,179.35	3,136,822.04	MAG NAIL	STA. 15+78.66'	Jefferson
119	13,831,031.62	3,136,995.99	MAG NAIL	STA. 19+13.32'	Jefferson
120	13,830,863.87	3,137,544.26	MAG NAIL	STA. 23+86.75'	Jefferson
121	13,830,854.33	3,137,575.45	MAG NAIL	STA. 24+19.37'	Jefferson
122	13,830,829.34	3,137,706.94	X-CUT	STA. 25+53.49'	Jefferson
123	13,830,827.63	3,137,766.61	X-CUT	STA. 26+13.19'	Jefferson
124	13,831,255.14	3,137,780.00	X-CUT	STA. 14+41.07'	FairOaks
125	13,831,217.38	3,137,768.72	X-CUT	STA. 14+01.66'	FairOaks
126	13,830,993.08	3,137,737.84	MAG NAIL	STA. 11+74.57'	FairOaks
127	13,830,818.54	3,137,736.11	X-CUT	STA. 10+00.00'	FairOaks
128	13,830,655.81	3,137,723.08	X-CUT	STA. 8+36.67'	FairOaks
129	13,830,340.64	3,137,653.26	X-CUT	STA. 5+13.37'	FairOaks
130	13,830,042.22	3,137,557.73	X-CUT	STA. 2+00.00'	FairOaks
131	13,830,953.52	3,137,251.26	MAG NAIL	STA. 25+44.81'	Dismuke
132	13,830,302.16	3,137,052.30	MAG NAIL	STA. 18+63.67'	Dismuke
133	13,830,258.05	3,137,022.29	MAG NAIL	STA. 18+09.49'	Dismuke
134	13,830,254.37	3,137,017.67	MAG NAIL	STA. 18+03.59'	Dismuke
136	13,830,210.20	3,136,987.64	MAG NAIL	STA. 17+49.35'	Dismuke
137	13,830,204.87	3,136,985.93	MAG NAIL	STA. 17+43.76'	Dismuke
138	13,829,426.68	3,136,736.68	MAG NAIL	STA. 9+26.53'	Dismuke
139	13,829,188.54	3,137,514.96	MAG NAIL	STA. 10+00.00'	Truett
140	13,828,948.84	3,136,583.62	MAG NAIL	STA. 4+24.72'	Dismuke
141	13,828,715.90	3,137,343.21	MAG NAIL	STA. 9+36.62'	Bonsrell
142	13,828,710.93	3,136,507.42	MAG NAIL	STA. 1+74.88'	Dismuke
143	13,828,485.59	3,137,242.25	MAG NAIL	STA. 9+00.00'	Barremore
144	13,831,209.82	3,136,814.59	MAG NAIL	STA. 2+00.00'	Hackney
145	13,831,299.43	3,136,986.31	MAG NAIL	STA. 3+93.72'	Hackney
146	13,831,394.57	3,137,118.58	MAG NAIL	STA. 5+57.22'	Hackney
147	13,833,115.78	3,132,645.87	X-CUT	STA. 2+00.00'	Eddington
148	13,833,209.20	3,132,681.52	MAG NAIL	STA. 3+00.00'	Eddington
149	13,833,245.58	3,132,725.35	MAG NAIL	STA. 3+59.55'	Eddington
150	13,833,267.92	3,132,751.10	MAG NAIL	STA. 3+95.32'	Eddington
151	13,833,414.67	3,132,799.92	MAG NAIL	STA. 5+50.00'	Eddington
152	13,828,688.20	3,136,500.14	MAG NAIL	STA. 1+51.01'	Dismuke
153	13,828,467.73	3,137,300.47	MAG NAIL	STA. 9+60.91'	Barremore
154	13,828,375.15	3,137,271.29	MAG NAIL	STA. 1+50.00'	Sunnyland

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77042
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No.100282-00

SURVEYED BY: AMANI
FB NO. P-6406

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WILLIAM H. REIMER III, R.P.L.S.
Surveyor
4044
Registration Number
2/10/2026
Date

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

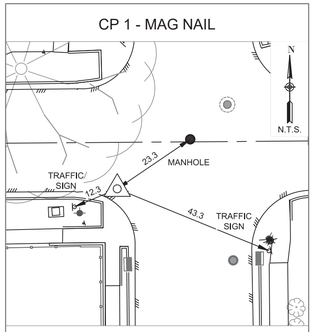
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SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

SURVEY CONTROL
OVERALL MAP
(SHEET 3 OF 8)

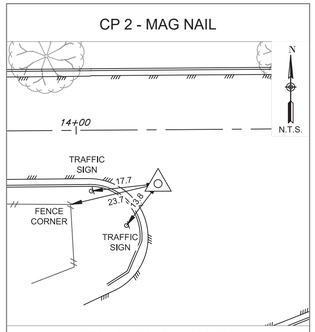
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R-01000-0036-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 17 OF 183	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

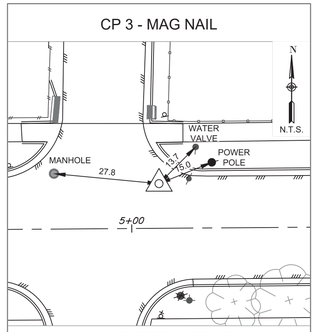
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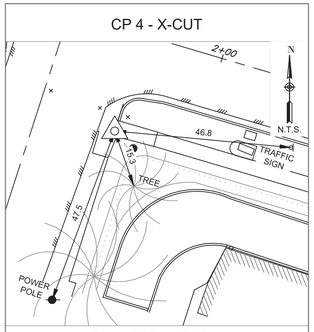
STA. 10+49.49' 12.26' RT
LEELAND



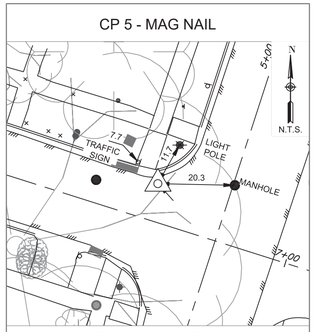
STA. 14+21.52' 14.22' RT
LEELAND



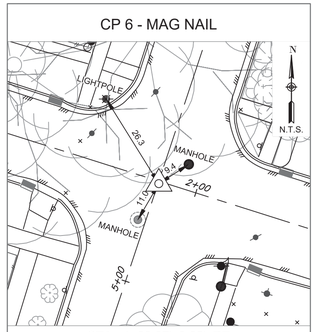
STA. 5+07.27' 11.78' LT
LEELAND



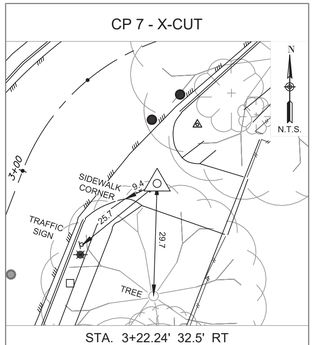
STA. 1+78.05' 27.27' RT
LEELAND



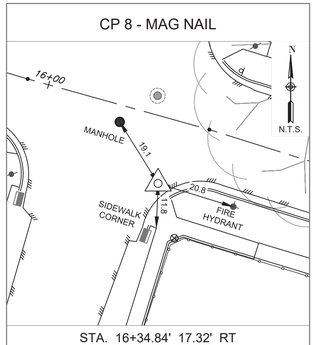
STA. 6+61.61' 9.86' LT
BELL



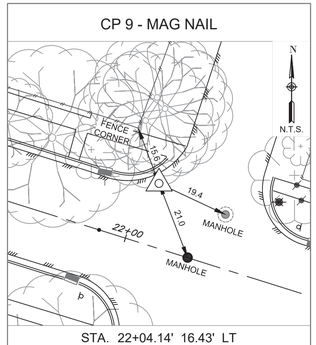
STA. 1+89.97' 0.62' RT
BELL



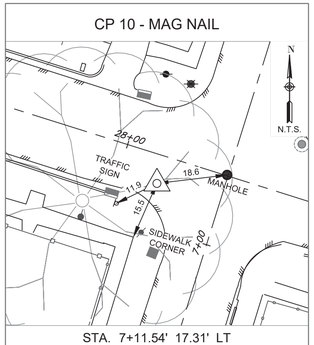
STA. 3+22.24' 32.5' RT
EDDINGTON



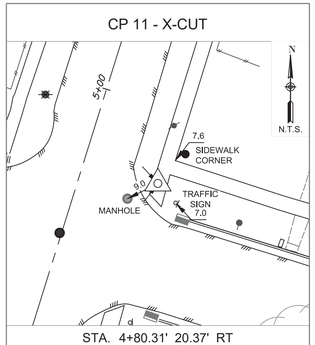
STA. 16+34.84' 17.32' RT
LEELAND



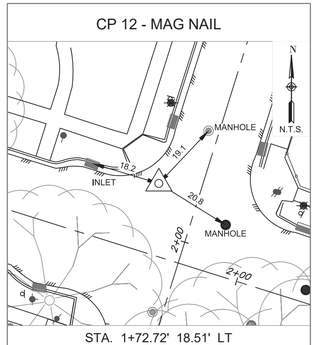
STA. 22+04.14' 16.43' LT
LEELAND



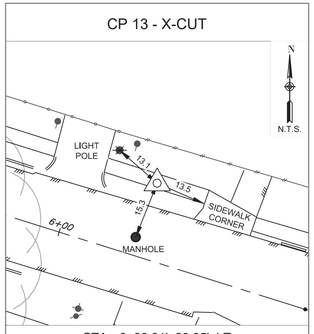
STA. 7+11.54' 17.31' LT
COLLIER



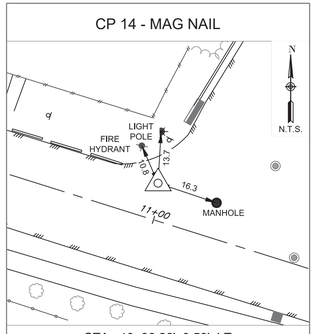
STA. 4+80.31' 20.37' RT
COLLIER



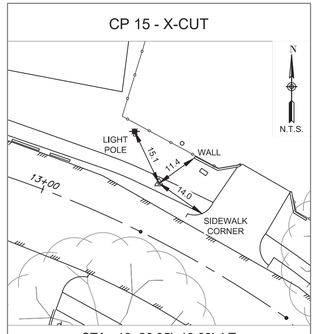
STA. 1+72.72' 18.51' LT
JEFFERSON



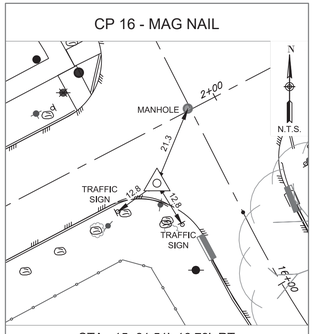
STA. 6+20.81' 20.05' LT
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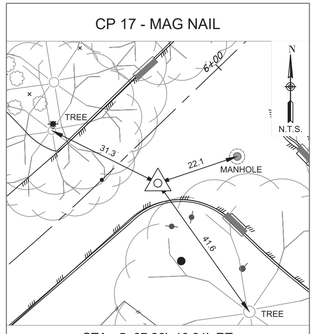
STA. 10+98.26' 9.58' LT
JEFFERSON



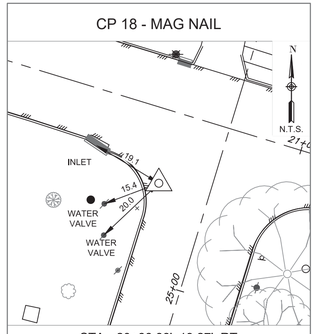
STA. 13+26.95' 13.63' LT
JEFFERSON



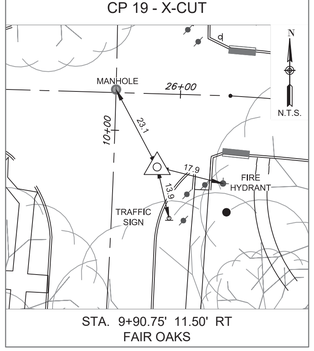
STA. 15+61.51' 16.79' RT
JEFFERSON



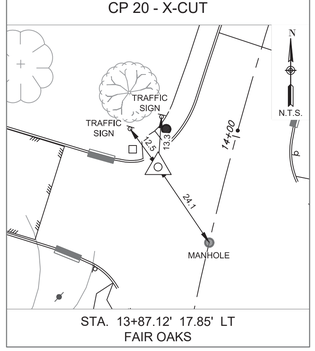
STA. 5+67.26' 10.91' RT
HACKNEY



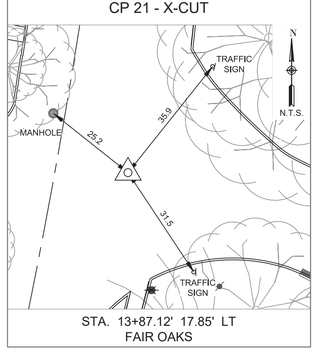
STA. 20+66.66' 19.27' RT
JEFFERSON



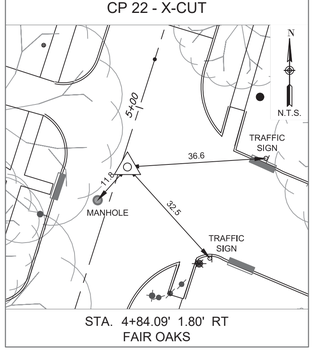
STA. 9+90.75' 11.50' RT
FAIR OAKS



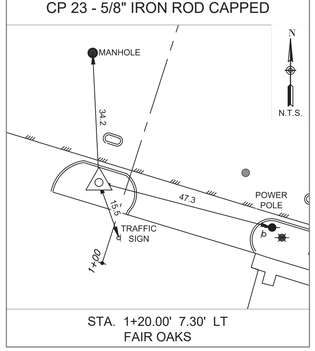
STA. 13+87.12' 17.85' LT
FAIR OAKS



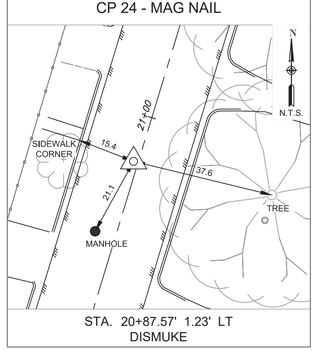
STA. 13+87.12' 17.85' LT
FAIR OAKS



STA. 4+84.09' 1.80' RT
FAIR OAKS



STA. 1+20.00' 7.30' LT
FAIR OAKS



STA. 20+87.57' 1.23' LT
DISMUKE

NOTES :

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATAUM OF 1983 (2011 ADJ.) 2010 EPOCH.
COORDINATES SHOWN HEREON ARE GRID VALUES AND MAY BE CONVERTED TO SURFACE BY APPLYING THE COMBINED SCALE FACTOR OF 0.999889376.

GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.

HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED AUGUST 2025.

ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (2001 ADJ.), WITH ALL CONTROL NETWORK ELEVATIONS TIED VIA DIFFERENTIAL LEVELING TO THE PROJECT BENCH MARK AS PUBLISHED BY AGS, INC.

PROJECT BENCH MARK :

CITY OF HOUSTON REFERENCE MONUMENT 5556-7109.
AN ALUMINUM DISC AT THE NORTHEAST CORNER OF LEELAND STREET AND GUSTAV STREET INTERSECTION.

PUBLISHED ELEVATION : 34.16' (NAVD 88 (2001 ADJ.)), AGS, INC.

OBSERVED ELEVATION : 33.96' (NAVD 88 GEOID 18), AMANI

NO.	DATE	REVISION	APP.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77042
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No.100282-00

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WILLIAM H. REIMER III, R.P.L.S.
Surveyor
4044
Registration Number
2/10/2026
Date

SURVEYED BY: AMANI
FB NO. P-6406

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

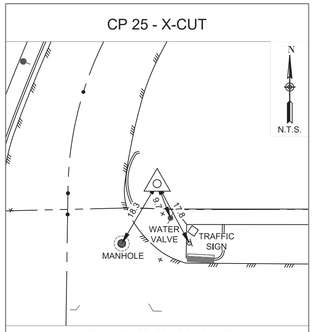
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SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

SURVEY CONTROL
SWING TIES
(SHEET 4 OF 8)

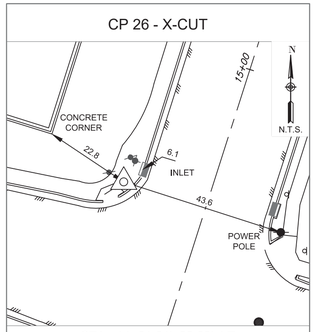
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CITY OF HOUSTON PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 18 OF **183**	

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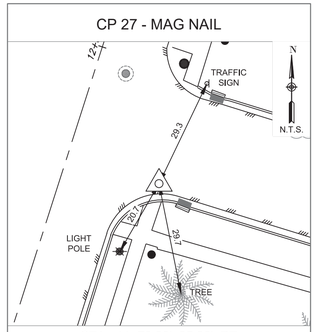
0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



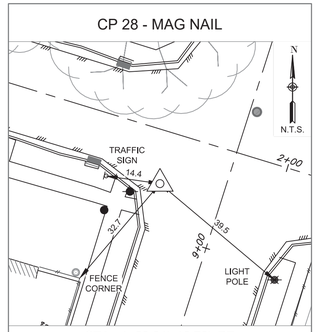
STA. 17+52.79' 23.49' RT
DISMUKE



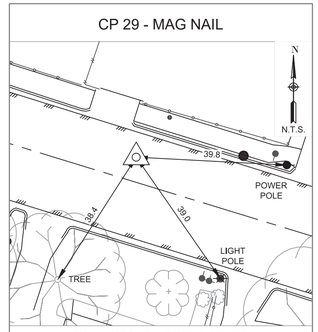
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DISMUKE



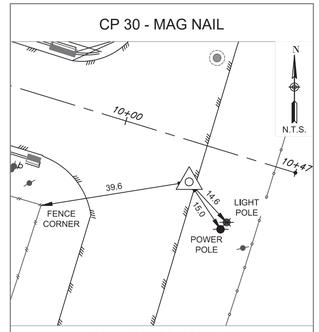
STA. 11+70.20' 25.26' RT
DISMUKE



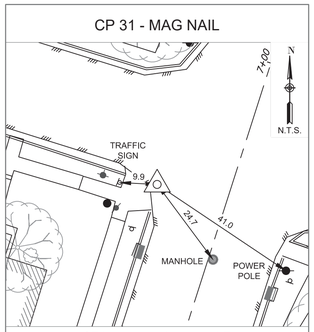
STA. 1+69.04' 13.79' RT
TRUETT



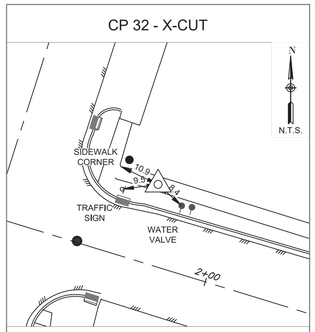
STA. STA. 5+45.42' 6.35' LT
TRUETT



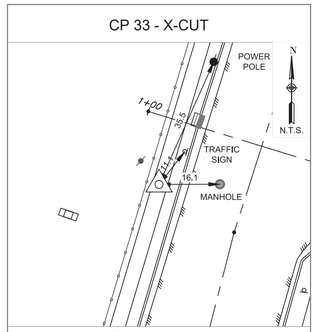
STA. 10+20.63' 10.50' RT
TRUETT



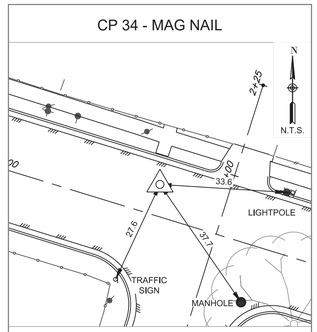
STA. 6+60.34' 18.84' LT
DISMUKE



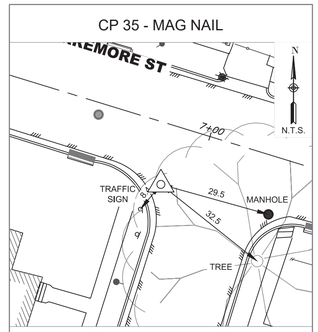
STA. 1+80.56' 20.93' LT
BONSRELL



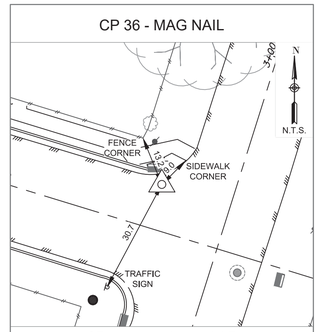
STA. STA. 1+08.35' 17.60' RT
BARREMORE



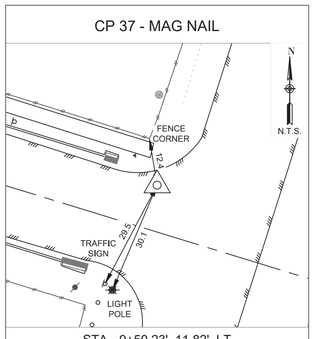
STA. 4+40.54' 8.20' LT
BARREMORE



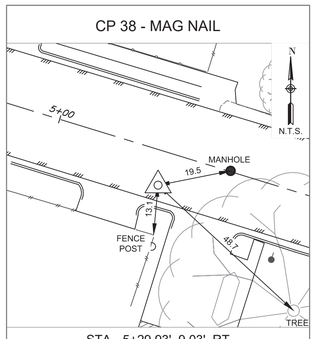
STA. 6+91.32' 15.89' RT
BARREMORE



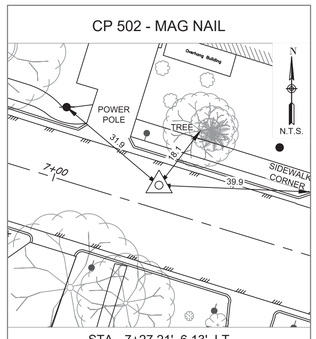
STA. 9+42.03' 11.96' LT
BARREMORE



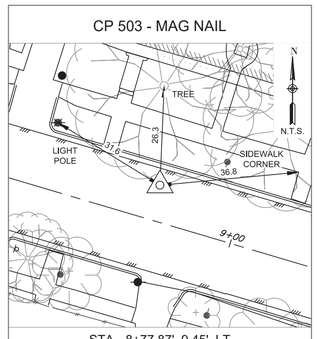
STA. 9+50.23' 11.82' LT
BONSRELL



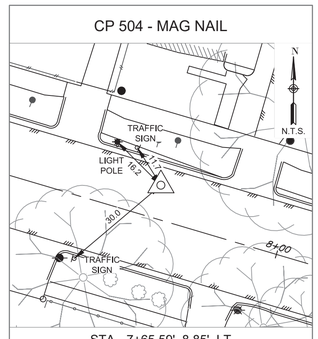
STA. 5+29.93' 9.03' RT
BONSRELL



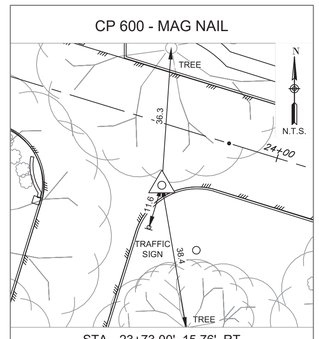
STA. 7+27.21' 6.13' LT
TRUETT



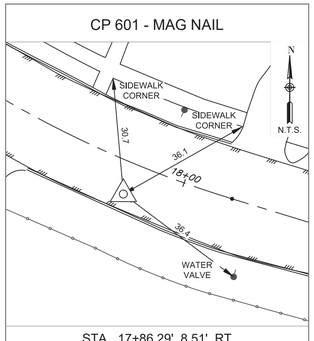
STA. 8+77.87' 9.45' LT
LEELAND



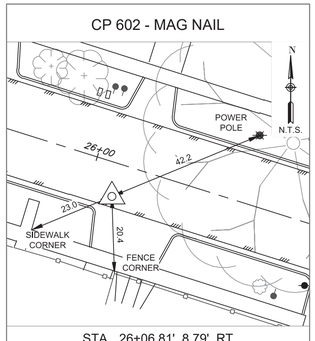
STA. 7+65.59' 8.85' LT
LEELAND



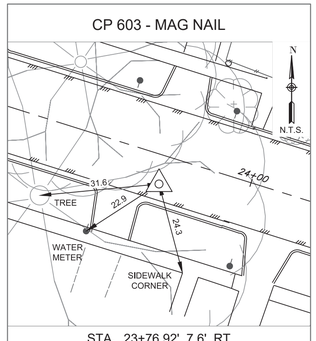
STA. 23+73.00' 15.76' RT
JEFFERSON



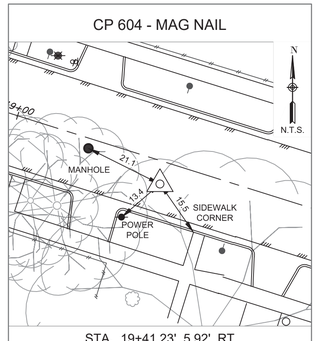
STA. 17+86.29' 8.51' RT
JEFFERSON



STA. 26+06.81' 8.79' RT
LEELAND



STA. 23+76.92' 7.6' RT
LEELAND



STA. 19+41.23' 5.92' RT
LEELAND

NOTES :

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COORDINATES SHOWN HEREON ARE GRID VALUES AND MAY BE CONVERTED TO SURFACE BY APPLYING THE COMBINED SCALE FACTOR OF 0.999889376.

GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.

HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED AUGUST 2025.

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PROJECT BENCH MARK :

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AN ALUMINUM DISC AT THE NORTHEAST CORNER OF LEELAND STREET AND GUSTAV STREET INTERSECTION.

PUBLISHED ELEVATION : 34.16' (NAVD 88 (2001 ADJ.)), AGS, INC.

OBSERVED ELEVATION : 33.96' (NAVD 88 GEOID 18), AMANI

NO.	DATE	REVISION	APP.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77042
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No.100282-00

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE; NOT INTENDED FOR PERMIT, BIDDING, OR CONSTRUCTION

WILLIAM H. REIMER III, R.P.L.S.
Surveyor
4044
Registration Number
2/10/2026
Date

SURVEYED BY: AMANI
FB NO. P-6406

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

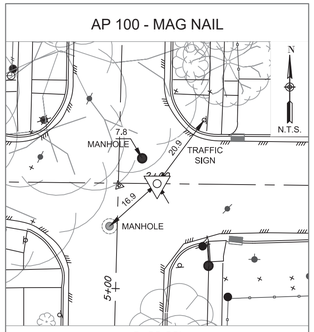
CRMP CIP PACKAGE 5
SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

SURVEY CONTROL
SWING TIES
(SHEET 5 OF 8)

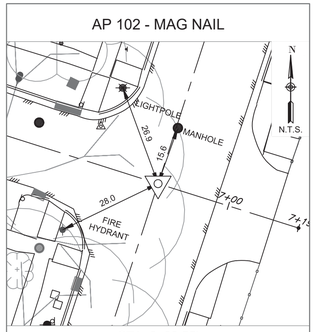
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
R-01000-0036-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 19 OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

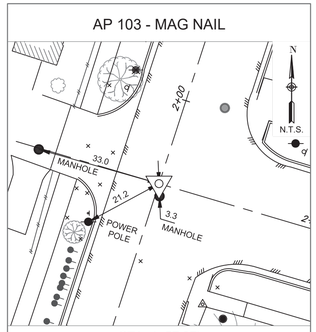
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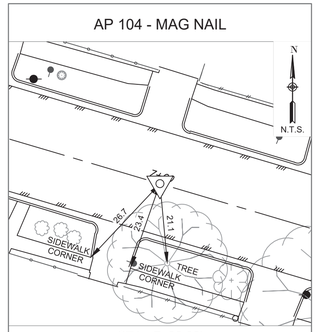
2+00.00'
BELL



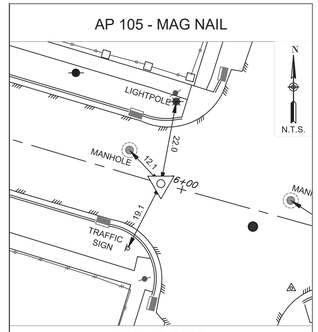
STA. 6+80.55'
BELL



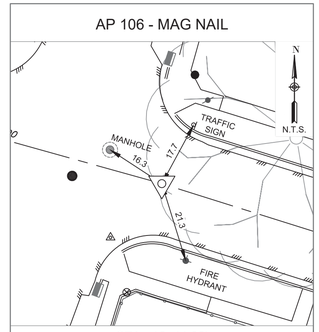
STA. 1+57.97'
LEELAND



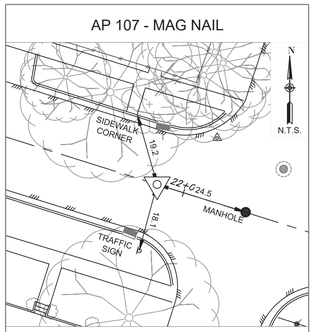
STA. 7+00.00'
LEELAND



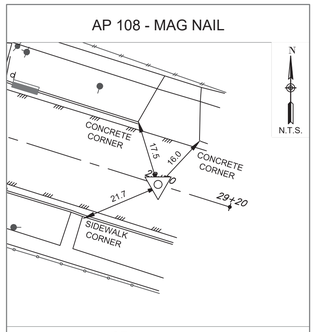
STA. 15+94.28'
LEELAND



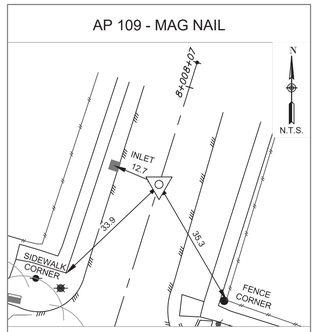
STA. 16+44.06'
LEELAND



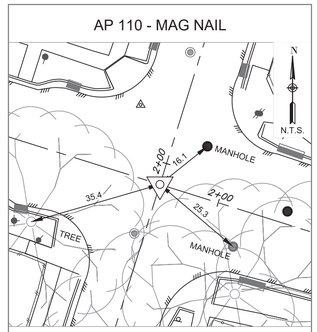
STA. 21+92.72'
LEELAND



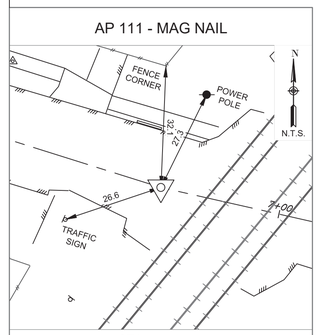
STA. 29+00.00'
LEELAND



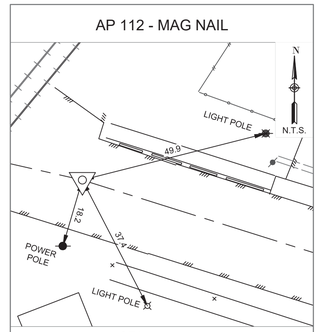
STA. 7+73.14'
COLLIER



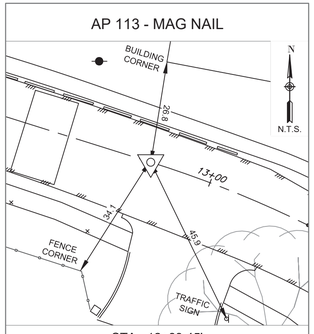
STA. 1+94.22'
COLLIER



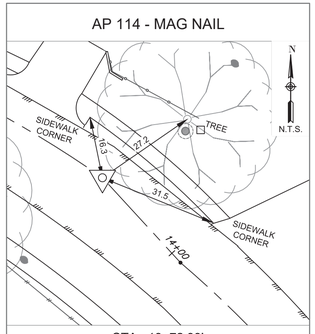
STA. 6+68.07'
JEFFERSON



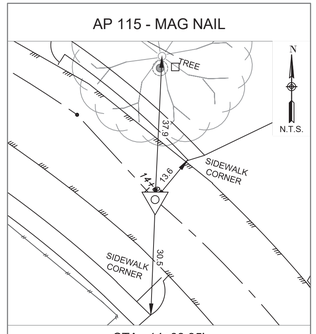
STA. 7+29.00'
JEFFERSON



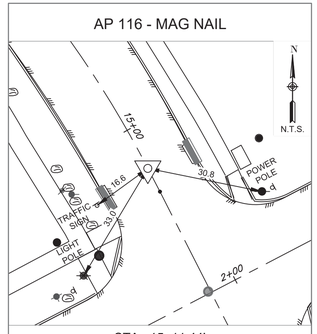
STA. 12+83.45'
JEFFERSON



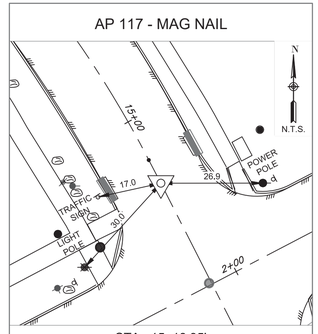
STA. 13+72.93'
JEFFERSON



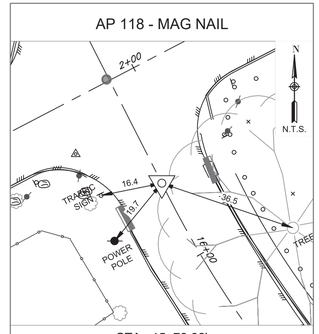
STA. 14+03.35'
JEFFERSON



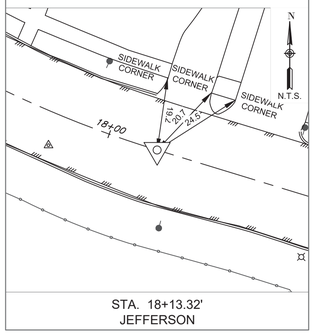
STA. 15+11.44'
JEFFERSON



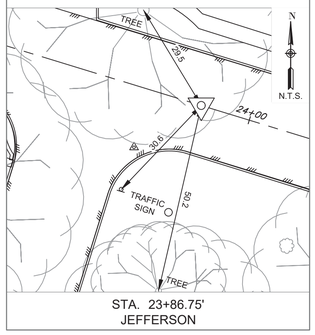
STA. 15+18.35'
JEFFERSON



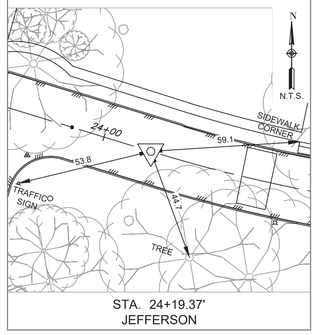
STA. 15+78.66'
JEFFERSON



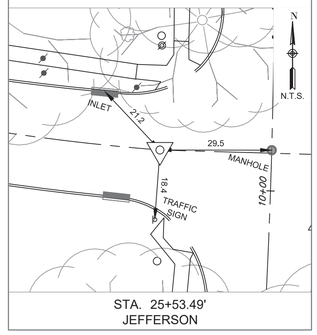
STA. 18+13.32'
JEFFERSON



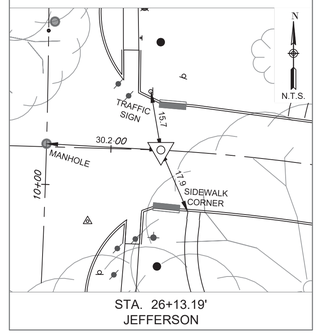
STA. 23+86.75'
JEFFERSON



STA. 24+19.37'
JEFFERSON



STA. 25+53.49'
JEFFERSON



STA. 26+13.19'
JEFFERSON

NO.	DATE	REVISION	APP.

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AMANI ENGINEERING, INC.
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WILLIAM H. REIMER III, R.P.L.S.
Surveyor
4044
Registration Number
2/10/2026
Date

SURVEYED BY: AMANI
FB NO. P-6406

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

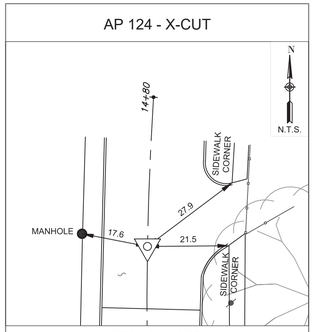
CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

SURVEY CONTROL
SWING TIES
(SHEET 6 OF 8)

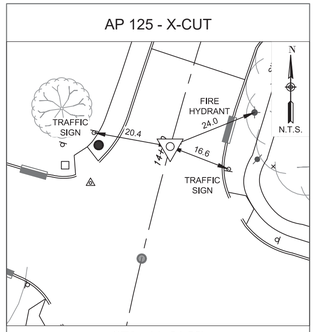
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
R-01000-0036-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 20 OF **183**	

FILE PATH: P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Survey Control Drawings\24014-SurveyControl-Swingties-AP-1.dwg

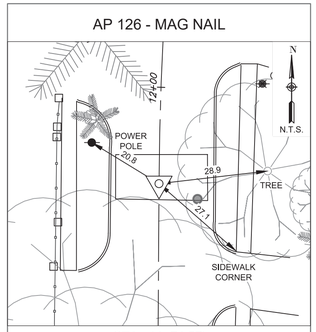
0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



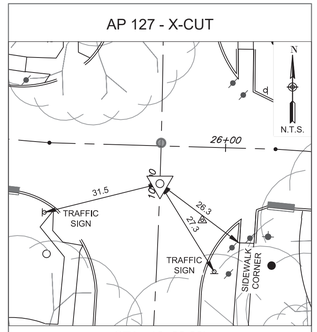
STA. 14+41.07'
FAIR OAKS



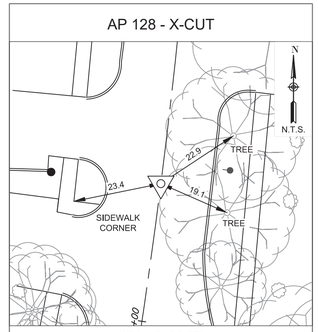
STA. 14+01.66'
FAIR OAKS



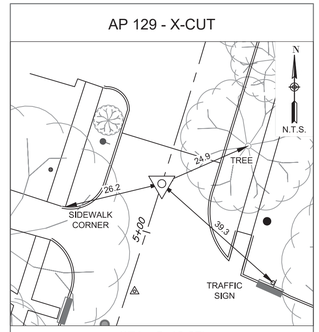
STA. 11+74.57'
FAIR OAKS



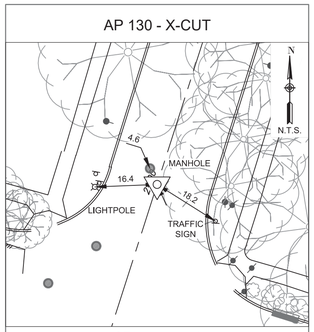
STA. 10+00.00'
STB. FAIR OAKS



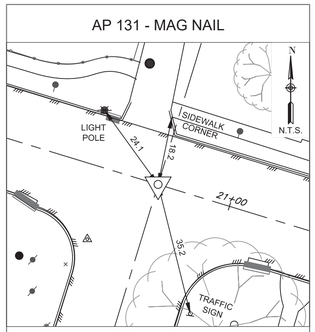
STA. 8+36.67'
FAIR OAKS



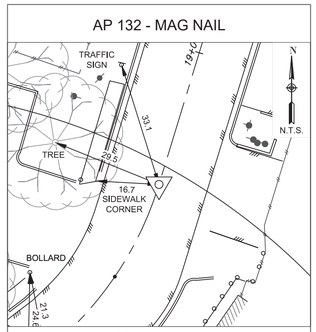
STA. 5+13.37'
FAIR OAKS



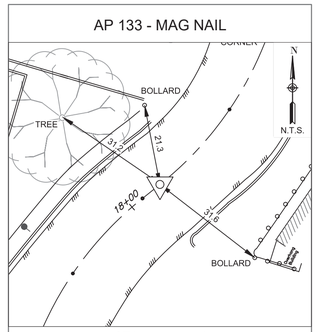
STA. 2+00.00'
FAIR OAKS



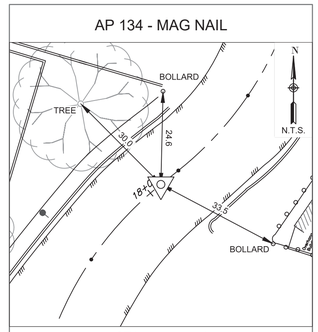
STA. 25+44.81'
DISMUKE



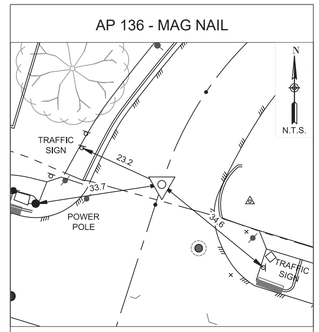
STA. 18+63.67'
DISMUKE



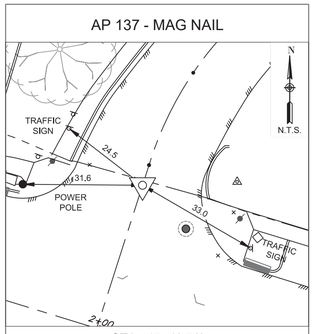
STA. 18+09.49'
DISMUKE



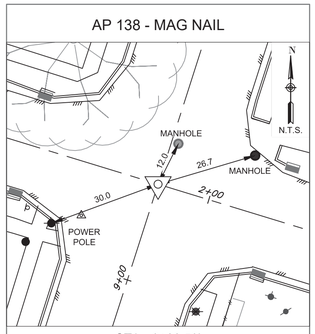
STA. 18+03.59'
DISMUKE



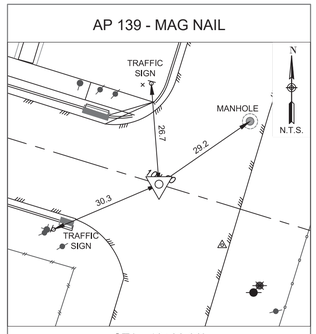
STA. 17+49.35'
DISMUKE



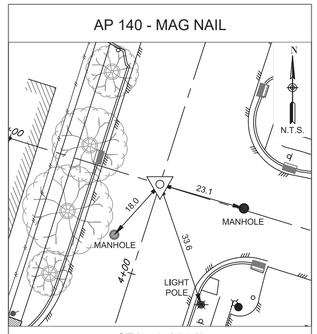
STA. 17+43.76'
DISMUKE



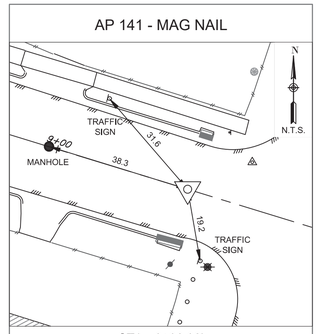
STA. 9+26.53'
DISMUKE



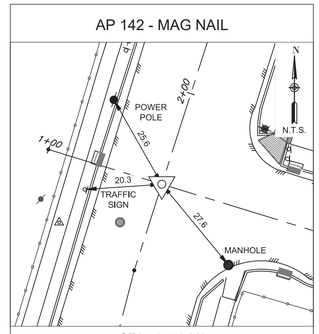
STA. 10+00.00'
TRUETT



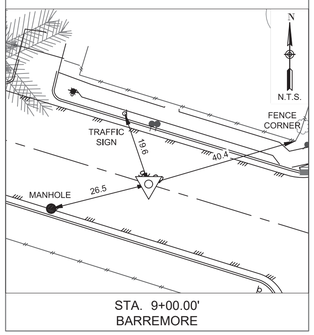
STA. 4+24.72'
DISMUKE



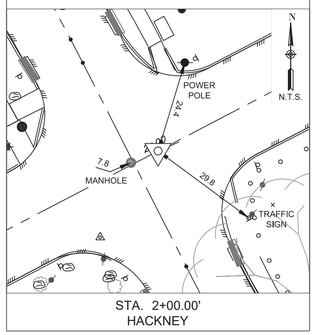
STA. 9+36.02'
STB. BONSRELL



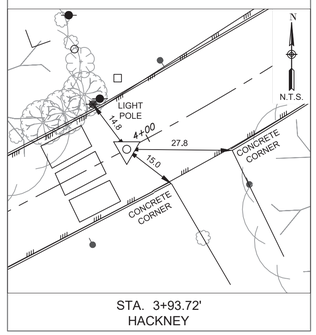
STA. 1+74.88'
DISMUKE



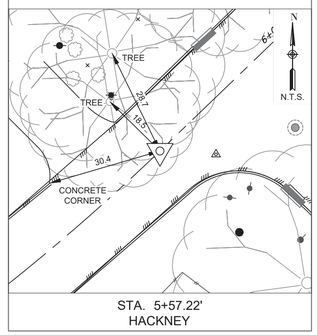
STA. 9+00.00'
BARREMORE



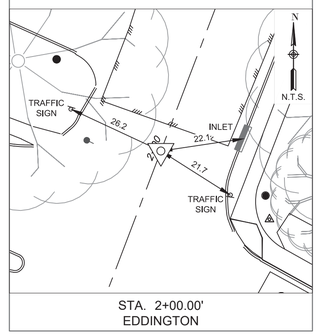
STA. 2+00.00'
HACKNEY



STA. 3+93.72'
HACKNEY



STA. 5+57.22'
HACKNEY



STA. 2+00.00'
EDDINGTON

NO.	DATE	REVISION	APP.

NOTES :

ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATAUM OF 1983 (2011 ADJ.) 2010 EPOCH.
COORDINATES SHOWN HEREON ARE GRID VALUES AND MAY BE CONVERTED TO SURFACE BY APPLYING THE COMBINED SCALE FACTOR OF 0.999889376.

GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.

HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED AUGUST 2025.

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PROJECT BENCH MARK :

CITY OF HOUSTON REFERENCE MONUMENT 5556-7109.
AN ALUMINUM DISC AT THE NORTHEAST CORNER OF LEELAND STREET AND GUSTAV STREET INTERSECTION.

PUBLISHED ELEVATION : 34.16' (NAVD 88 (2001 ADJ.)), AGS, INC.

OBSERVED ELEVATION : 33.96' (NAVD 88 GEOID 18), AMANI

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77042
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No.100282-00

SURVEYED BY: AMANI
FB NO. P-6406

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE; NOT INTENDED FOR PERMIT, BIDDING, OR CONSTRUCTION

WILLIAM H. REIMER III, R.P.L.S.
Surveyor
4044
Registration Number
2/10/2026
Date

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

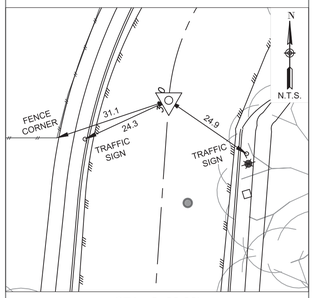
SURVEY CONTROL
SWING TIES
(SHEET 7 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
R-01000-0036-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 21 OF **183**	

FILE PATH: P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Survey Control Drawings\24014-SurveyControl-Swingties-AP-2&3.dwg

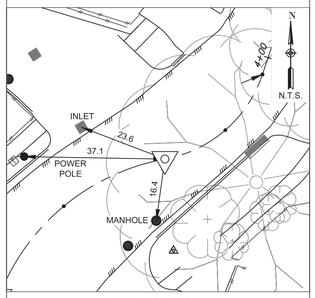
0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

AP 148 - MAG NAIL



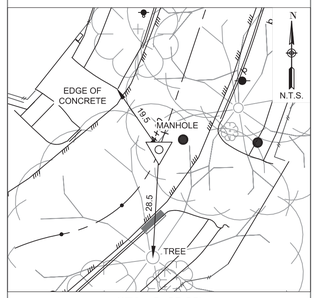
STA. 3+00.00'
EDDINGTON

AP 149 - MAG NAIL



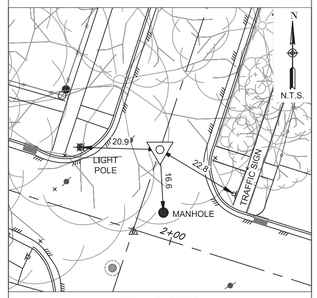
STA. 3+59.55'
EDDINGTON

AP 150 - MAG NAIL



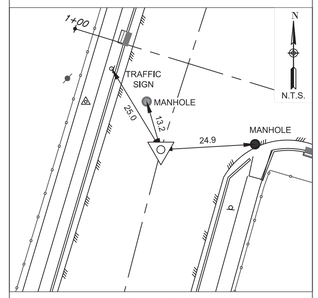
STA. 3+95.32'
EDDINGTON

AP 151 - MAG NAIL



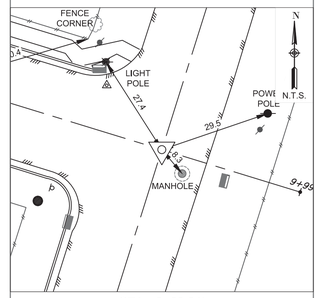
STA. 5+50.00'
STB. EDDINGTON

AP 152 - MAG NAIL



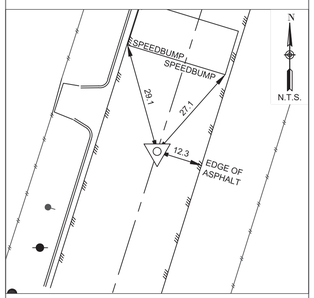
STA. 1+51.01'
DISMUKE

AP 153 - MAG NAIL



STA. 9+60.91'
BARREMORE

AP 154 - MAG NAIL



STA. 1+50.00'
SUNNYLAND

NO.	DATE	REVISION	APP.

NOTES :

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HOUSTON, TEXAS 77042
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No.100282-00

SURVEYED BY: AMANI
FB NO. P-6406

INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE; NOT INTENDED FOR PERMIT, BIDDING, OR CONSTRUCTION

WILLIAM H. REIMER III, R.P.L.S.
Surveyor
4044
Registration Number
2/10/2026
Date

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

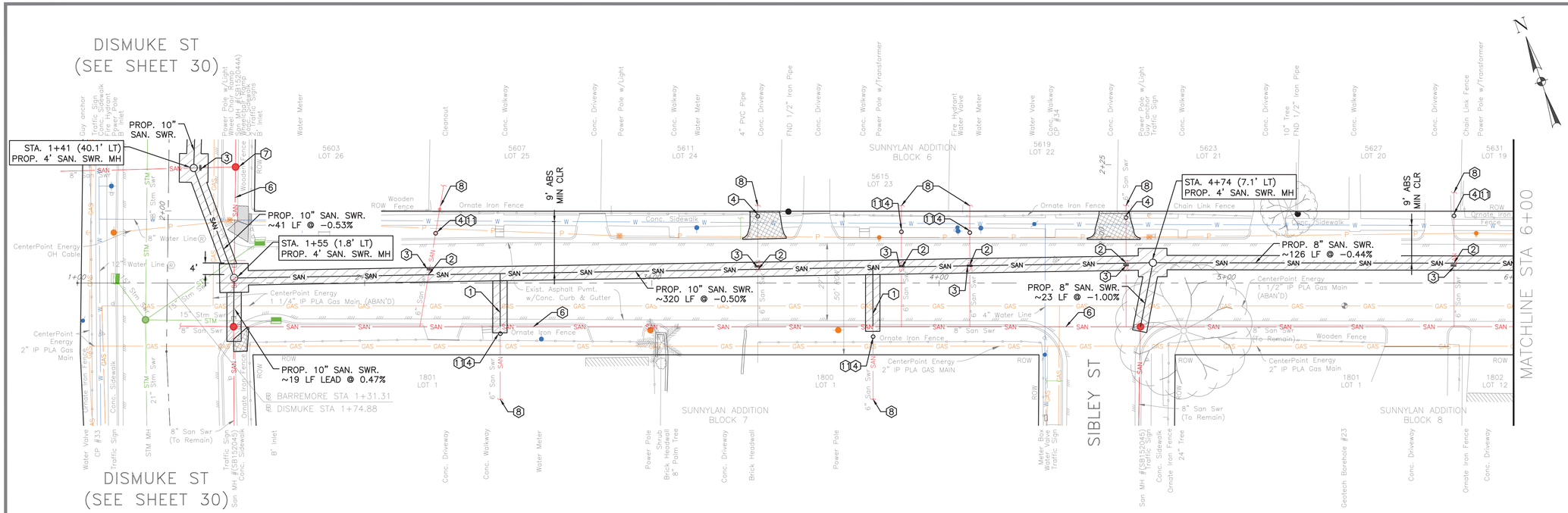
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

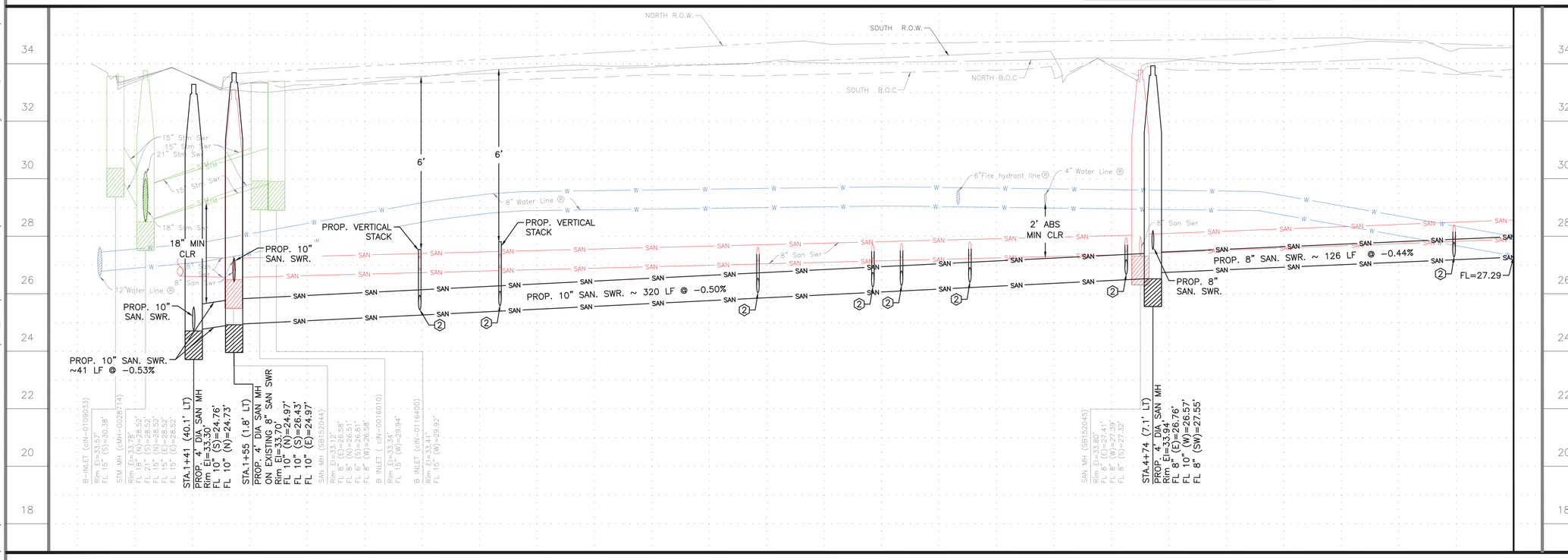
SURVEY CONTROL
SWING TIES
(SHEET 8 OF 8)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
R-01000-0036-3	
DRAWING SCALE	
CITY OF HOUSTON PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 22 OF **183**	

FILE PATH: P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Survey Control Drawings\24014-SurveyControl-Swingties-AP-2&3.dwg

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS





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.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY
FOR INTERIM REVIEW ONLY
THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:
MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

BARREMORE PLAN & PROFILE
STA 1+00 TO 6+00

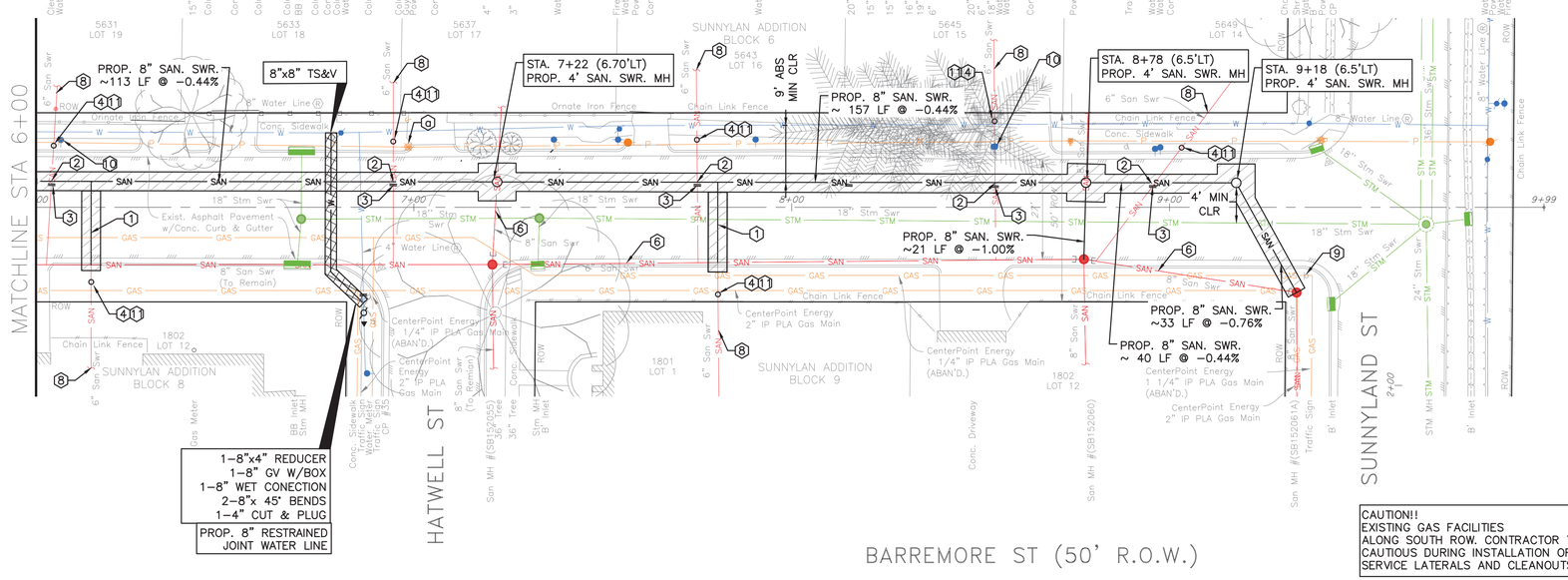
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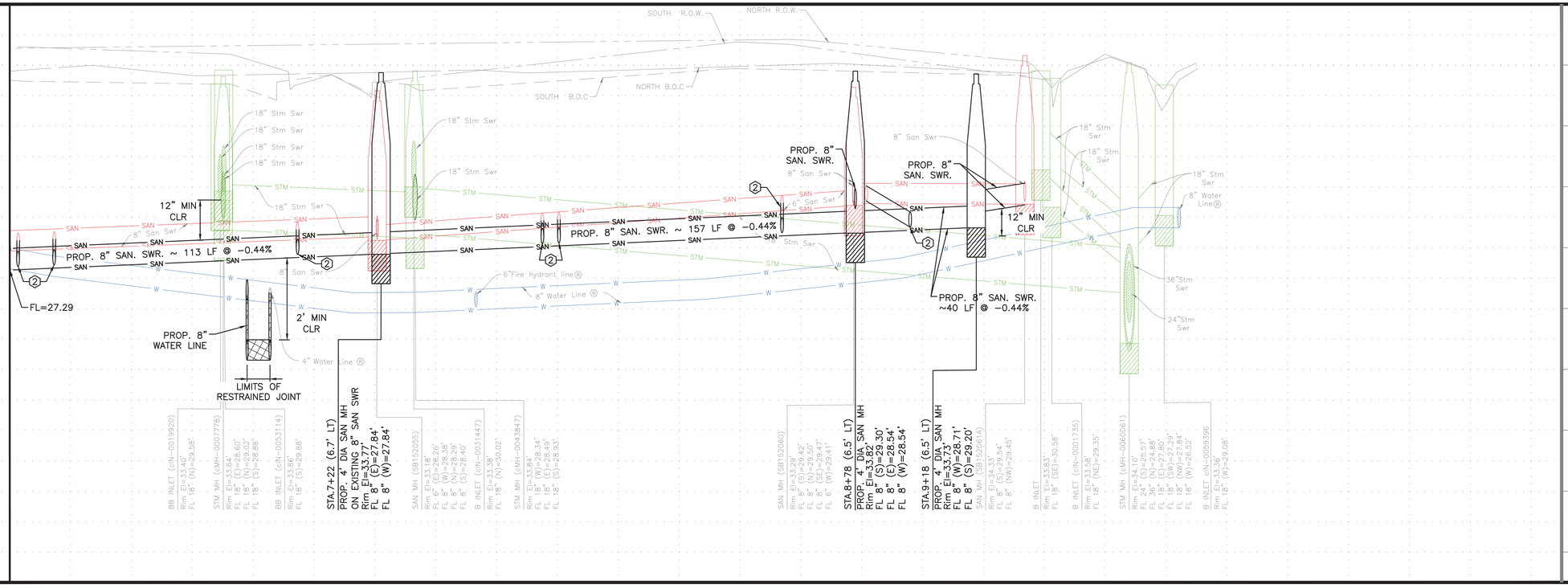
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO.23 OF 183

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:22pm





0 1 2 3
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

1. EXTEND EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER. MATCH EXISTING SIZE AND FLOWLINE
2. CONNECT EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER
3. CUT, PLUG & ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222
4. INSTALL PROP C.O. ON EXISTING SANITARY SERVICE LATERAL. SEE DETAIL 99 & 100
5. 2" MILL AND OVERLAY FULL WIDTH OUTSIDE PAVEMENT REPAIR (HATCHED AREA) AND UP TO CURB RETURN AT INTERSECTING STREETS. SEE DETAIL 112
6. ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222 AFTER PROPOSED SANITARY SEWER IS IN SERVICE.
7. ABANDON EXISTING SANITARY MANHOLE
8. EXISTING SANITARY SERVICE PER CCTV INSPECTION REPORTS. (NOT FIELD VERIFIED)
9. REMOVE AND REPLACE TRAFFIC SIGN
10. REMOVE AND REPLACE WATER METER

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.

(11) REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.

(q) BRACE AND SUPPORT POWER POLE.

TBM:
CP 35 Mag nail AT STA. 06+91.32, 15.89' RT, EL. 33.25

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Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

BARREMORE PLAN & PROFILE
STA 6+00 TO END

WBS NO.
R-01000-0036-3

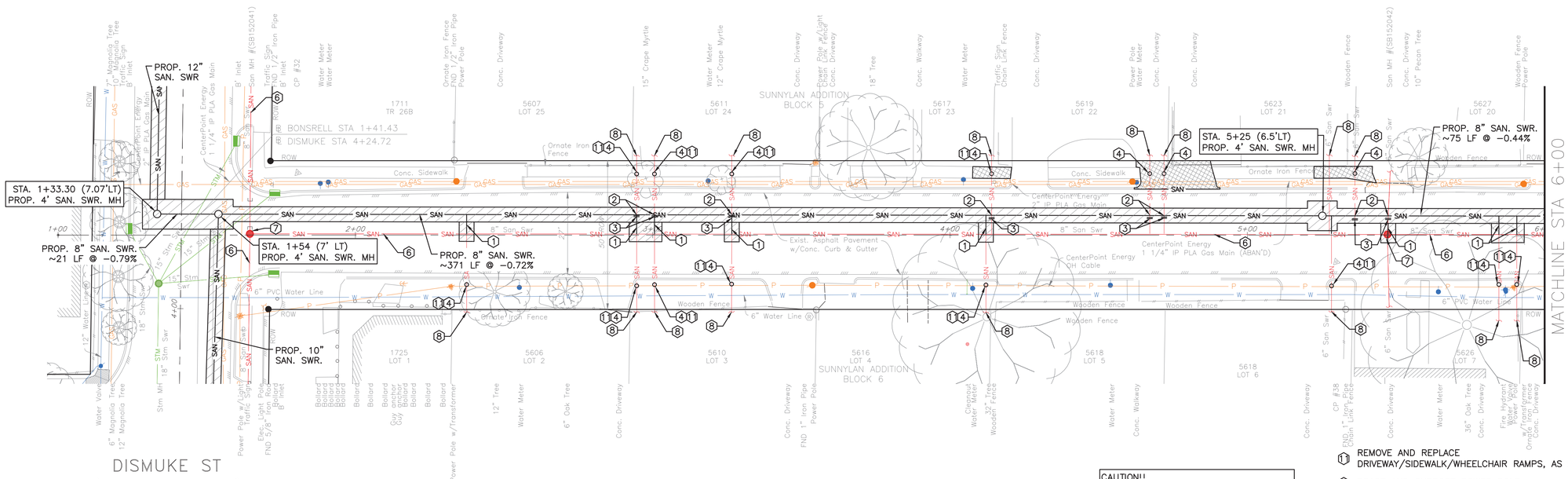
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **24** OF **183**

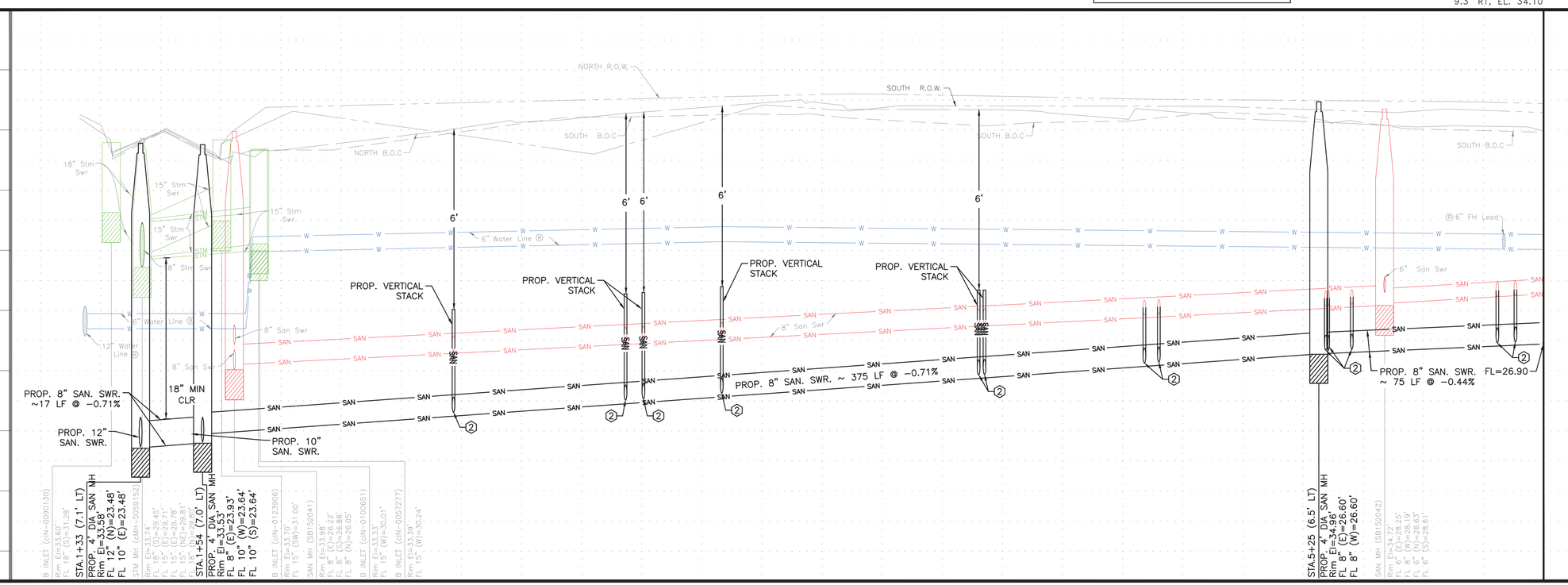
P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:22pm

DISMUKE ST
(SEE SHEET 30)



DISMUKE ST
(SEE SHEET 30)

BONSRELL ST (50' R.O.W.)



CAUTION!!
EXISTING GAS FACILITIES ALONG NORTH ROW. CONTRACTOR TO BE CAUTIOUS DURING INSTALLATION OF SERVICE LATERALS AND CLEANOUTS.

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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9. REMOVE AND REPLACE TRAFFIC SIGN
10. REMOVE AND REPLACE WATER METER

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.

(11) REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.

(9) BRACE AND SUPPORT POWER POLE.

TBM:
CP 38 AT STA. 05+29.88, 9.3' RT, EL. 34.10

NOTICE:
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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

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Date

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

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

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MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

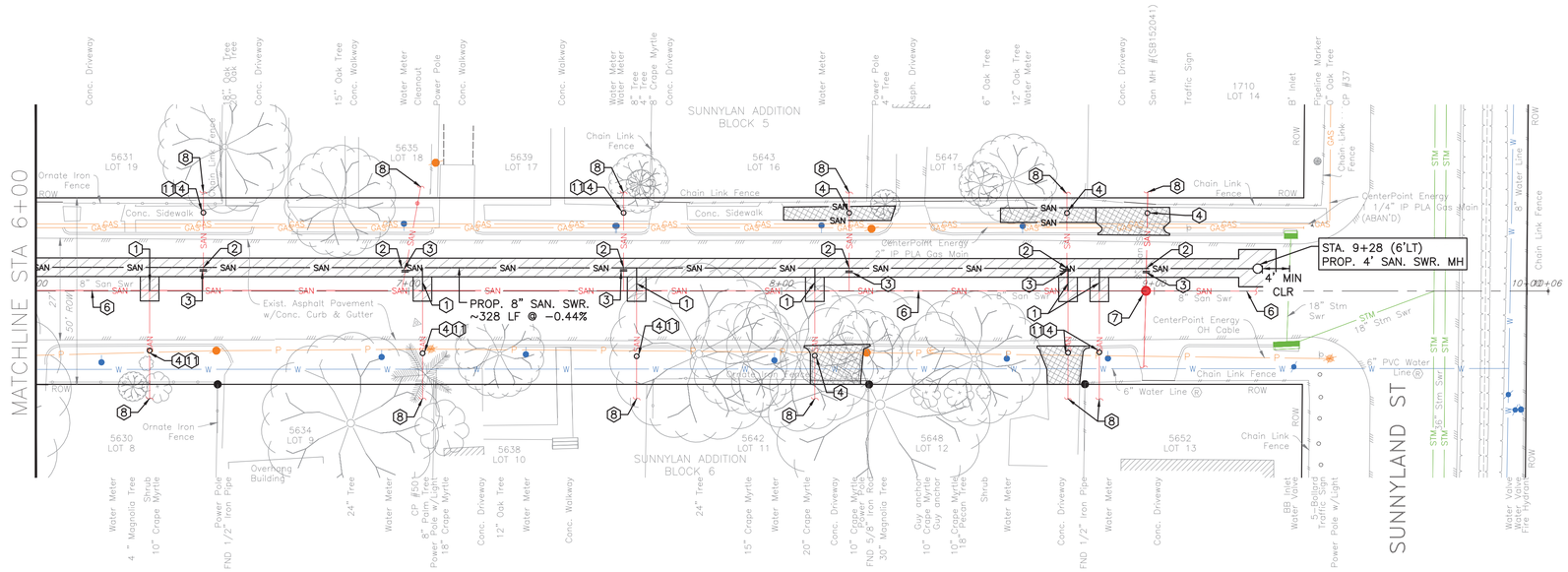
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SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

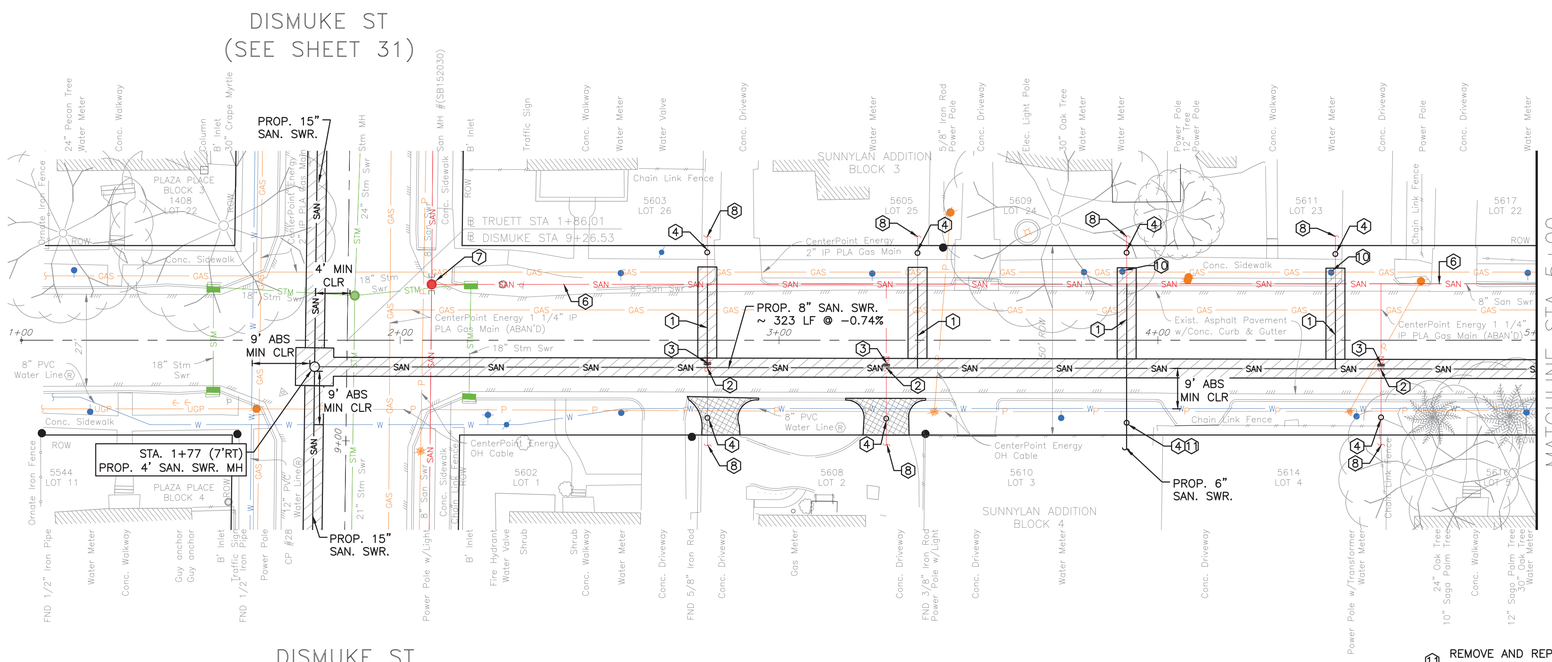
BONSRELL PLAN & PROFILE
STA 1+00 TO 6+00

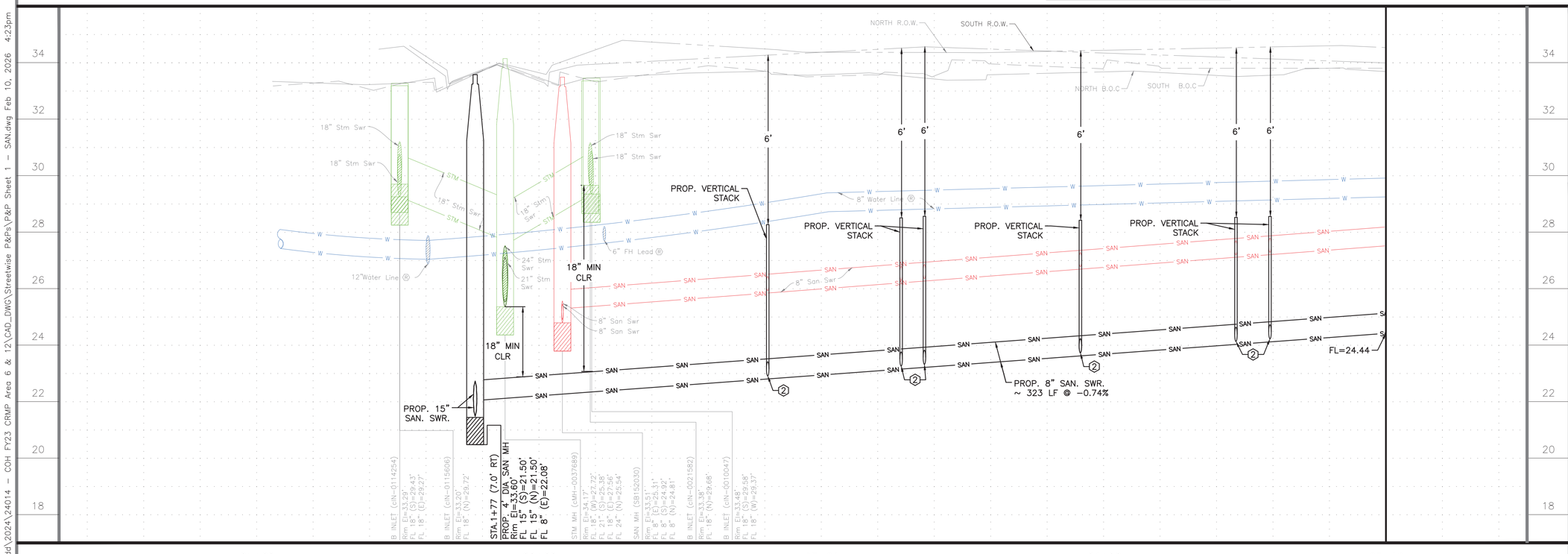
WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	25 OF 183

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

P:\Caddy\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P's\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:22pm


MATCHLINE STA 6+00
SUNNYLAND ST
BONSRELL ST (50' R.O.W.)
SUNNYLAN ADDITION BLOCK 5
SUNNYLAN ADDITION BLOCK 6
5631 LOT 19
5635 LOT 18
5639 LOT 17
5643 LOT 16
5647 LOT 15
1710 LOT 14
5630 LOT 8
5634 LOT 9
5638 LOT 10
5642 LOT 11
5648 LOT 12
5652 LOT 13
Ornate Iron Fence
Chain Link Fence
Conc. Sidewalk
Exist. Asphalt Pavement w/Conc. Curb & Gutter
Overhang Building
Conc. Driveway
Conc. Walkway
Water Meter
Water Meter Cleanout
Power Pole
Guy anchor
Shrub
Tree
Oak Tree
Crape Myrtle
Magnolia Tree
Pecan Tree
Water Valve
Fire Hydrant
Traffic Sign
Pipeline Marker
Sash. Driveway
Conc. Driveway
Conc. Walkway
Water Meter
Water Meter Cleanout
Power Pole
Conc. Walkway
Conc. Walkway
Water Meter
Water Meter
Chain Link Fence
Conc. Sidewalk
Conc. Driveway
Water Meter
Power Pole
Sash. Driveway
Conc. Driveway
San MH #(SB152041)
Traffic Sign
Pipeline Marker
Oak Tree
CP #37
Chain Link Fence
Chain Link Fence
Chain Link Fence





0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

1. EXTEND EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER. MATCH EXISTING SIZE AND FLOWLINE
2. CONNECT EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER
3. CUT, PLUG & ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222
4. INSTALL PROP C.O. ON EXISTING SANITARY SERVICE LATERAL. SEE DETAIL 99 & 100
5. 2"MILL AND OVERLAY FULL WIDTH OUTSIDE PAVEMENT REPAIR (HATCHED AREA) AND UP TO CURB RETURN AT INTERSECTING STREETS. SEE DETAIL 112
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8. EXISTING SANITARY SERVICE PER CCTV INSPECTION REPORTS. (NOT FIELD VERIFIED)
9. REMOVE AND REPLACE TRAFFIC SIGN
10. REMOVE AND REPLACE WATER METER

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12. BRACE AND SUPPORT POWER POLE.

CAUTION!!
EXISTING GAS FACILITIES ALONG NORTH ROW. CONTRACTOR TO BE CAUTIOUS DURING INSTALLATION OF SERVICE LATERALS AND CLEANOUTS.

TBM:
CP 028 MAG NAIL AT
STA. 01+69.04, 13.79' RT, EL. 33.59

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FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TRUETT PLAN & PROFILE
STA 1+00 TO 5+00

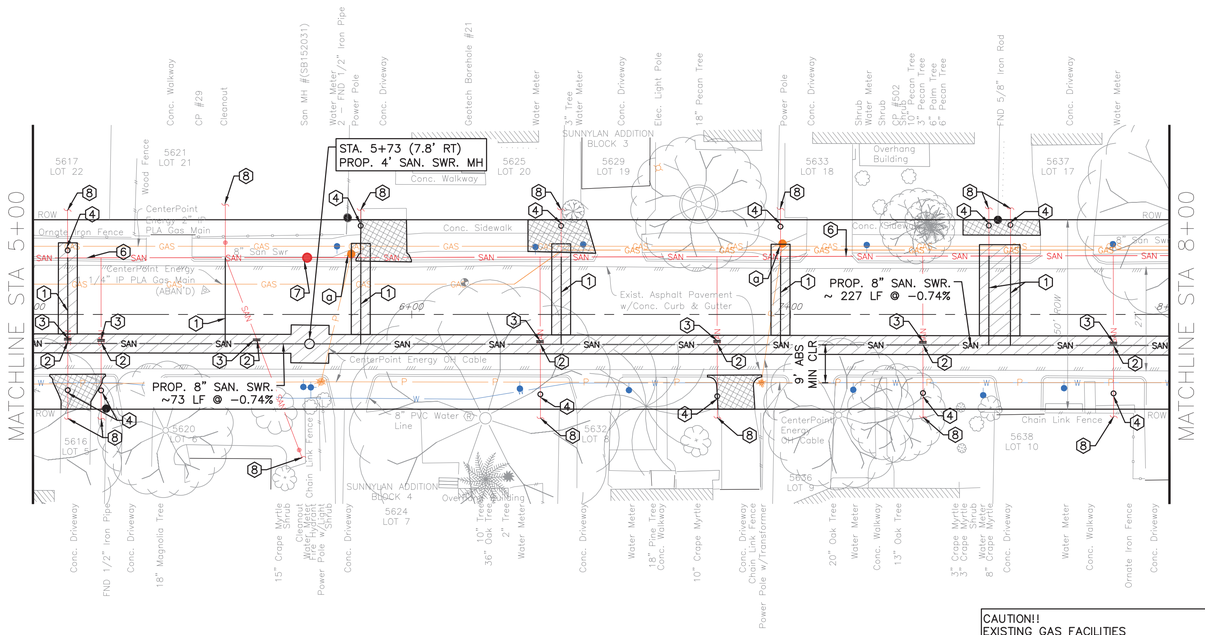
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

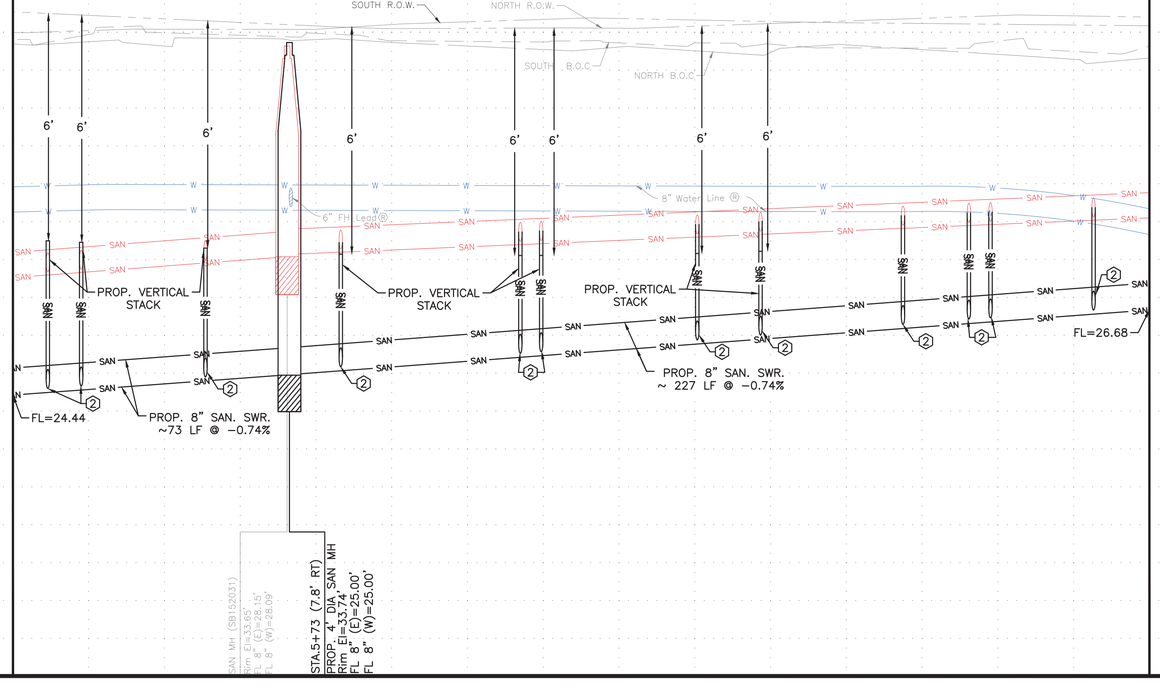
SHEET NO.27 OF 183

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:23pm



TRUETT ST (50' R.O.W.)

CAUTION!!
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0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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2. CONNECT EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER
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7. ABANDON EXISTING SANITARY MANHOLE
8. EXISTING SANITARY SERVICE PER CCTV INSPECTION REPORTS. (NOT FIELD VERIFIED)
9. REMOVE AND REPLACE TRAFFIC SIGN
10. REMOVE AND REPLACE WATER METER

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS; REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

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(1) REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.

(9) BRACE AND SUPPORT POWER POLE.

TBM:

CP 029 MAG NAIL AT STA. 05+45.42, 06.35' LT, EL. 34.13
CP 502 MAG NAIL AT STA. 07+27.21, 06.13' LT, EL. 33.66

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Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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DATE 02/10/2026
TBPELS FIRM #F-4528

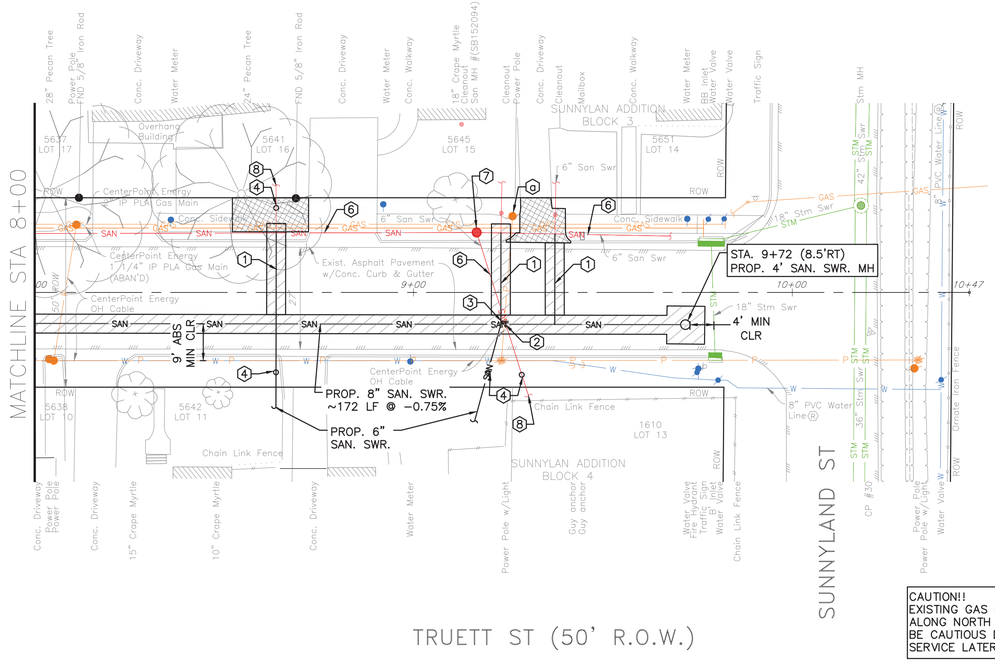
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TRUETT PLAN & PROFILE
STA 5+00 TO 8+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	28 OF 183

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:24pm



CAUTION!!
EXISTING GAS FACILITIES ALONG NORTH ROW. CONTRACTOR TO BE CAUTIOUS DURING INSTALLATION OF SERVICE LATERALS AND CLEANOUTS.

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

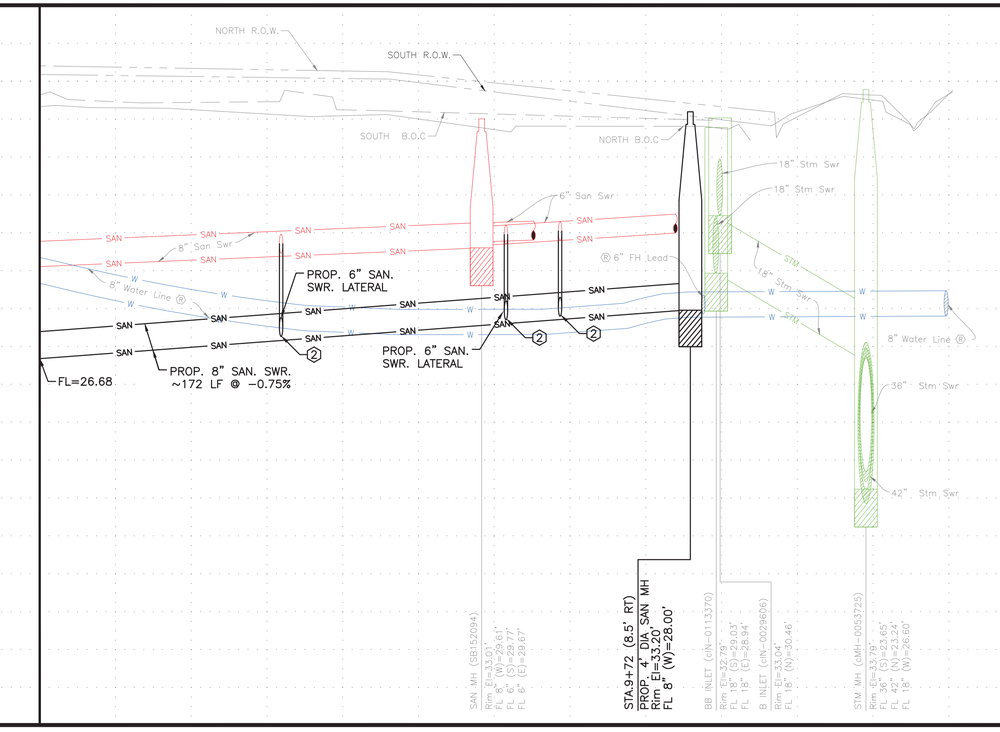
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10. REMOVE AND REPLACE WATER METER

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11. REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.
12. BRACE AND SUPPORT POWER POLE.

TBM:
CP 030 MAG NAIL AT
STA. 10+20.63, 10.50' RT, EL. 33.62



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SURVEYED BY: AMANI
FB NO.: P-6406

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DATE 02/10/2026
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TRUETT PLAN & PROFILE
STA 8+00 TO END

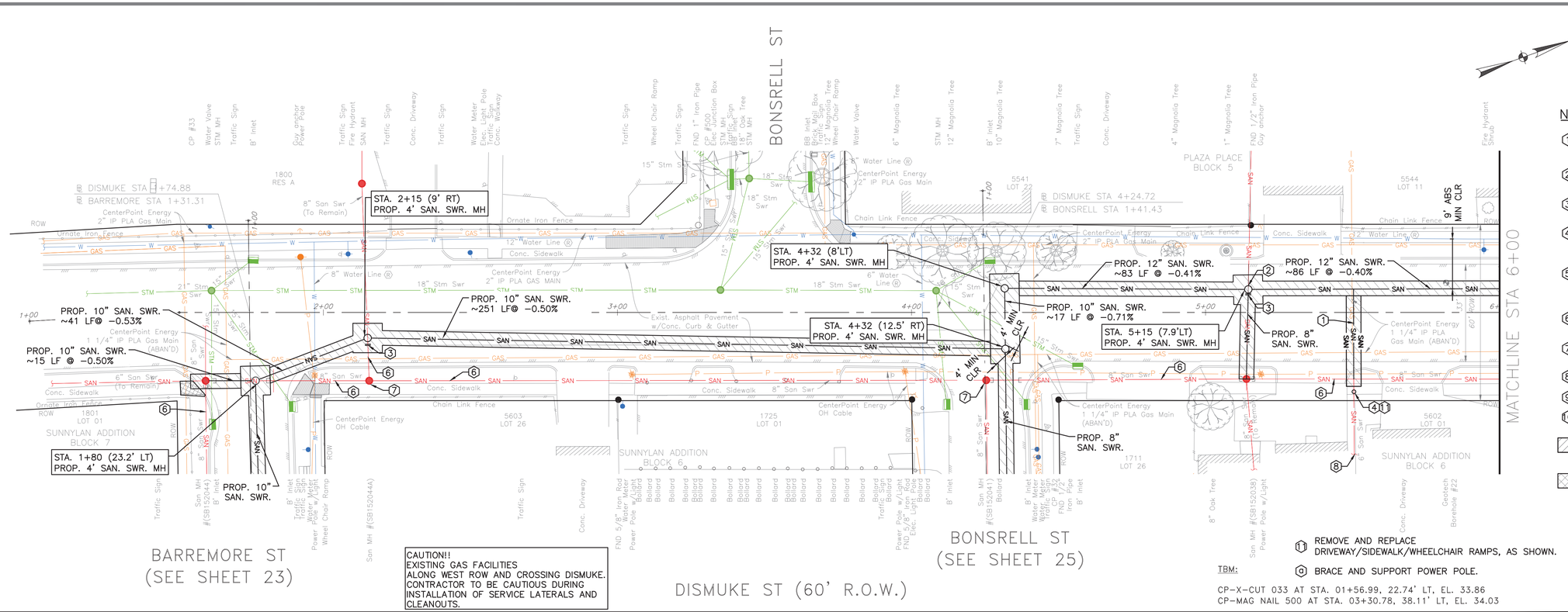
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO.**29** OF **183**

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:24pm



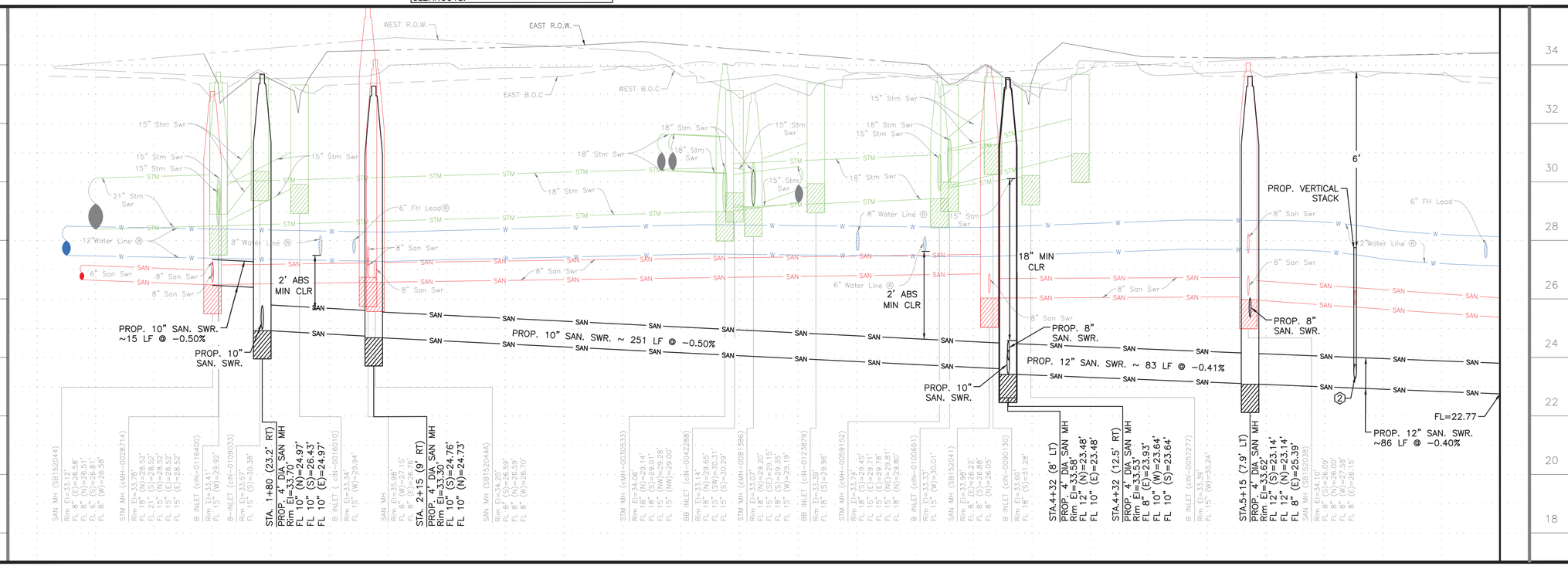
CAUTION!!
EXISTING GAS FACILITIES ALONG WEST ROW AND CROSSING DISMUKE. CONTRACTOR TO BE CAUTIOUS DURING INSTALLATION OF SERVICE LATERALS AND CLEANOUTS.

[1] REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.

[Q] BRACE AND SUPPORT POWER POLE.

TBM:

CP-X-CUT 033 AT STA. 01+56.99, 22.74' LT, EL. 33.86
CP-MAG NAIL 500 AT STA. 03+30.78, 38.11' LT, EL. 34.03



0 1 2 3
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

DISMUKE PLAN & PROFILE
STA 1+00 TO 6+00

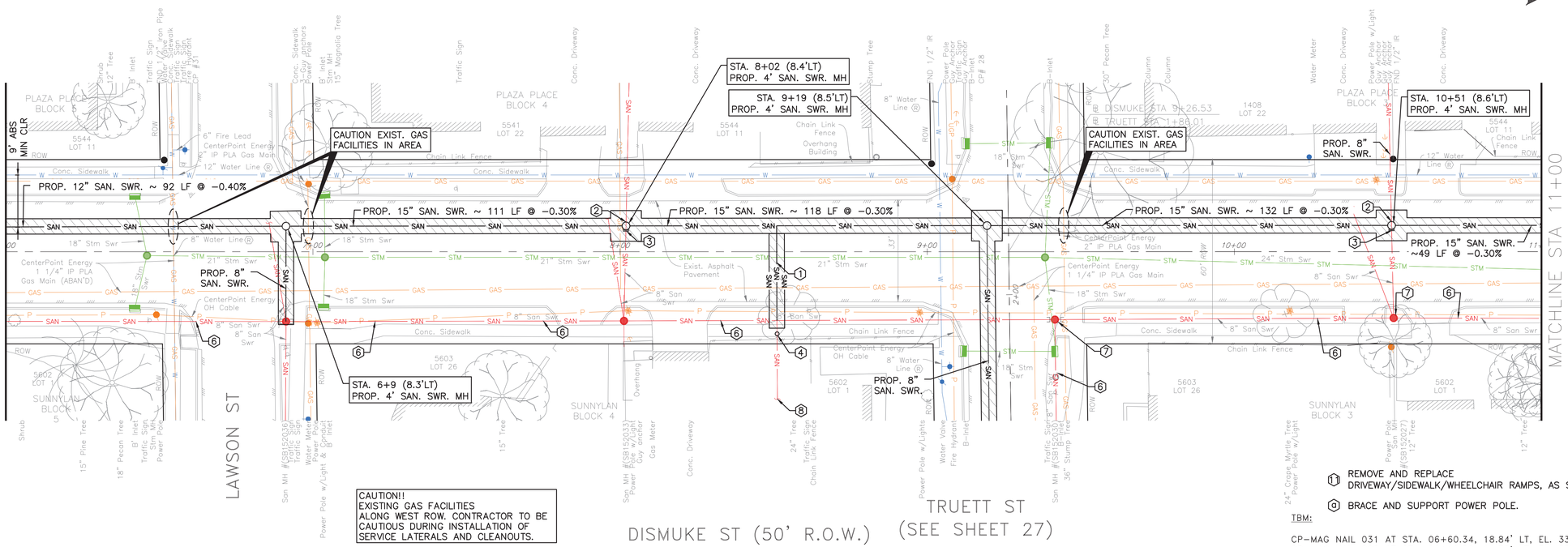
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **30** OF **183**

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:25pm



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TBM:

CP-MAG NAIL 031 AT STA. 06+60.34, 18.84' LT, EL. 33.21
CP-MAG NAIL 028 AT STA. 09+12.52, 16.78' LT, EL. 33.59

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HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

DISMUKE PLAN & PROFILE
STA 6+00 TO 11+00

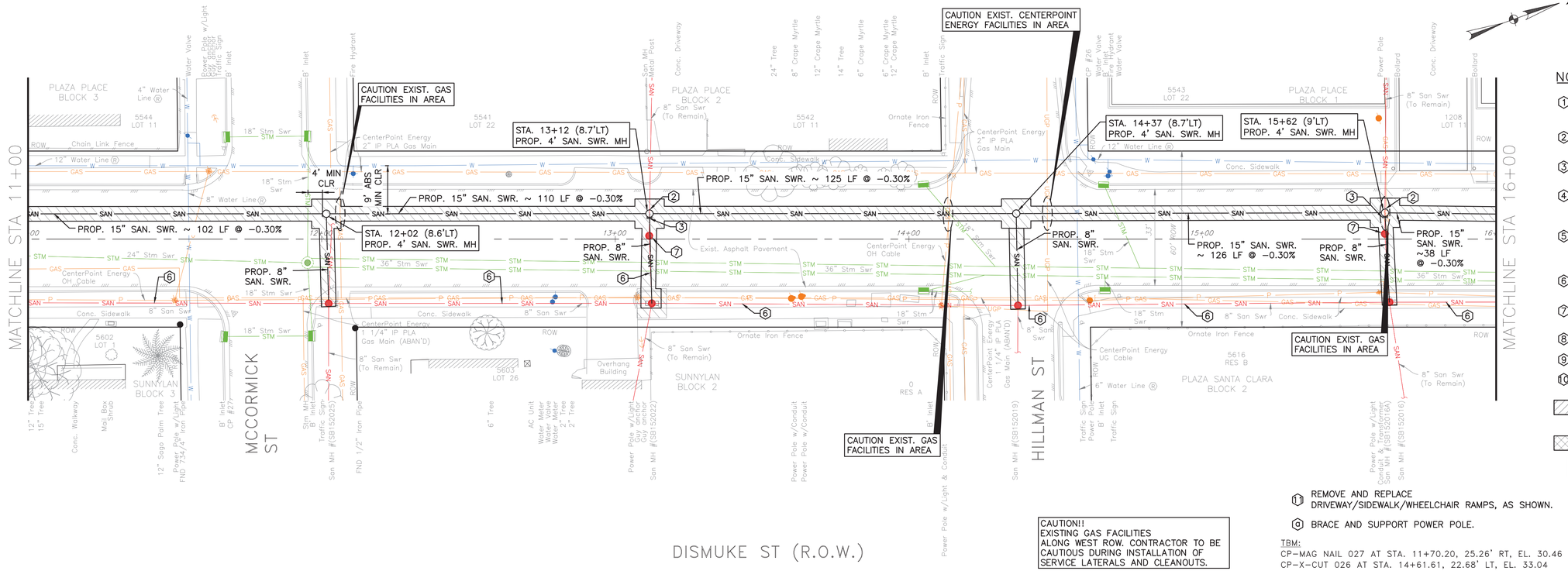
WBS NO.
R-01000-0036-3

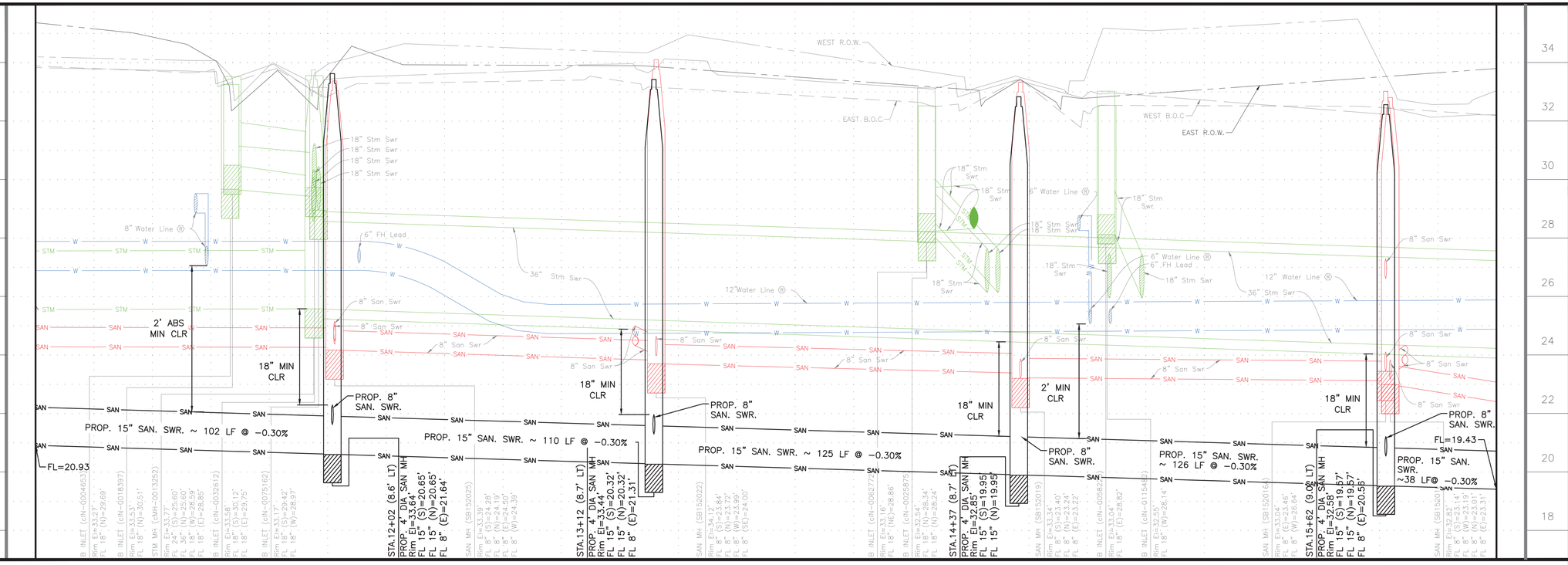
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO.31 OF 183

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:25pm





NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

1. EXTEND EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER. MATCH EXISTING SIZE AND FLOWLINE
2. CONNECT EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER
3. CUT, PLUG & ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222
4. INSTALL PROP C.O. ON EXISTING SANITARY SERVICE LATERAL. SEE DETAIL 99 & 100
5. 2"MILL AND OVERLAY FULL WIDTH OUTSIDE PAVEMENT REPAIR (HATCHED AREA) AND UP TO CURB RETURN AT INTERSECTING STREETS. SEE DETAIL 112
6. ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222 AFTER PROPOSED SANITARY SEWER IS IN SERVICE.
7. ABANDON EXISTING SANITARY MANHOLE
8. EXISTING SANITARY SERVICE PER CCTV INSPECTION REPORTS. (NOT FIELD VERIFIED)
9. REMOVE AND REPLACE TRAFFIC SIGN
10. REMOVE AND REPLACE WATER METER

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS; REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.

11. REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.
12. BRACE AND SUPPORT POWER POLE.

TBM:
CP-MAG NAIL 027 AT STA. 11+70.20, 25.26' RT, EL. 30.46
CP-X-CUT 026 AT STA. 14+61.61, 22.68' LT, EL. 33.04

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)

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Date

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SURVEYED BY: AMANI
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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

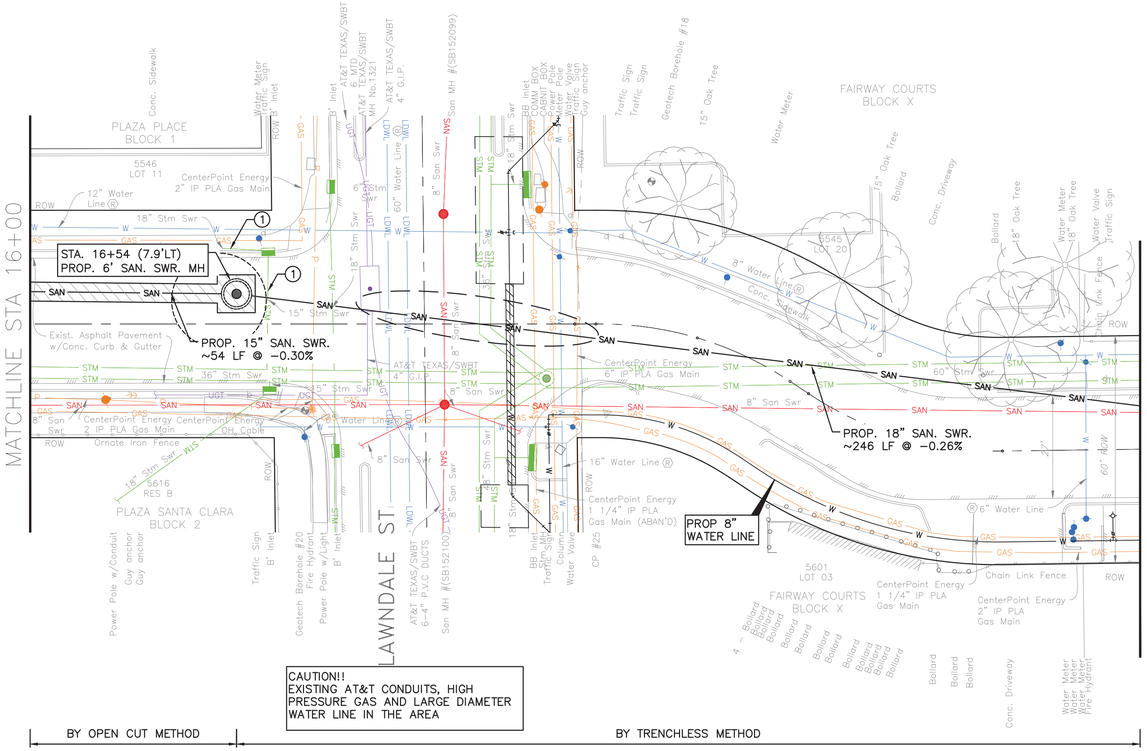
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

DISMUKE PLAN & PROFILE
STA 11+00 TO 16+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	32 OF 183

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:26pm



DISMUKE ST (60' R.O.W.)

SEE SHEET 34
FOR PROFILE

NOTE: REFER SHEET 83 & 84 FOR WATERLINE REPLACEMENT.

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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11. REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.
12. BRACE AND SUPPORT POWER POLE.

SHAFT SHAPE, & SIZE SHOWN IN FOR REPRESENTATION PURPOSE ONLY. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE AND SHAPE. BACKFILL SHAFT PER COH STD DETAIL 02317-08.

CRITICAL LOCATIONS
SEE SPEC 02317

1. REMOVE AND REPLACE STORM SEWER AS NEEDED DURING CONSTRUCTION. COST OF REMOVAL, REPLACEMENT AND MAINTENANCE IS INCIDENTAL TO SHAFT.

TBM:

CP-X-CUT 025 AT STA. 17+52.78, 23.49' LT, EL. 32.15

NOTICE:

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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

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Signature valid for one year.

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Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

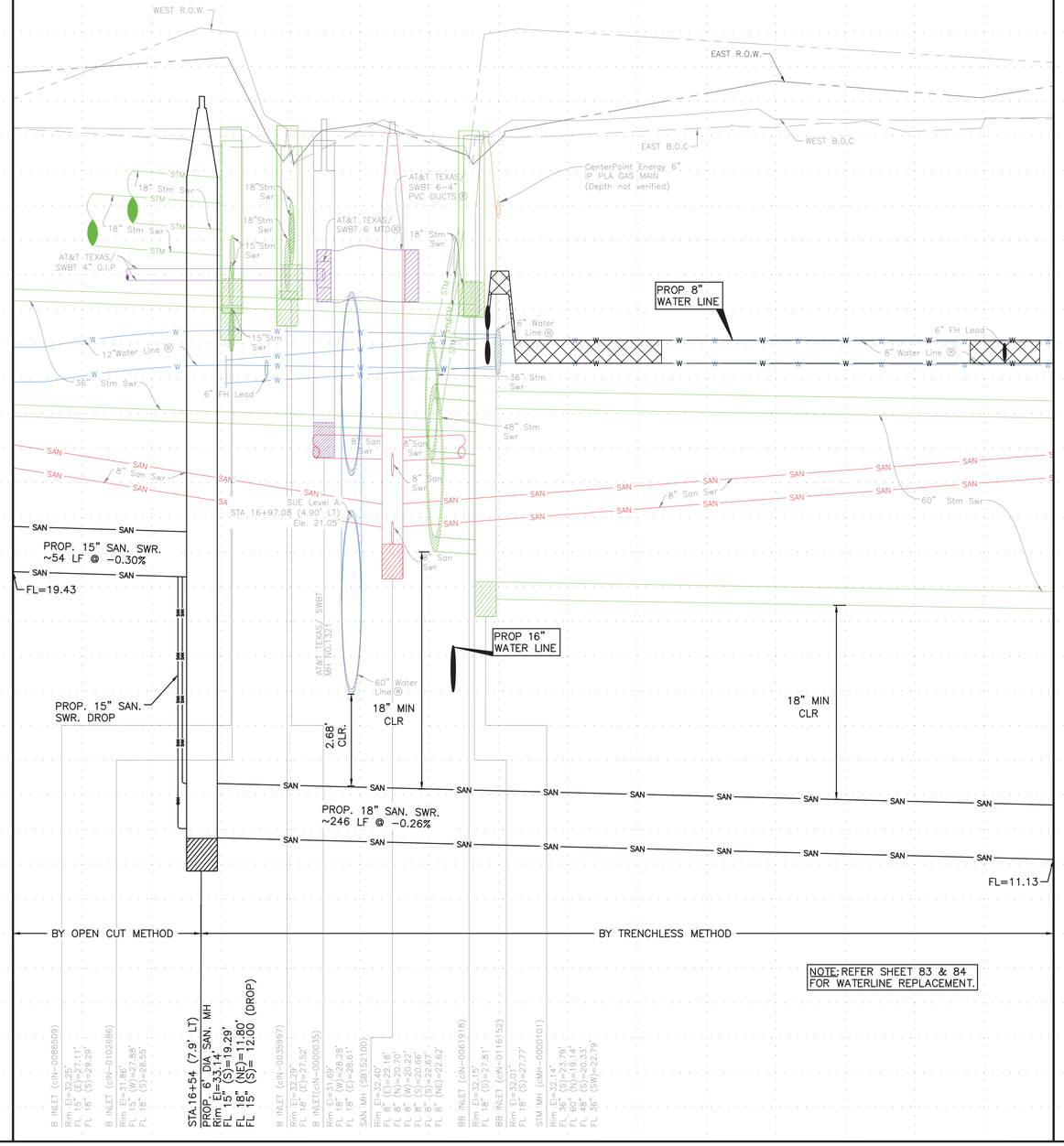
DISMUKE PLAN STA 16+00 TO 19+00

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 33 OF 183	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Prs\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:26pm

SEE SHEET 33
FOR PLAN



NOTE: REFER SHEET 83 & 84 FOR WATERLINE REPLACEMENT.

16+00 17+00 18+00 19+00

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:26pm

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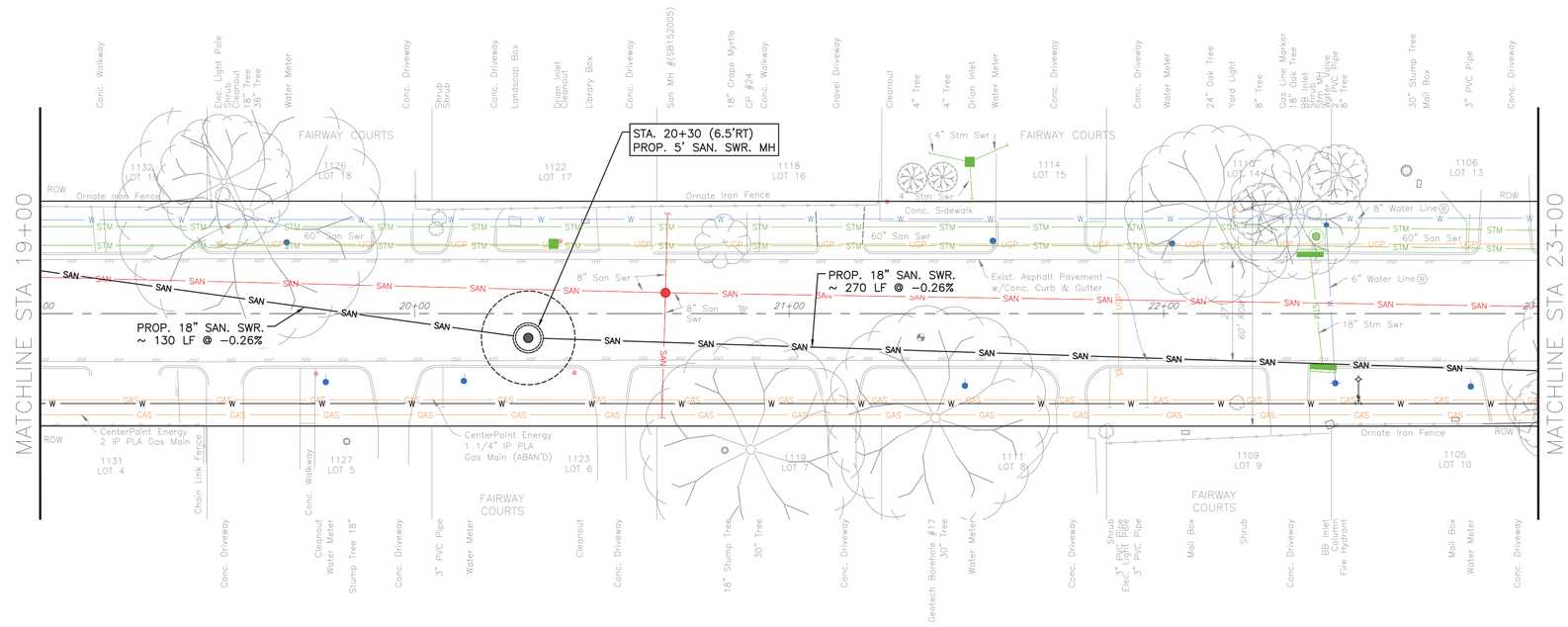
MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

DISMUKE PROFILE STA 16+00 TO 19+00

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **34** OF **183**	



DISMUKE ST (60' R.O.W.)

SEE SHEET 36
FOR PROFILE

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

SHAFT SHAPE, & SIZE SHOWN IN FOR REPRESENTATION PURPOSE ONLY. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE AND SHAPE. BACKFILL SHAFT PER COH STD DETAIL 02317-08.

TBM:

CP-MAG NAIL 024 AT STA. 20+87.59,
01.22' LT, EL. 32.17

NOTICE:

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DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

DISMUKE PLAN STA 19+00 TO 23+00

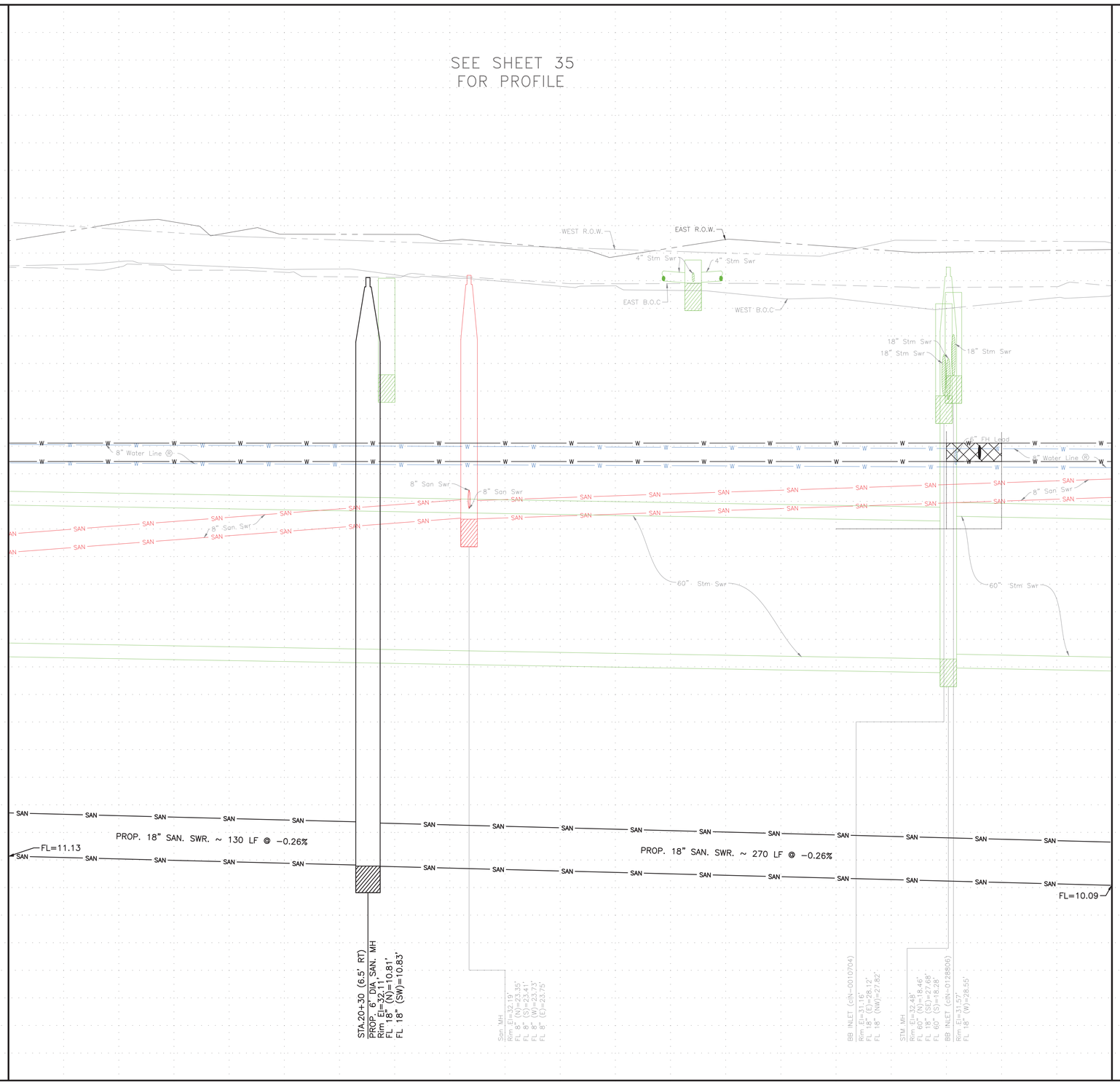
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **35** OF **183**

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:27pm



P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:27pm

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MAHESH DUTTA — NAME
114252 — P.E. NO.
02/10/2026 — DATE
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

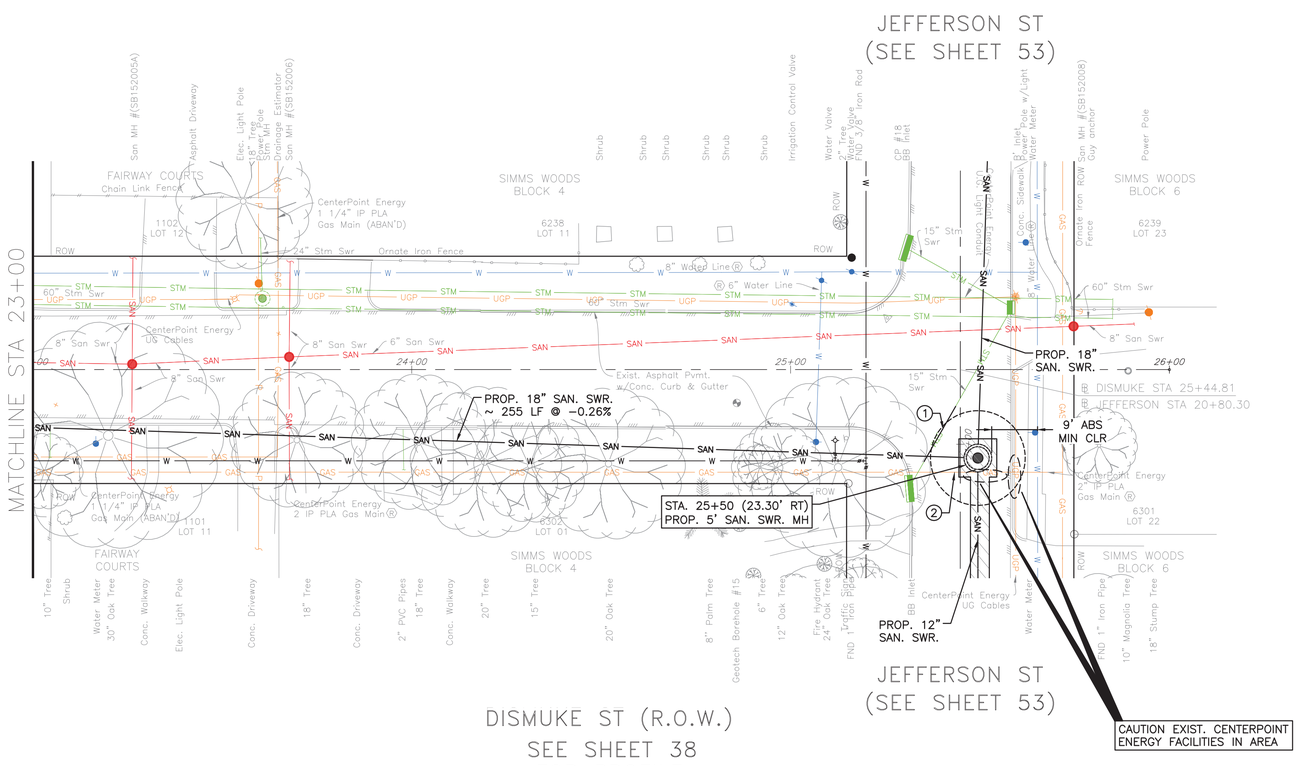
DISMUKE PROFILE STA 19+00 TO 23+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **36** OF **183**



NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

SHAFT SHAPE, & SIZE SHOWN IN FOR REPRESENTATION PURPOSE ONLY. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE AND SHAPE. BACKFILL SHAFT PER COH STD DETAIL 02317-08.

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

(1) REMOVE AND REPLACE STORM SEWER AS NEEDED DURING CONSTRUCTION. COST OF REMOVAL, REPLACEMENT AND MAINTENANCE IS INCIDENTAL TO SHAFT.

(2) UTILITY TO BE RELOCATED BY OTHERS

TBM:
CP-MAG NAIL 018 AT STA. 25+25.54,
13.63' LT, EL. 30.96

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

DISMUKE PLAN STA 23+00 TO END

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

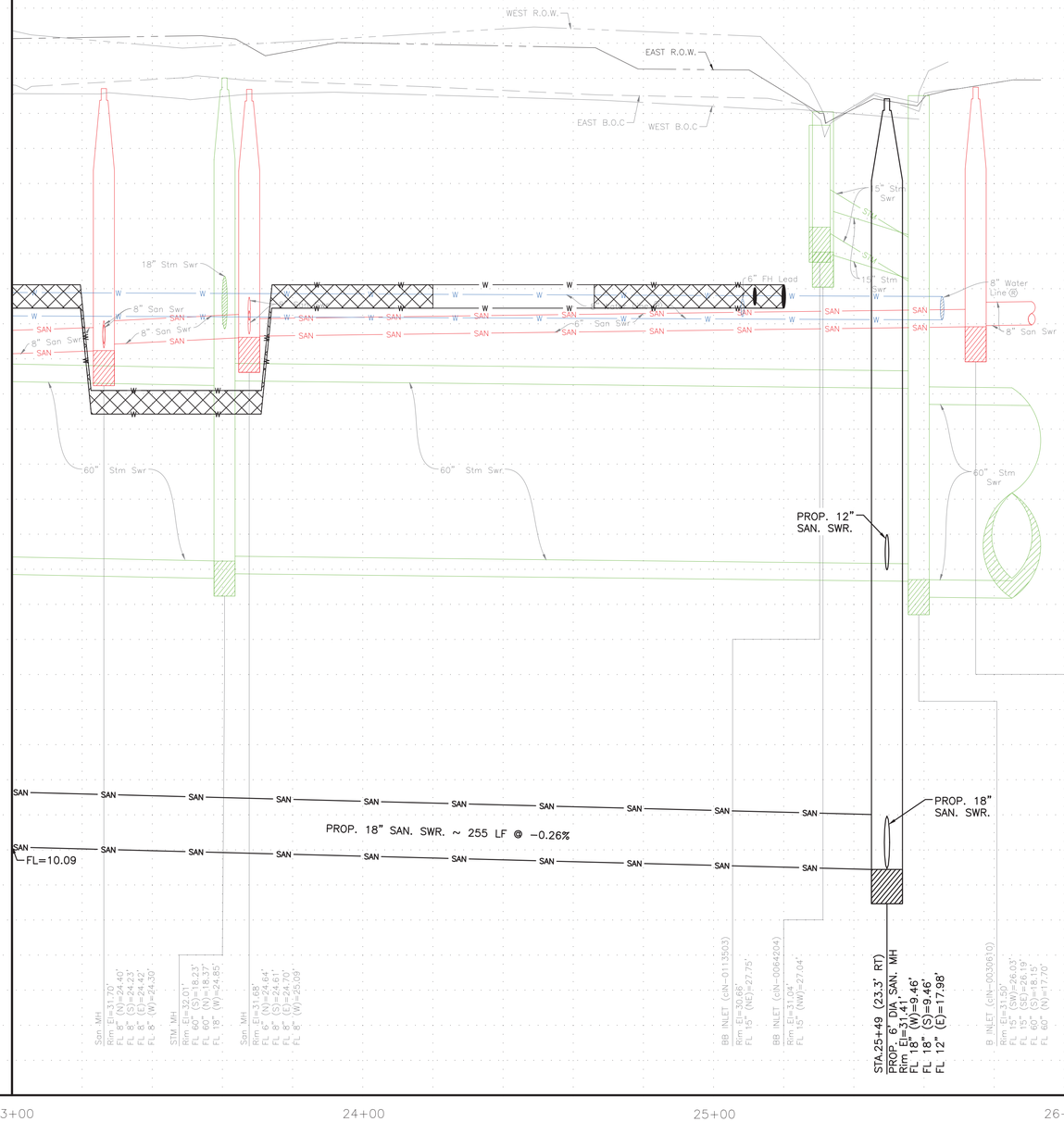
CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **37** OF **183**

0 1 2 3 ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:27pm

SEE SHEET 37
FOR PROFILE



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 1 - SAN.dwg Feb 10, 2026 4:27pm

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EDDINGTON LIFT STATION

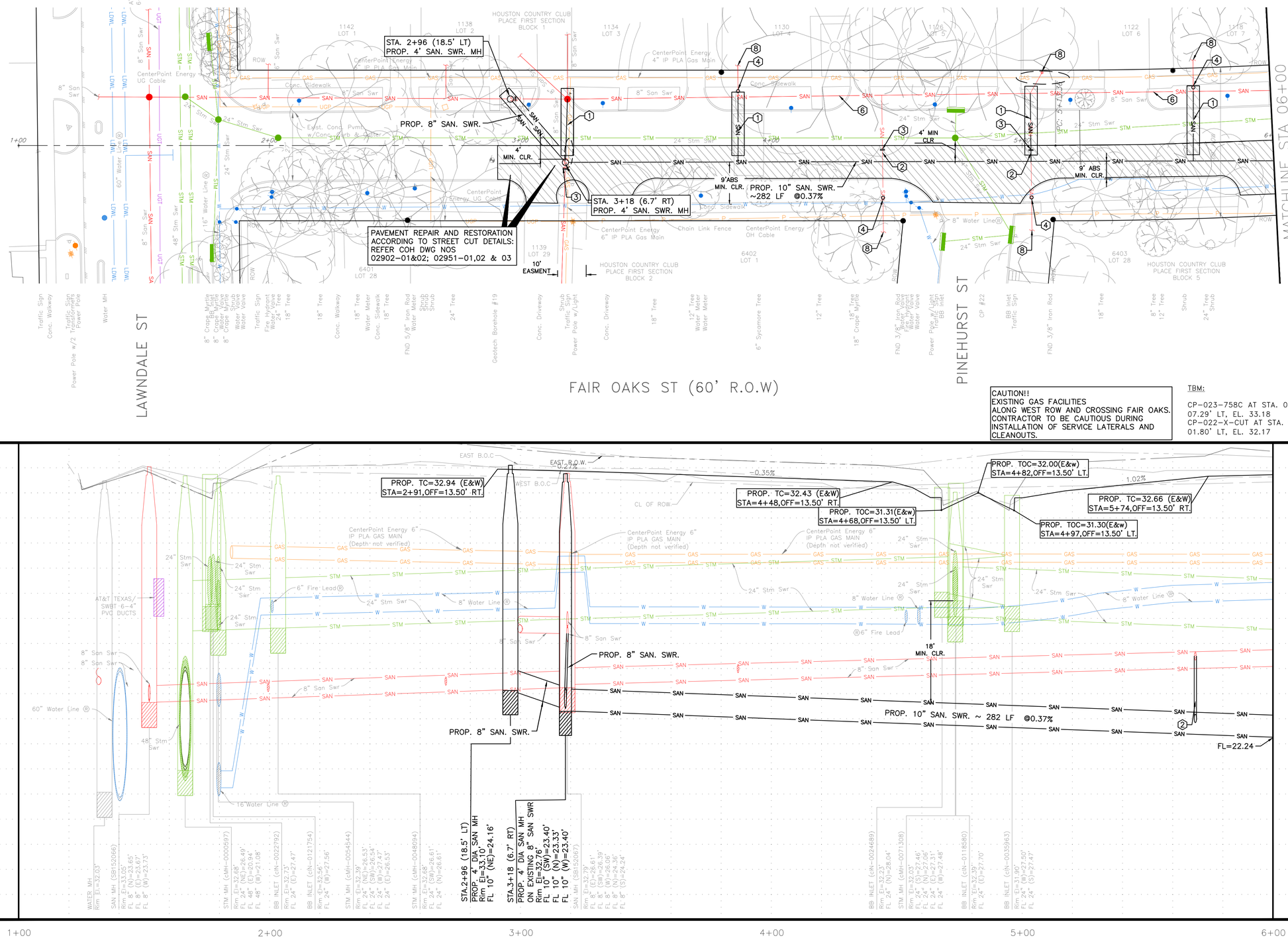
DISMUKE PROFILE STA 23+00 TO END

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **38** OF **183**



NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
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AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

CRITICAL LOCATIONS SEE SPEC 02317

CAUTION!!
EXISTING GAS FACILITIES ALONG WEST ROW AND CROSSING FAIR OAKS. CONTRACTOR TO BE CAUTIOUS DURING INSTALLATION OF SERVICE LATERALS AND CLEANOUTS.

TBM:

CP-023-758C AT STA. 01+19.96, 07.29' LT, EL. 33.18
CP-022-X-CUT AT STA. 04+84.04, 01.80' LT, EL. 32.17

NOTICE:
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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

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Signature valid for six months.

Date

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

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY
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MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

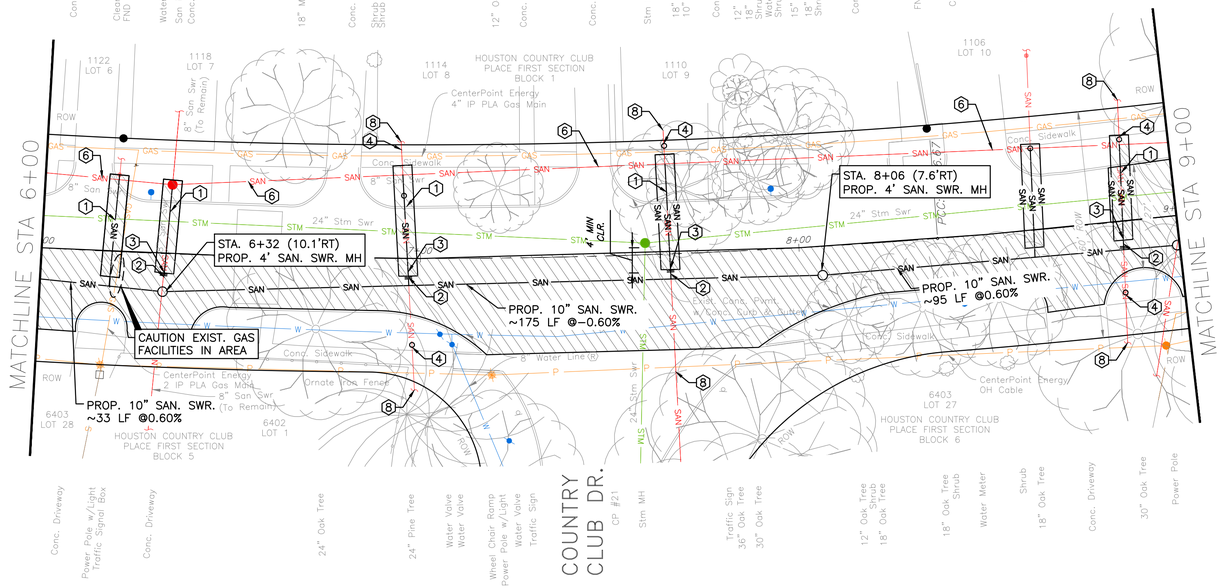
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

FAIR OAKS PLAN & PROFILE
STA 1+00 TO 6+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	39 OF 183

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 11, 2026 2:51pm



FAIR OAKS ST (60' R.O.W)

CAUTION!!
EXISTING GAS FACILITIES
ALONG WEST ROW. CONTRACTOR TO BE
CAUTIOUS DURING INSTALLATION OF
SERVICE LATERALS AND CLEANOUTS.

TBM:

CP-021-X-CUT AT STA. 07+47.47,
19.02' R, EL. 32.12

NOTE:

PROJECT BENCH MARK:

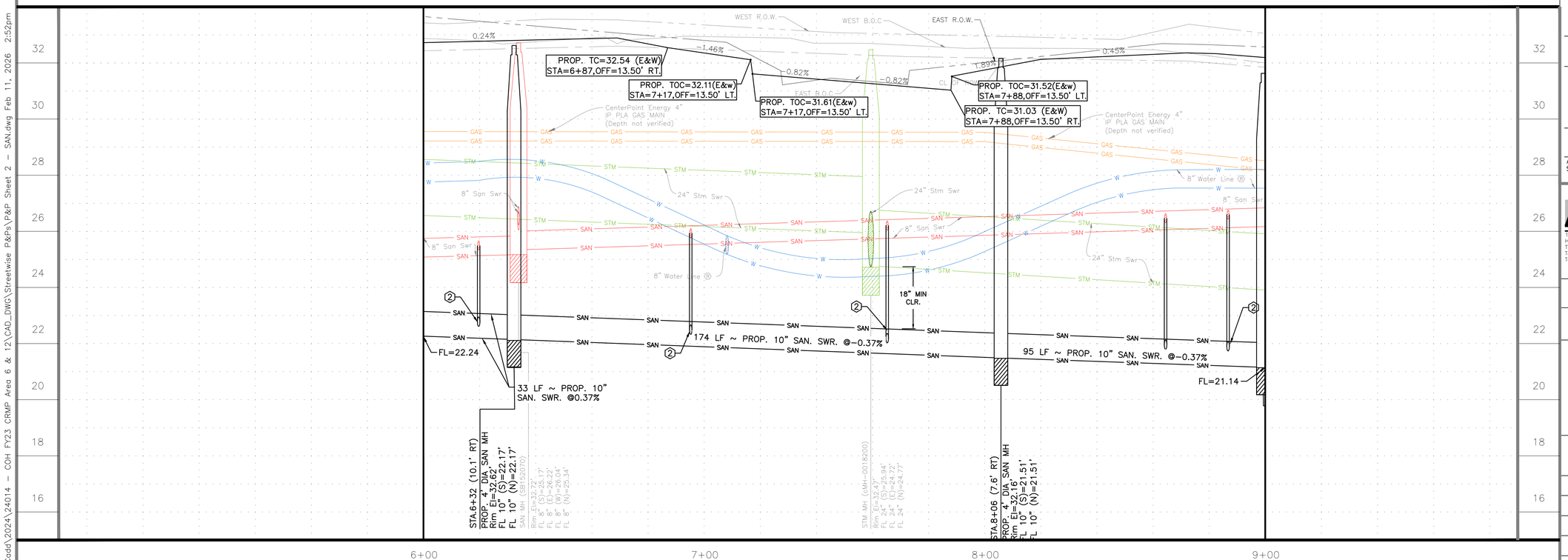
CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

1. EXTEND EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER. MATCH EXISTING SIZE AND FLOWLINE
2. CONNECT EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER
3. CUT, PLUG & ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222
4. INSTALL PROP C.O. ON EXISTING SANITARY SERVICE LATERAL. SEE DETAIL –
6. ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222 AFTER PROPOSED SANITARY SEWER IS IN SERVICE.
7. ABANDON EXISTING SANITARY MANHOLE
8. EXISTING SANITARY SERVICE PER CCTV. INSPECTION REPORTS. (NOT FIELD VERIFIED)

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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Date

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HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

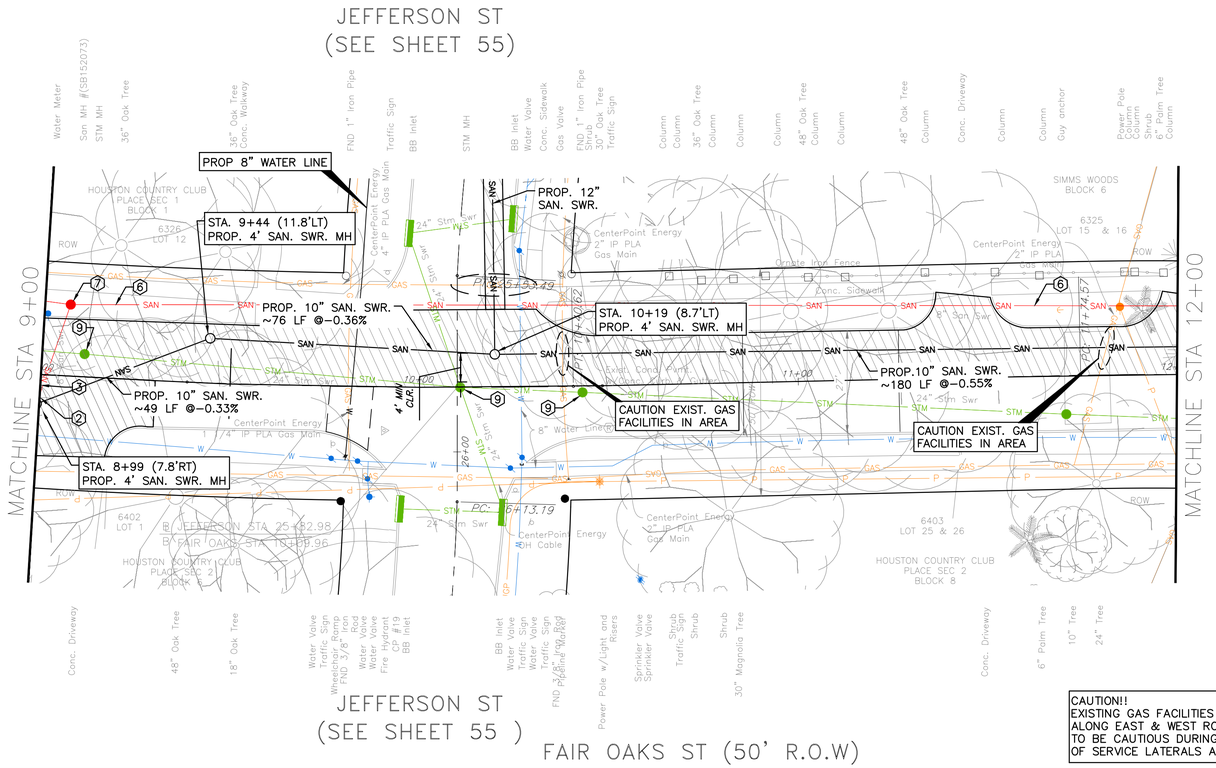
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

FAIR OAKS PLAN & PROFILE
STA 6+00 TO 9+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	40 OF 183

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 11, 2026 2:52pm



NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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7. ABANDON EXISTING SANITARY MANHOLE
8. EXISTING SANITARY SERVICE PER CCTV. INSPECTION REPORTS. (NOT FIELD VERIFIED)
9. ADJUST MANHOLE FRAME AND COVER

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

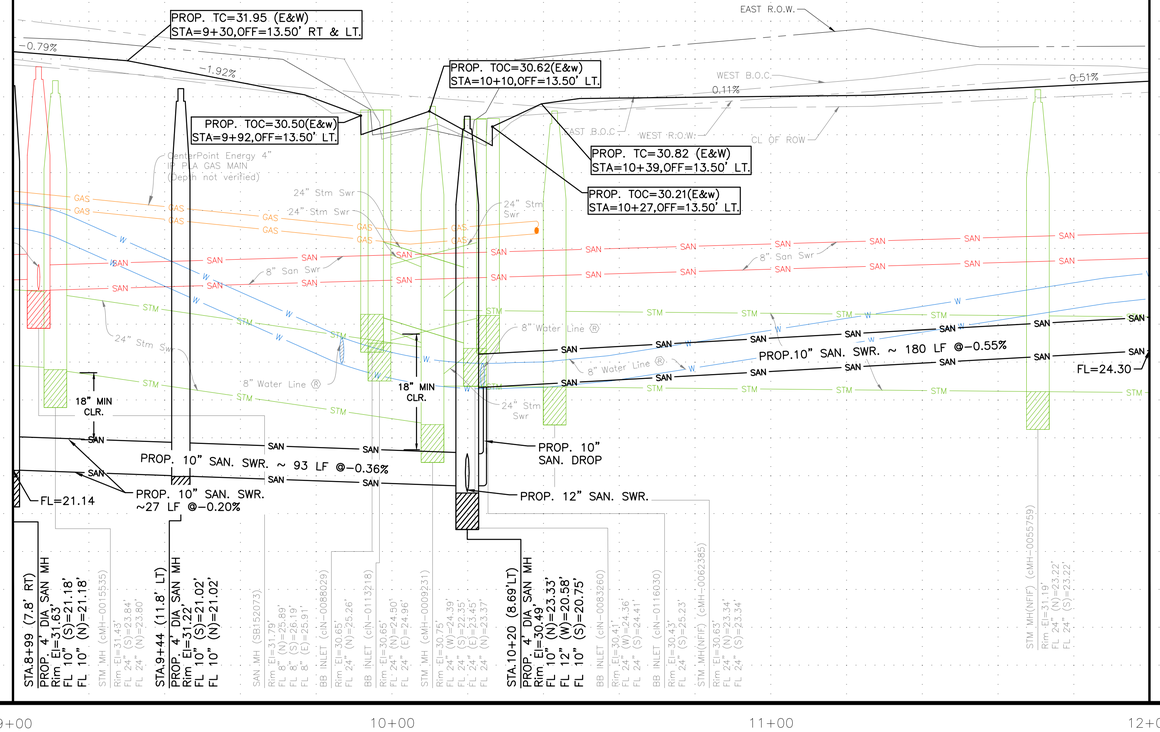
CRITICAL LOCATIONS
SEE SPEC 02317

NOTE: REFER SHEET 90 FOR WATERLINE REPLACEMENT.

CAUTION!!
EXISTING GAS FACILITIES
ALONG EAST & WEST ROW. CONTRACTOR
TO BE CAUTIOUS DURING INSTALLATION
OF SERVICE LATERALS AND CLEANOUTS.

TBM:

CP-019-X-CUT AT STA. 09+90.70,
11.52' RT, EL. 30.50



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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Date

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Signature valid for one year.

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Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

FAIR OAKS PLAN & PROFILE
STA 9+00 TO 12+00

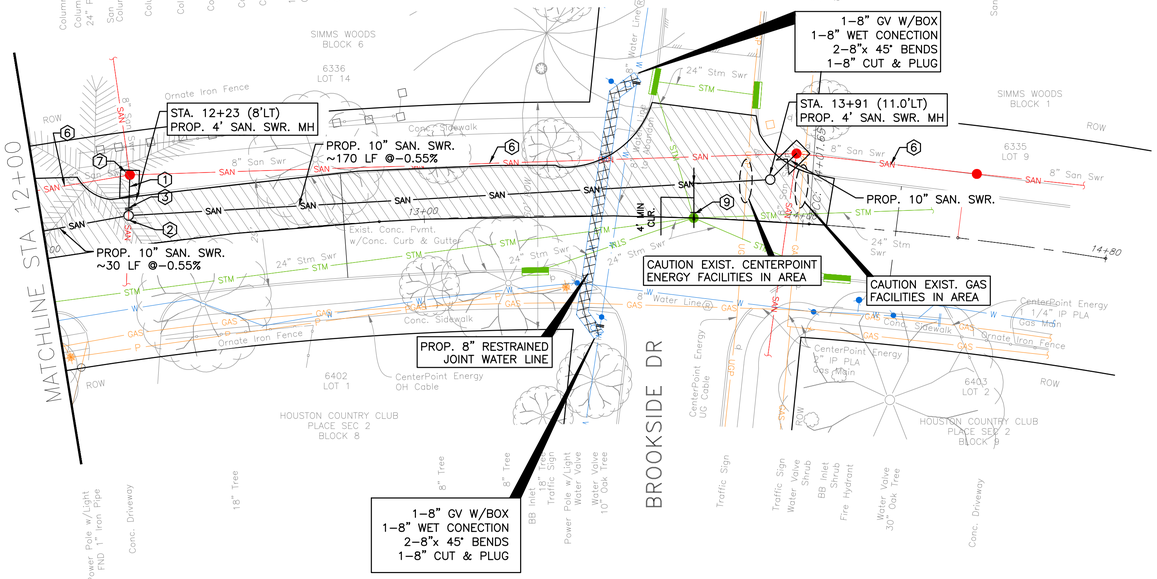
WBS NO.
R-01000-0036-3

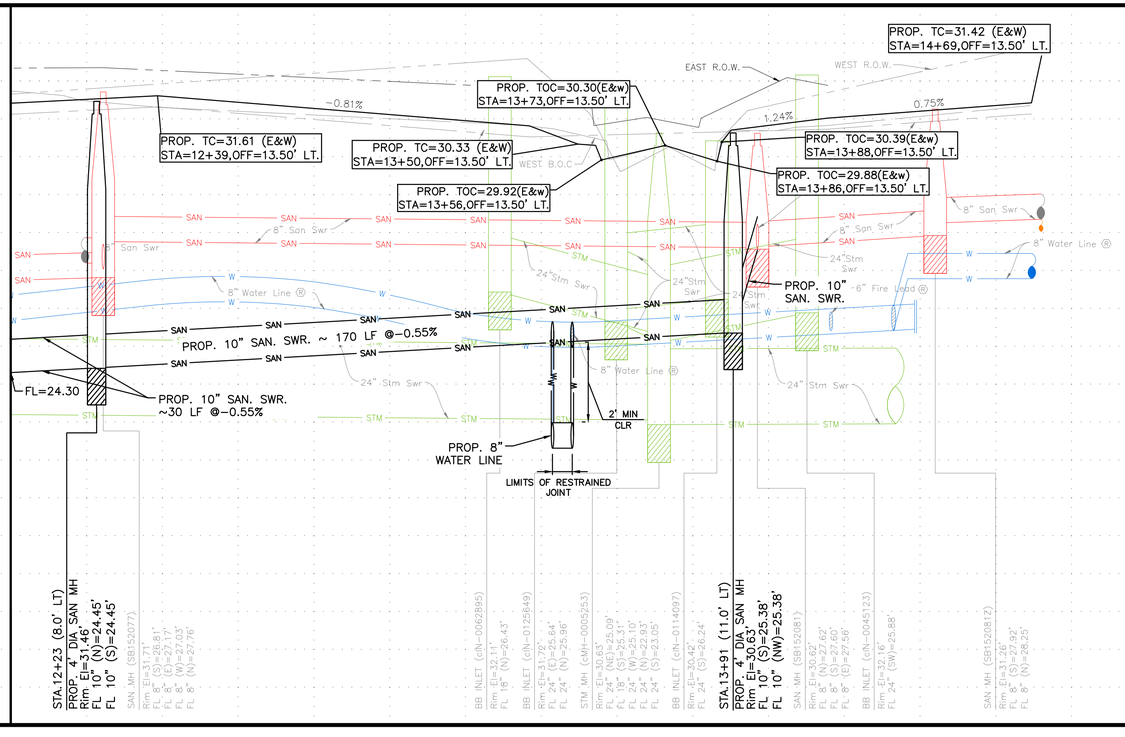
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 41 OF 183

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 11, 2026 2:52pm





CAUTION!!
EXISTING GAS FACILITIES ALONG EAST ROW. CONTRACTOR TO BE CAUTIOUS DURING INSTALLATION OF SERVICE LATERALS AND CLEANOUTS.

TBM:

CP-020-X-CUT AT STA. 13+87.16, 17.86' L, EL. 30.06

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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9. ADJUST MANHOLE FRAME AND COVER

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

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Date

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Date

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HOUSTON, TEXAS 77024
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SURVEYED BY: AMANI
FB NO.: P-6406

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NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

FAIR OAKS PLAN & PROFILE
STA 12+00 TO END

WBS NO.
R-01000-0036-3

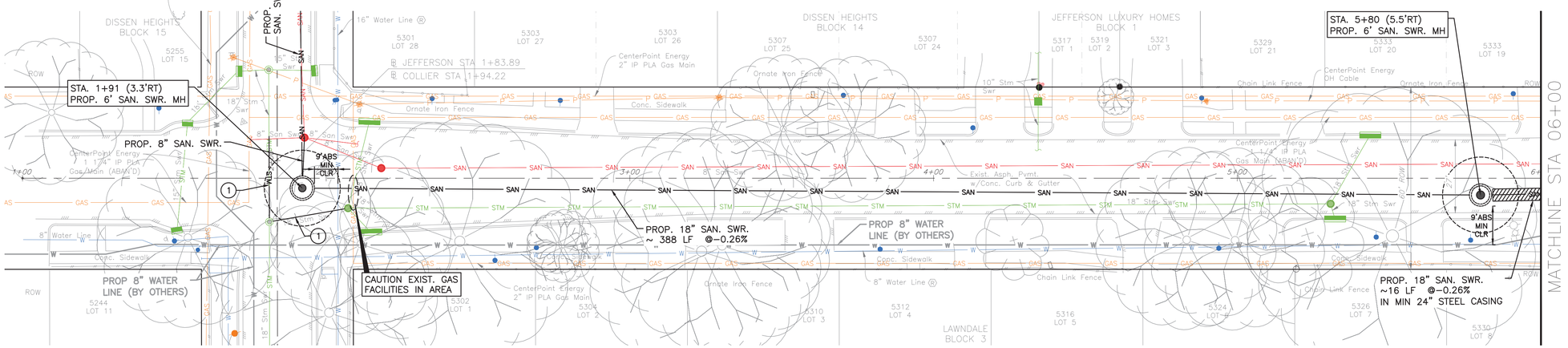
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 42 OF 183

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 11, 2026 2:53pm



CAUTION!!
EXISTING GAS FACILITIES
ALONG NORTH & SOUTH ROW. CONTRACTOR
TO BE CAUTIOUS DURING CONSTRUCTION.

SEE SHEET 44
FOR PROFILE

TBM:

CP-12-MAG NAIL AT STA. 01+72.72,
18.47' LT, EL. 33.38

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

SHAFT SHAPE, & SIZE SHOWN IS FOR REPRESENTATION PURPOSE ONLY. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE AND SHAPE. BACKFILL SHAFT PER COH STD DETAIL 02317-08.

(1) REMOVE AND REPLACE STORM SEWER AS NEEDED DURING CONSTRUCTION. (THE COST OF REMOVAL AND REPLACEMENT IS INCIDENTAL TO SHAFT.)

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Date

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Signature valid for one year.

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HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
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SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

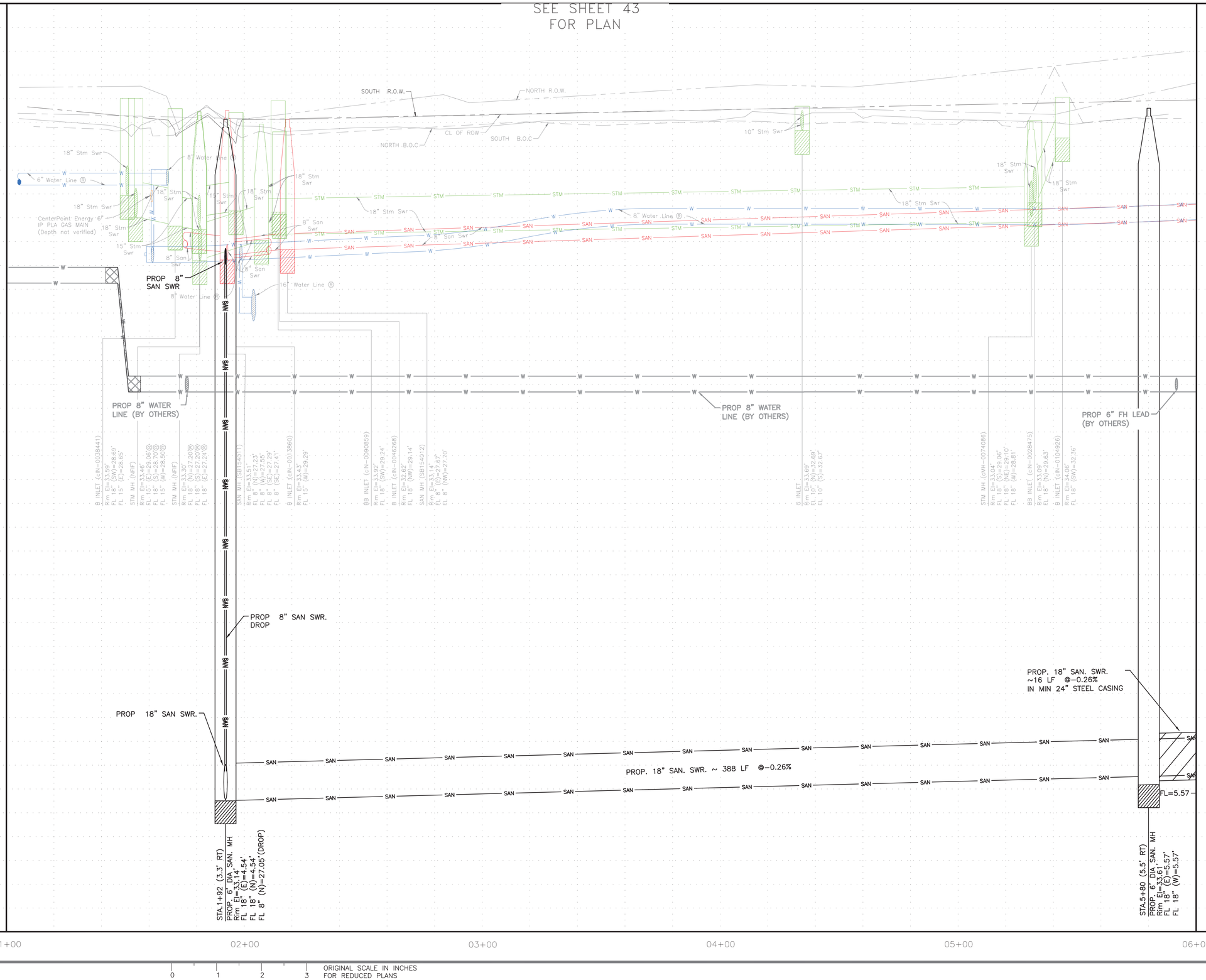
JEFFERSON PLAN STA
1+00 TO 6+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	43 OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:00pm

SEE SHEET 43
FOR PLAN



ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:01pm

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NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

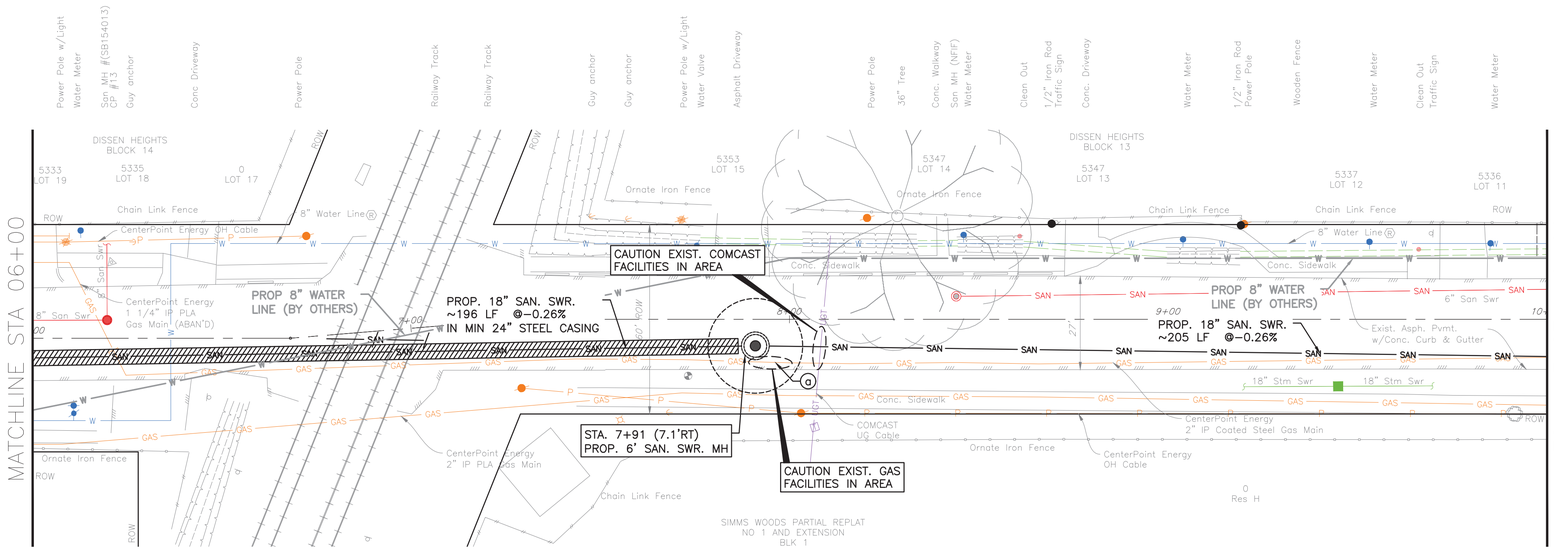
JEFFERSON PROFILE STA 1+00 TO 6+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **44** OF **183**



JEFFERSON ST (60' R.O.W)

SEE SHEET 46 FOR PROFILE

TBM:

CP-13-X-CUT AT STA. 06+20.80,
20.03' LT, EL. 34.33

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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(a) UTILITY TO BE RELOCATED BY OTHERS

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MAHESH DUTTA (NAME) 114252 (P.E. NO.)

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
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EDDINGTON LIFT STATION

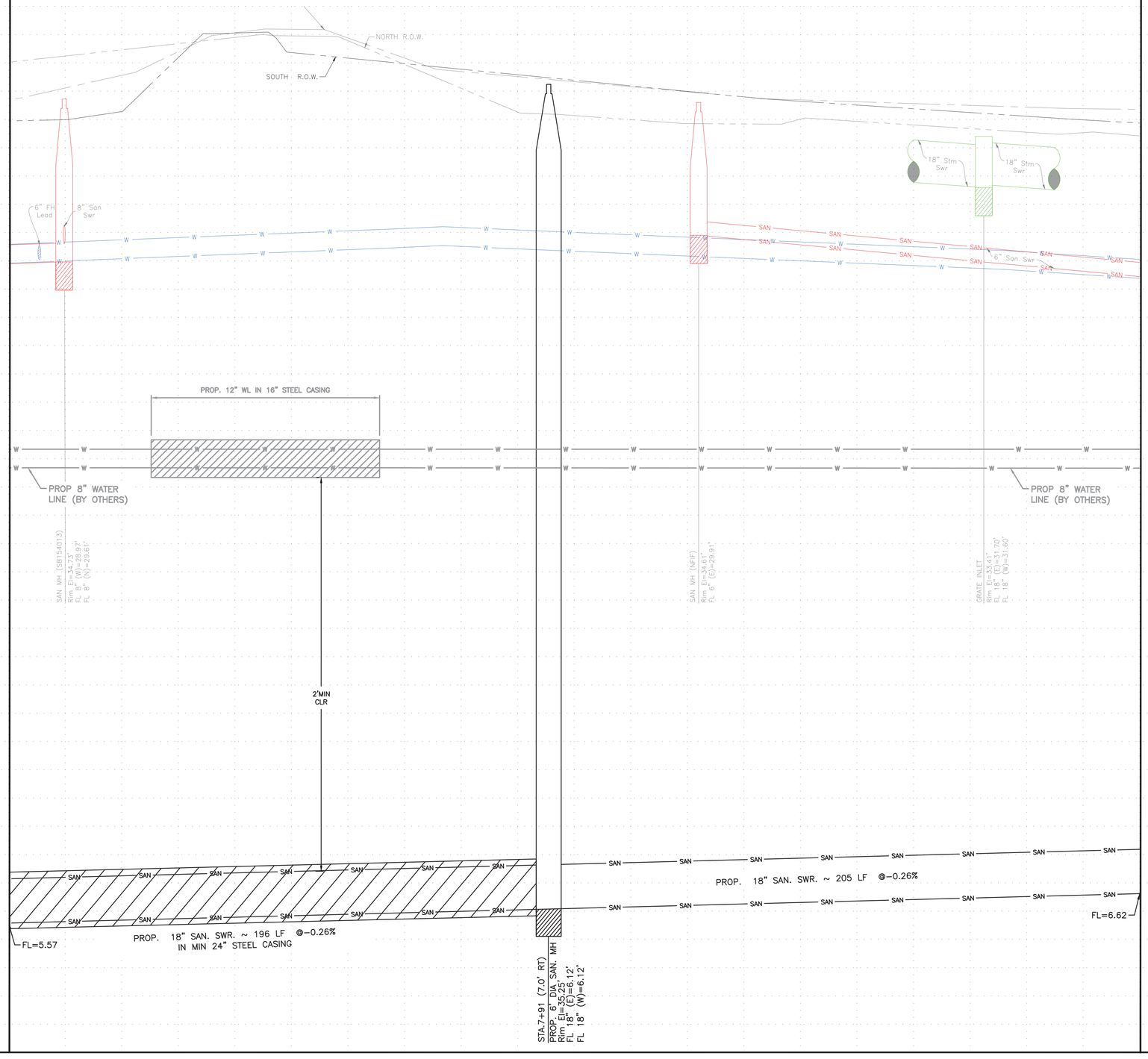
JEFFERSON PLAN STA 6+00 TO 10+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	45 OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:01pm

SEE SHEET 45 FOR PLAN



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:01pm

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NAME P.E. NO.

DATE 02/10/2026

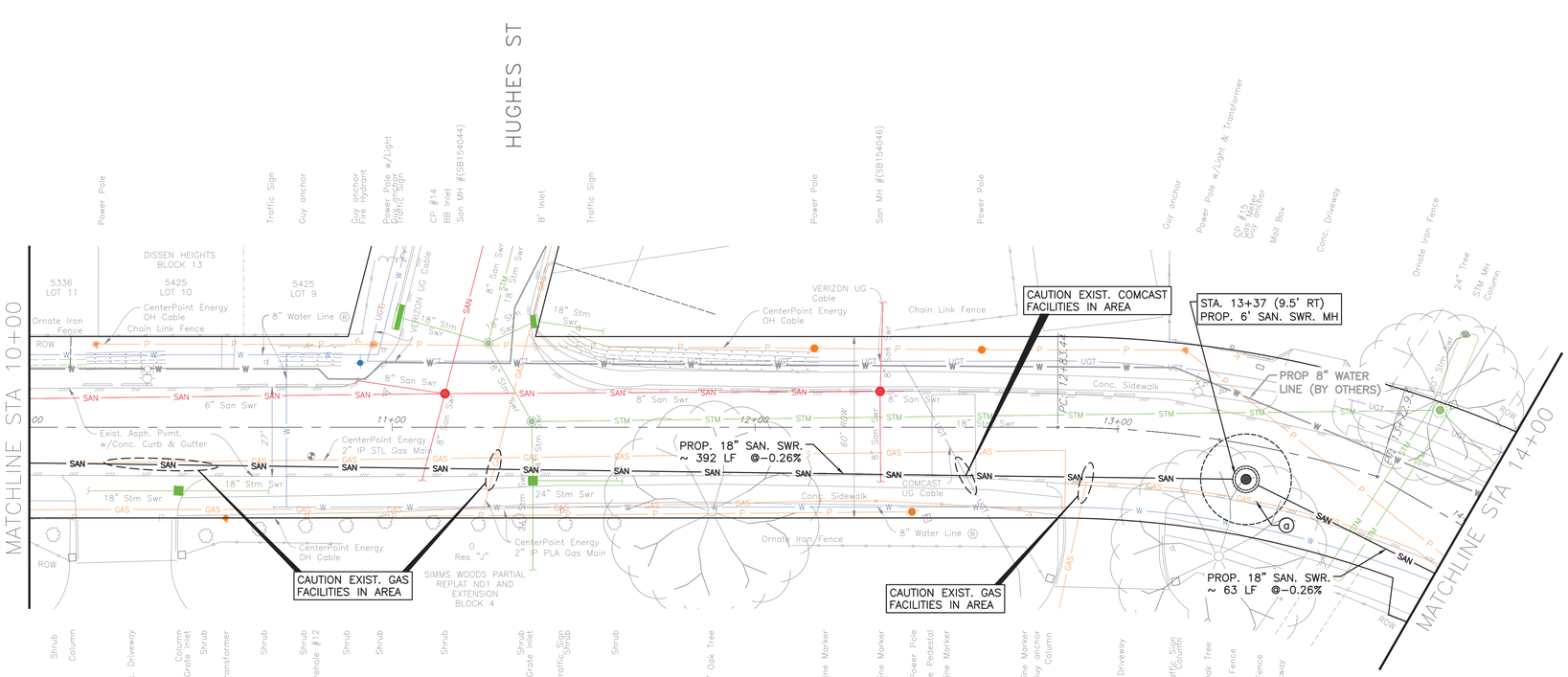
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

JEFFERSON PROFILE
STA 6+00 TO 10+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	46 OF 183



JEFFERSON ST (60' R.O.W)

SEE SHEET 48 FOR PROFILE

TBM:

CP-14-MAG NAIL AT STA. 10+98.21, 09.58' LT, EL. 33.95
CP-15-X-CUT AT STA. 13+26.95, 13.63' L, EL. 31.62

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

SHAFT SHAPE, & SIZE SHOWN IN FOR REPRESENTATION PURPOSE ONLY. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE AND SHAPE. BACKFILL SHAFT PER COH STD DETAIL 02317-08.

(a) UTILITY TO BE RELOCATED BY OTHERS

NOTICE:

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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.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

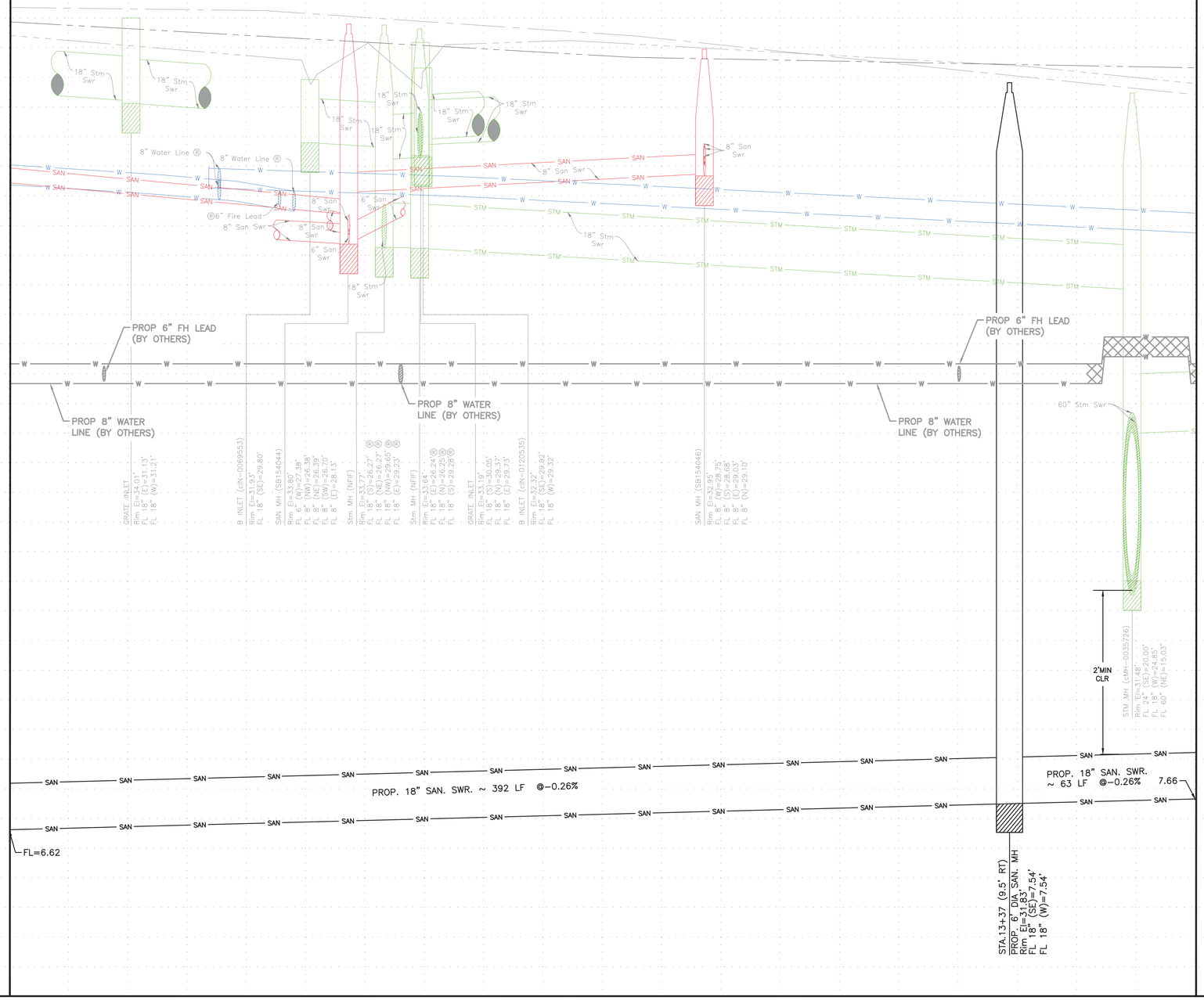
JEFFERSON PLAN STA 10+00 TO 14+00

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **47** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P's\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:02pm

SEE SHEET 47 FOR PLAN



ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 – COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 2 – SAN.dwg Feb 10, 2026 5:02pm

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

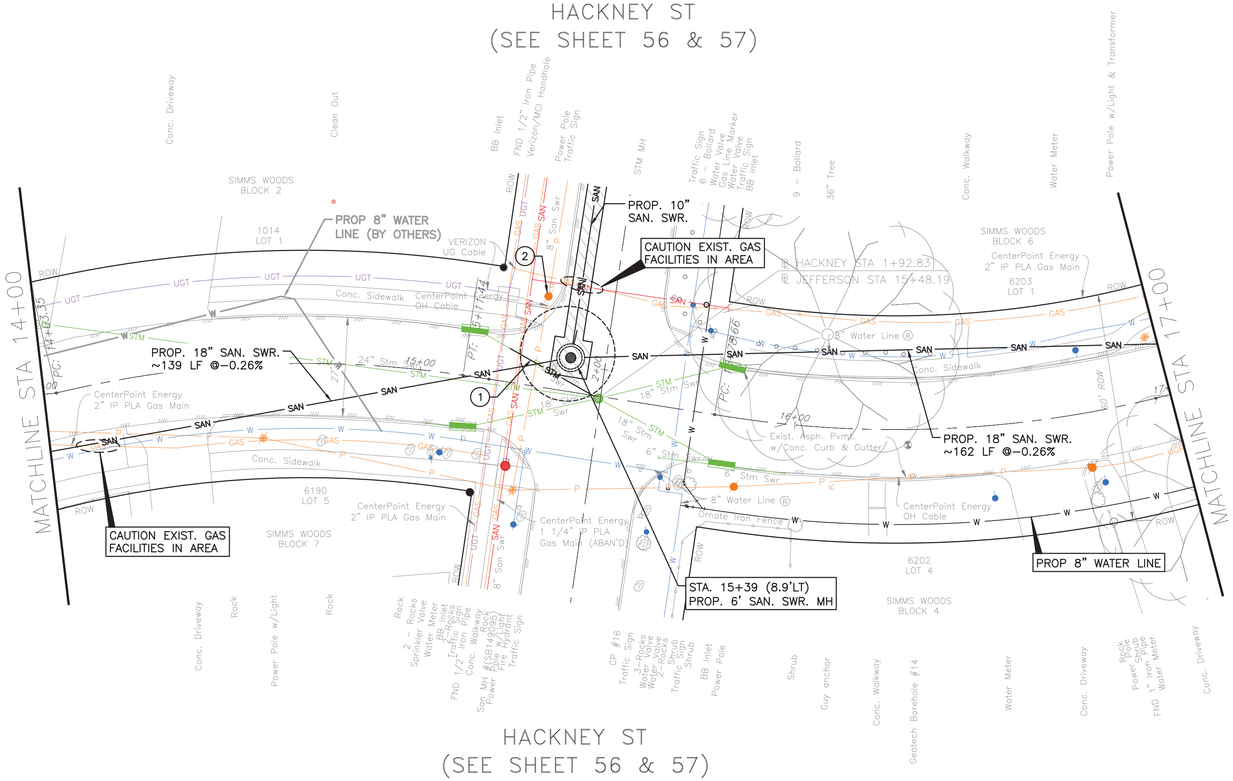
JEFFERSON PROFILE STA 10+00 TO 14+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **48** OF **183**



HACKNEY ST
(SEE SHEET 56 & 57)

JEFFERSON ST (60' R.O.W)

SEE SHEET 50 FOR PROFILE

NOTE: REFER SHEET 87 FOR WATERLINE REPLACEMENT.

TBM:

CP-16-MAG NAIL AT STA. 15+61.51, 16.79' R, EL. 30.59

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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VERIFICATION OF PRIVATE UTILITY LINES

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

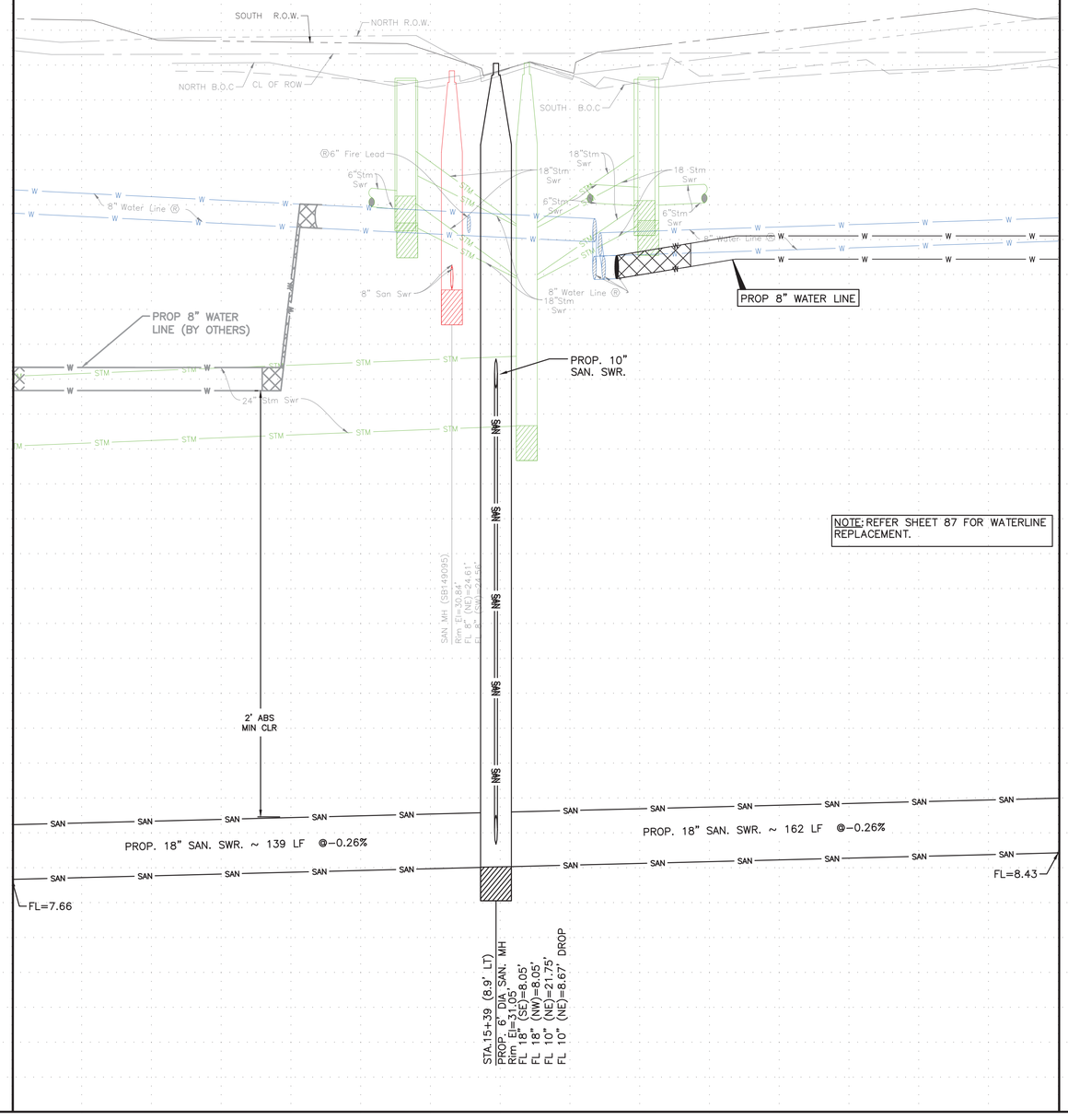
JEFFERSON PLAN STA 14+00 TO 17+00

WBS NO. R-01000-0036-3	
DRAWING SCALE 1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **49** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&PS\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:02pm

SEE SHEET 49 FOR PLAN



NOTE: REFER SHEET 87 FOR WATERLINE REPLACEMENT.

14+00 15+00 16+00 17+00

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:03pm

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

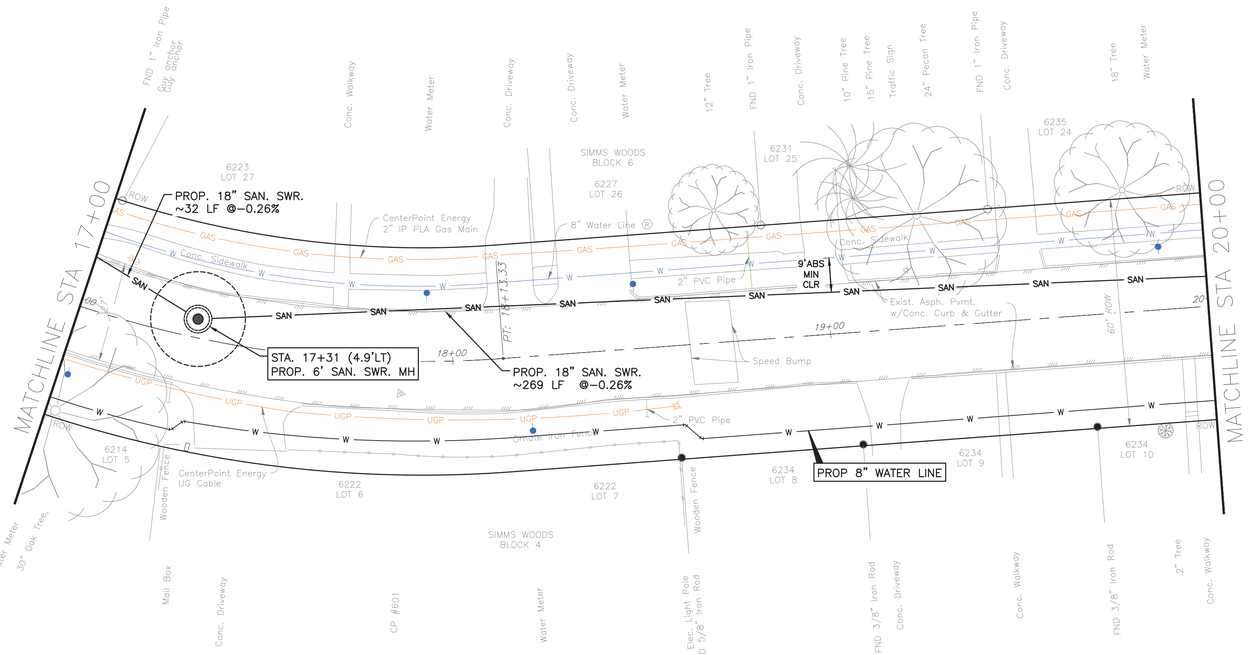
JEFFERSON PROFILE STA 14+00 TO 17+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **50** OF **183**



NOTE: REFER SHEET 88 FOR WATERLINE REPLACEMENT.

JEFFERSON ST (60' R.O.W)

SEE SHEET 52 FOR PROFILE

TBM:

CP-601-MAG NAIL AT STA. 17+86.28, 08.50' R, EL. 31.16

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

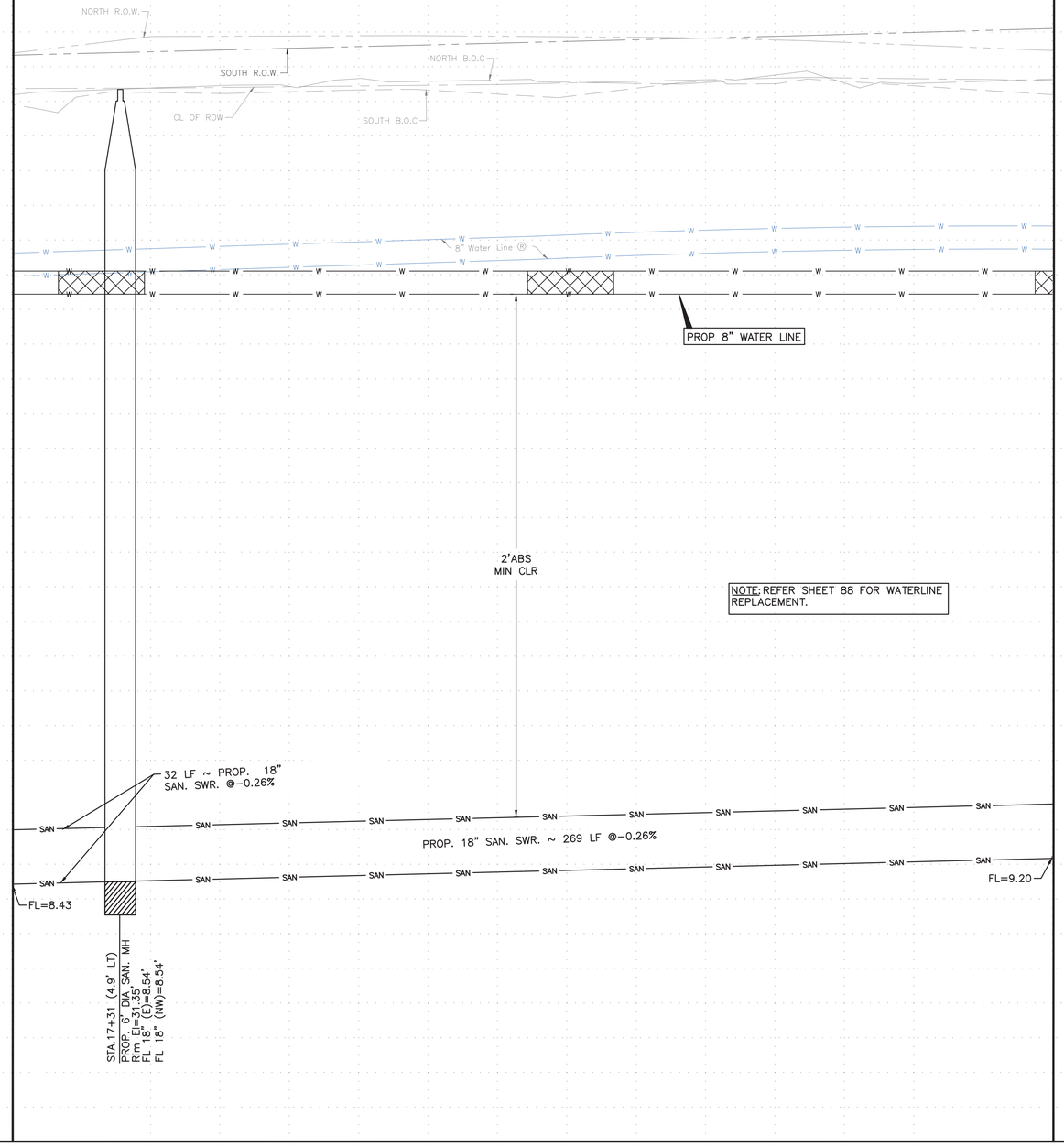
JEFFERSON PLAN STA 17+00 TO 20+00

WBS NO. R-01000-0036-3
DRAWING SCALE
1"=20'
CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.
SHEET NO. **51** OF **183**

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:03pm

SEE SHEET 51 FOR PLAN



ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:03pm

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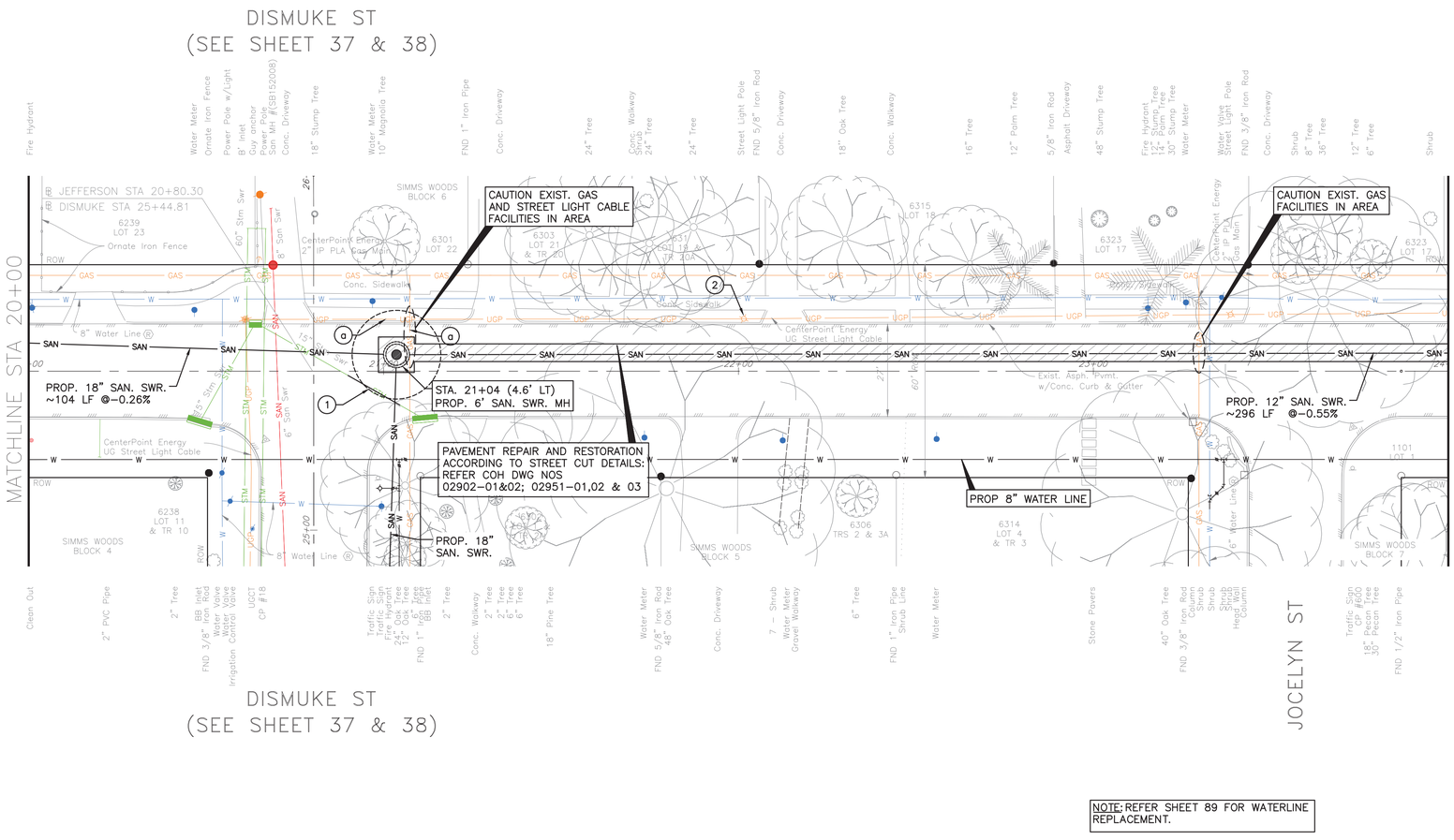
MAHESH DUTTA — NAME
114252 — P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

JEFFERSON PROFILE
STA 17+00 TO 20+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	**52** OF **183**



NOTE: REFER SHEET 89 FOR WATERLINE REPLACEMENT.

TBM:

CP-18-MAG NAIL AT STA. 20+66.68, 19.28' RT, EL. 31.097

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

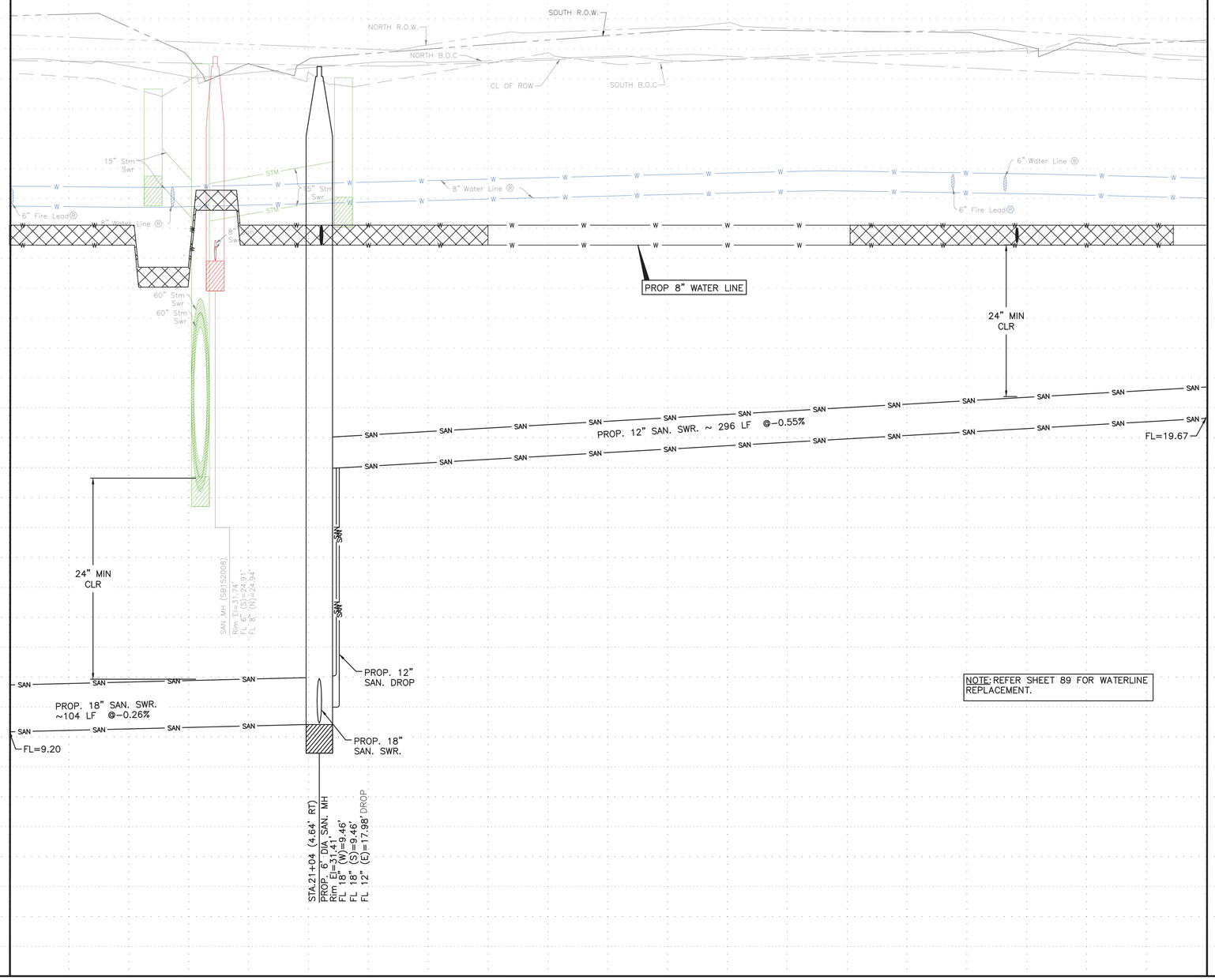
JEFFERSON PLAN STA 20+00 TO 24+00

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **53** OF **183**	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:04pm

SEE SHEET 53 FOR PLAN



20+00 21+00 22+00 23+00 24+00

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:04pm

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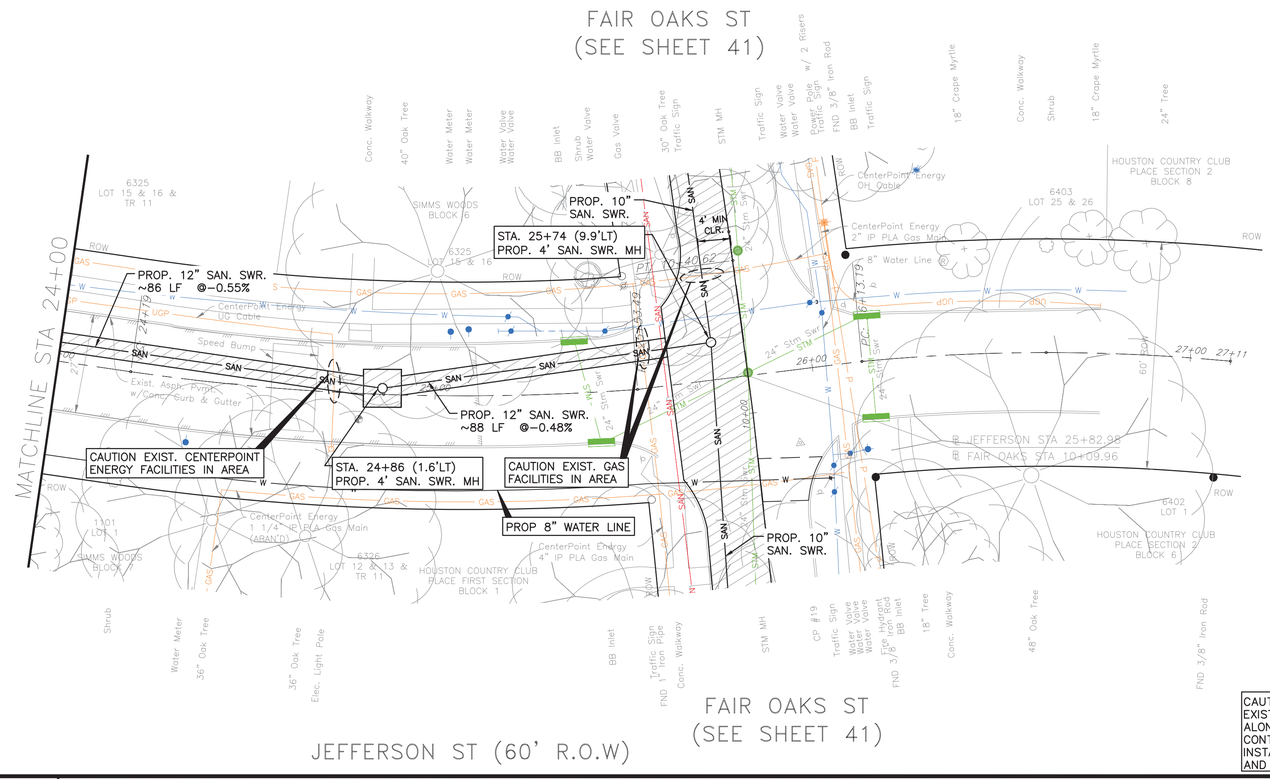
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

JEFFERSON PROFILE
STA 20+00 TO 24+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	**54** OF **183**



NOTE: REFER SHEET 89 FOR WATERLINE REPLACEMENT.

CAUTION!!
EXISTING GAS FACILITIES ALONG NORTH & EAST ROW. CONTRACTOR TO BE CAUTIOUS DURING INSTALLATION OF SERVICE LATERALS AND CLEANOUTS.

TBM:

CP-19-X-CUT AT STA. 25+94.38, 19.32' RT, EL. 30.50

NOTE:

PROJECT BENCH MARK:

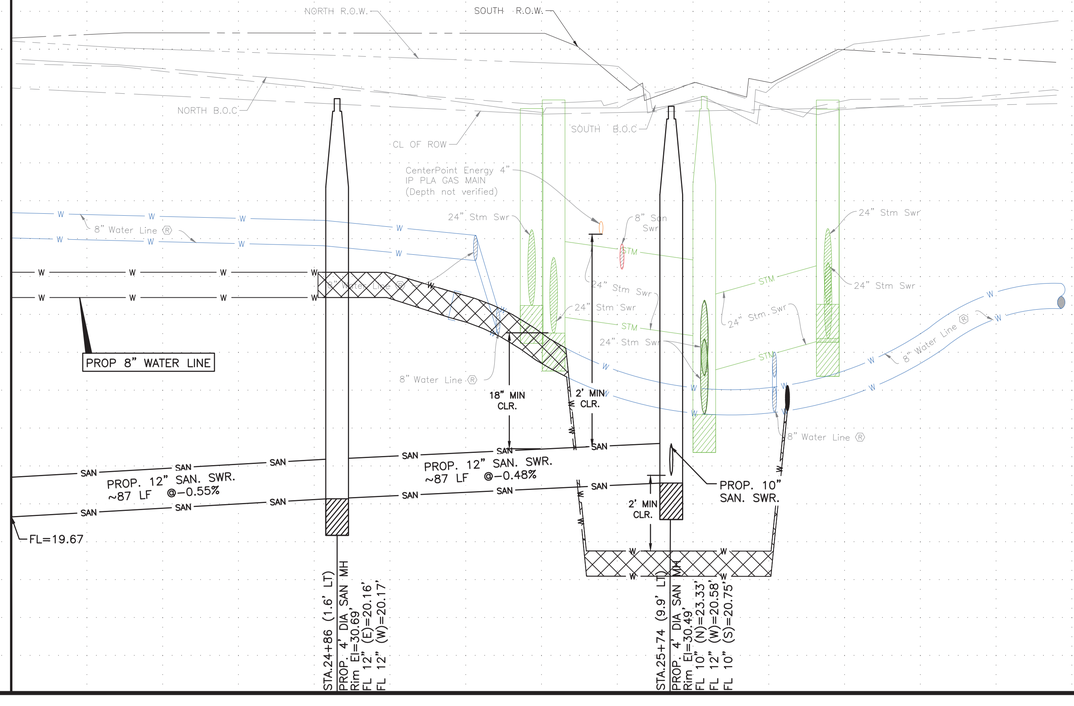
CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

1. EXTEND EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER. MATCH EXISTING SIZE AND FLOWLINE
2. CONNECT EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER
3. CUT, PLUG & ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222
4. INSTALL PROP C.O. ON EXISTING SANITARY SERVICE LATERAL. SEE DETAIL –
5. 2"MILL AND OVERLAY FULL WIDTH OUTSIDE PAVEMENT REPAIR (HATCHED AREA) AND UP TO CURB RETURN AT INTERSECTING STREETS. SEE DETAIL –
6. ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222 AFTER PROPOSED SANITARY SEWER IS IN SERVICE.
7. ABANDON EXISTING SANITARY MANHOLE
8. EXISTING SANITARY SERVICE PER CCTV. INSPECTION REPORTS. (NOT FIELD VERIFIED)

▨ PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03



24+00 25+00 26+00 27+00

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

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MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

JEFFERSON PLAN & PROFILE
STA 24+00 TO END

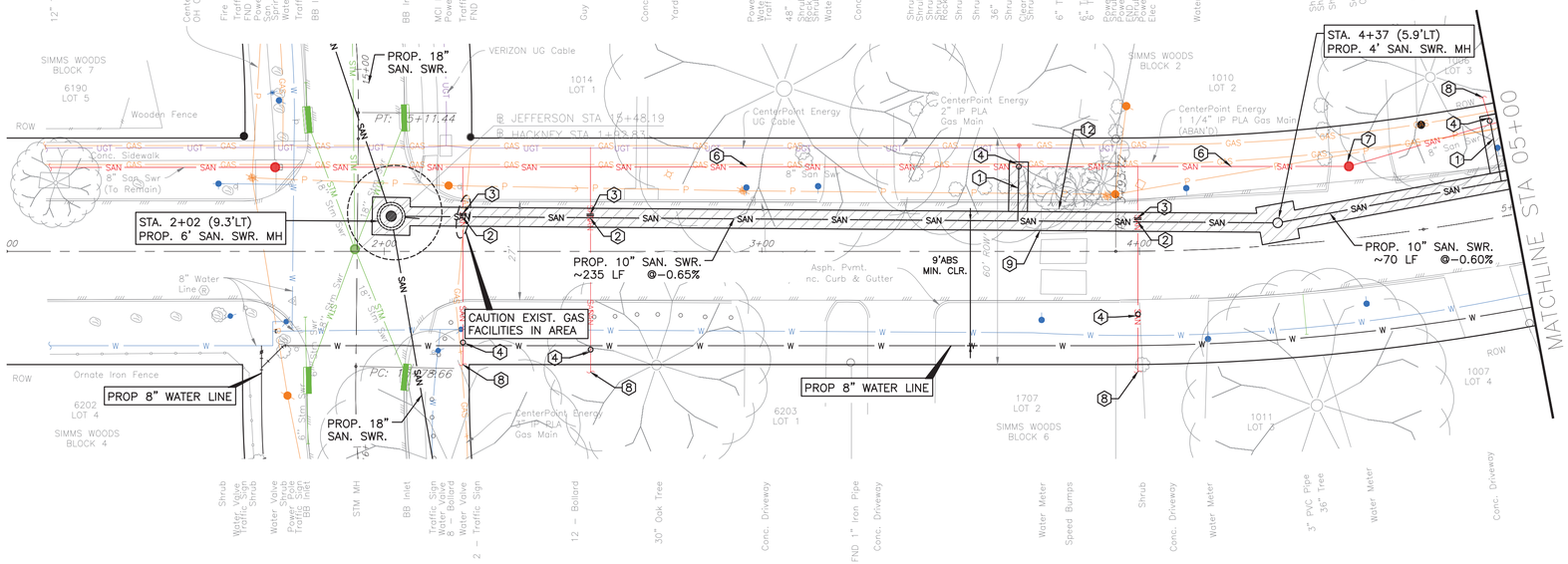
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO.**55** OF **183**

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:05pm



JEFFERSON ST
(SEE SHEET 49 & 50)

HACKNEY ST (60' R.O.W)

SEE SHEET 57
FOR PROFILE

NOTE: REFER SHEET 91 FOR WATERLINE REPLACEMENT.

CAUTION!!
EXISTING GAS FACILITIES
ALONG WEST ROW. CONTRACTOR TO BE
CAUTIOUS DURING INSTALLATION OF
SERVICE LATERALS AND CLEANOUTS.

TBM:

CP -016-MAG NAIL AT STA. 01+75.91,
13.14' RT, EL. 30.59

(1) REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.

(9) BRACE AND SUPPORT POWER POLE.

(12) REMOVE AND REPLACE SPEED BUMP.

SHAFT SHAPE, & SIZE SHOWN IN FOR REPRESENTATION PURPOSE ONLY. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE AND SHAPE. BACKFILL SHAFT PER COH STD DETAIL 02317-08.

N

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

1. EXTEND EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER. MATCH EXISTING SIZE AND FLOWLINE
2. CONNECT EXISTING SANITARY SERVICE LATERAL TO PROPOSED SANITARY SEWER
3. CUT, PLUG & ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222
4. INSTALL PROP C.O. ON EXISTING SANITARY SERVICE LATERAL. SEE DETAIL 99 & 100
5. 2"MILL AND OVERLAY FULL WIDTH OUTSIDE PAVEMENT REPAIR (HATCHED AREA) AND UP TO CURB RETURN AT INTERSECTING STREETS. SEE DETAIL 112
6. ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222 AFTER PROPOSED SANITARY SEWER IS IN SERVICE.
7. ABANDON EXISTING SANITARY MANHOLE
8. EXISTING SANITARY SERVICE PER CCTV INSPECTION REPORTS. (NOT FIELD VERIFIED)
9. REMOVE AND REPLACE TRAFFIC SIGN
10. REMOVE AND REPLACE WATER METER

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

REMOVE AND REPLACE DRIVEWAY/SIDEWALK/WHEELCHAIR RAMPS, AS SHOWN.

NOTICE:

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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

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Signature valid for six months.

Date

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

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

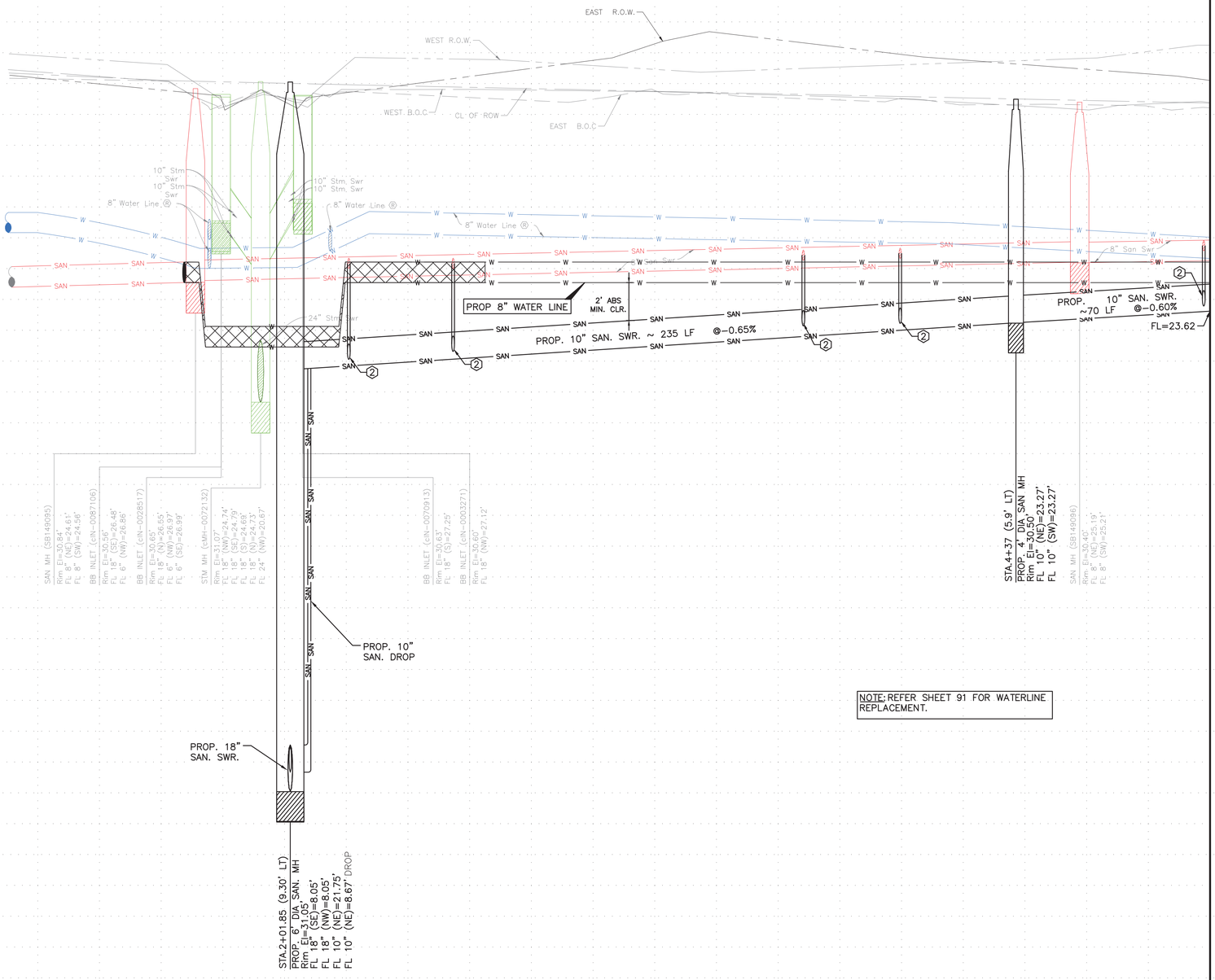
HACKNEY PLAN STA 1+00 TO 5+00

WBS NO. R-01000-0036-3	
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **56** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Coda\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:05pm

SEE SHEET 56
FOR PROFILE



NOTE: REFER SHEET 91 FOR WATERLINE REPLACEMENT.

01+00 02+00 03+00 04+00 05+00

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

HACKNEY PROFILE
STA 1+00 TO 5+00

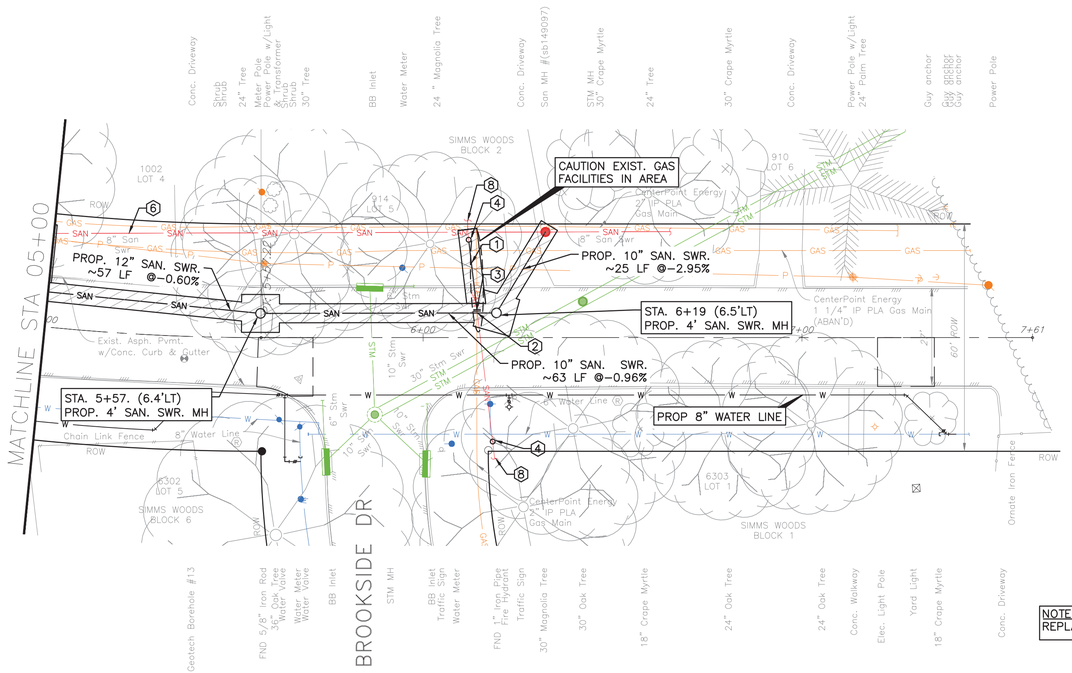
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **57** OF **183**

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:05pm



NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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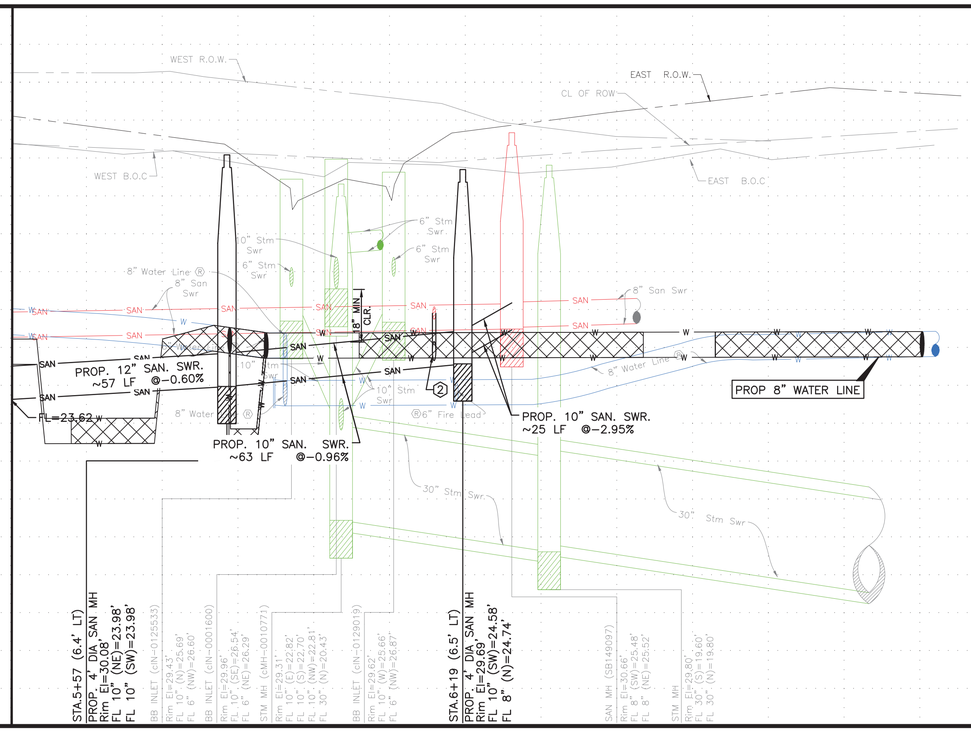
(9) BRACE AND SUPPORT POWER POLE.

NOTE: REFER SHEET 92 FOR WATERLINE REPLACEMENT.

CAUTION!!
EXISTING GAS FACILITIES
ALONG WEST ROW. CONTRACTOR TO BE
CAUTIOUS DURING INSTALLATION OF
SERVICE LATERALS AND CLEANOUTS.

TBM:

CP-017-MAG NAIL AT STA. 05+67.26,
10.91' RT, EL. 29.75



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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Date

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Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

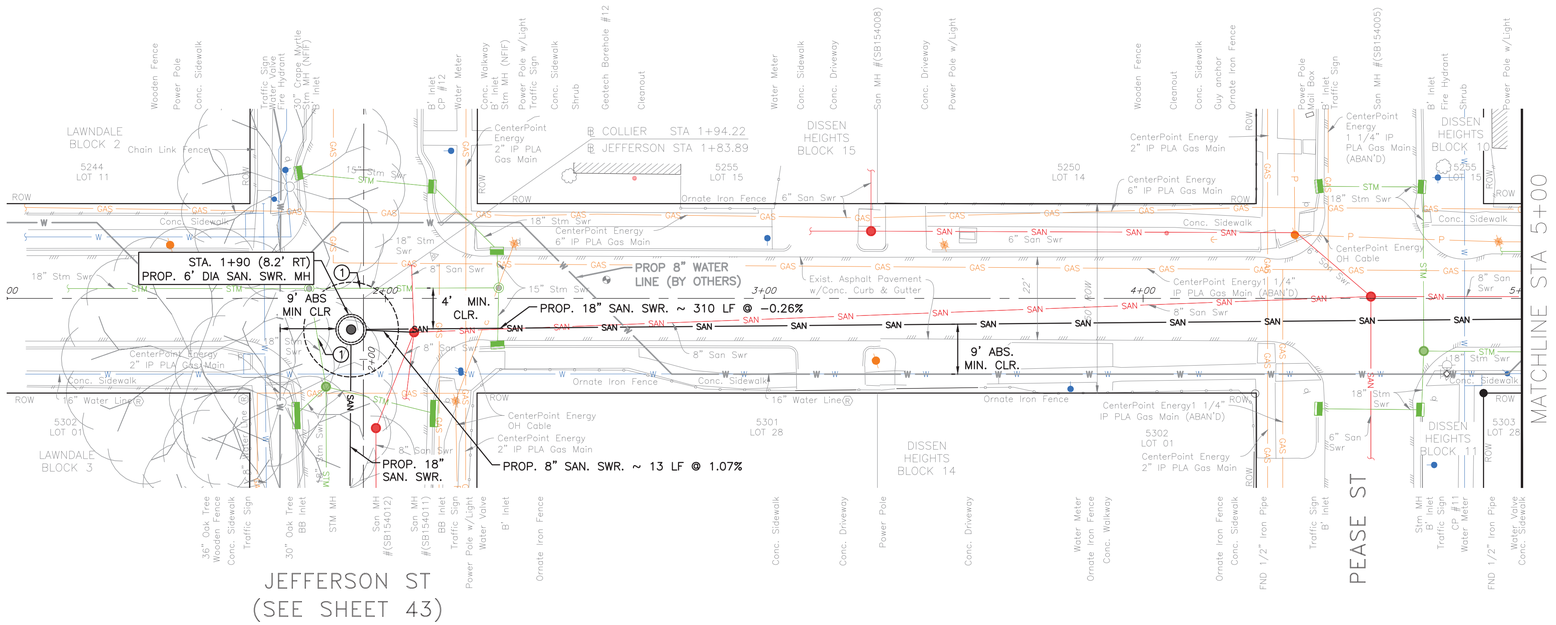
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

HACKNEY PLAN & PROFILE STA 5+00 TO END

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	58 OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 2 - SAN.dwg Feb 10, 2026 5:06pm



NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

SHAFT SHAPE, & SIZE SHOWN IS FOR REPRESENTATION PURPOSE ONLY. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE AND SHAPE. BACKFILL SHAFT PER COH STD DETAIL 02317-08.

① REMOVE AND REPLACE STORM SEWER AS NEEDED DURING CONSTRUCTION. COST OF REMOVAL, REPLACEMENT AND MAINTENANCE IS INCIDENTAL TO SHAFT.

TBM:

CP 11 X-CUT AT STA. 04+80.33' 20.37' RT, EL. 34.08
CP 12 MAG NAIL AT STA. 2+12.73' 11.11' LT, EL. 33.38

NOTICE:

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SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

COLLIER PLAN STA 1+00 TO 6+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM

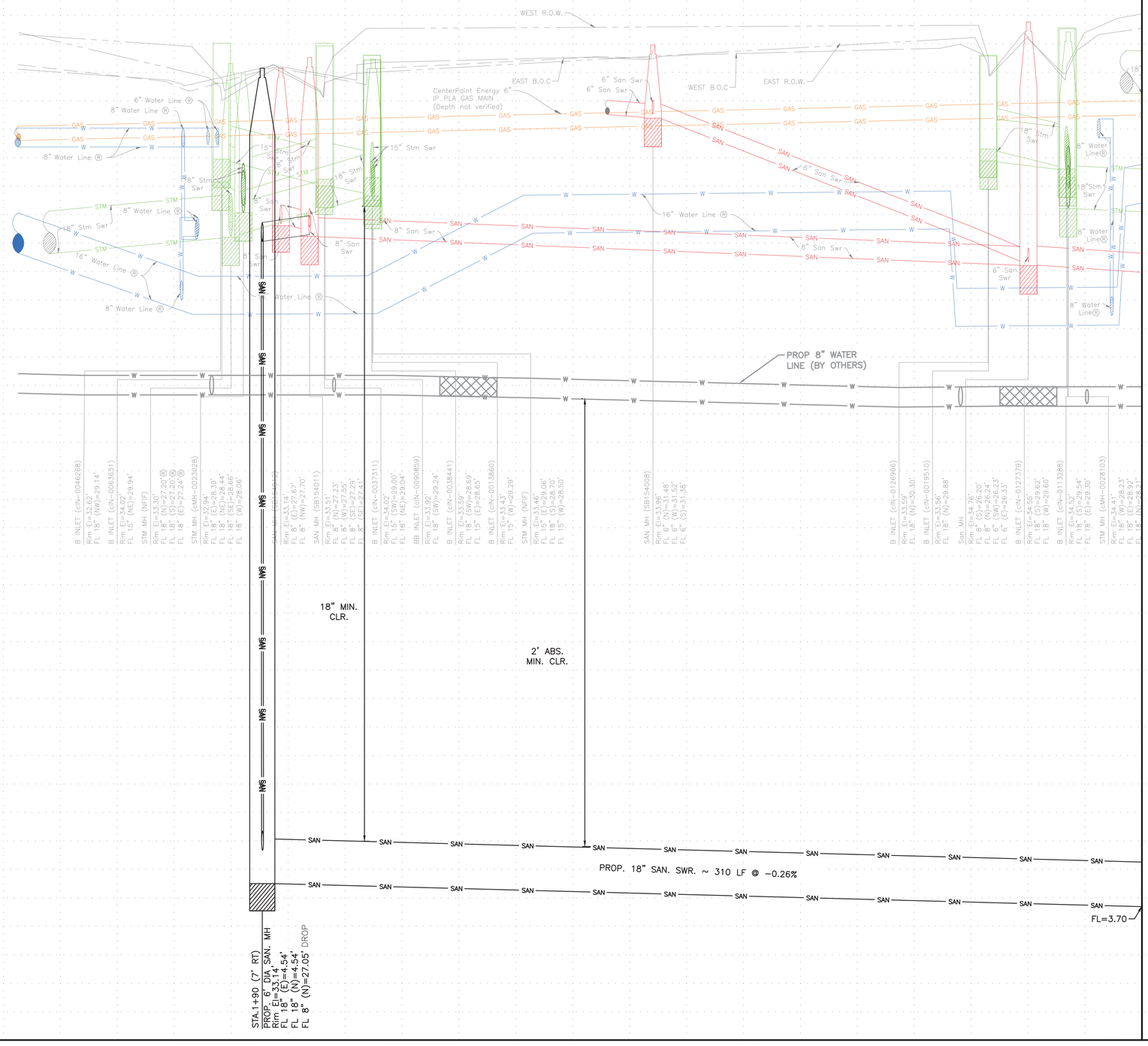
SABEEN SHAIKH, P.E.

SHEET NO. **59** OF **183**

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:06pm

SEE SHEET 59
FOR PLAN



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:06pm

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114252 — P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

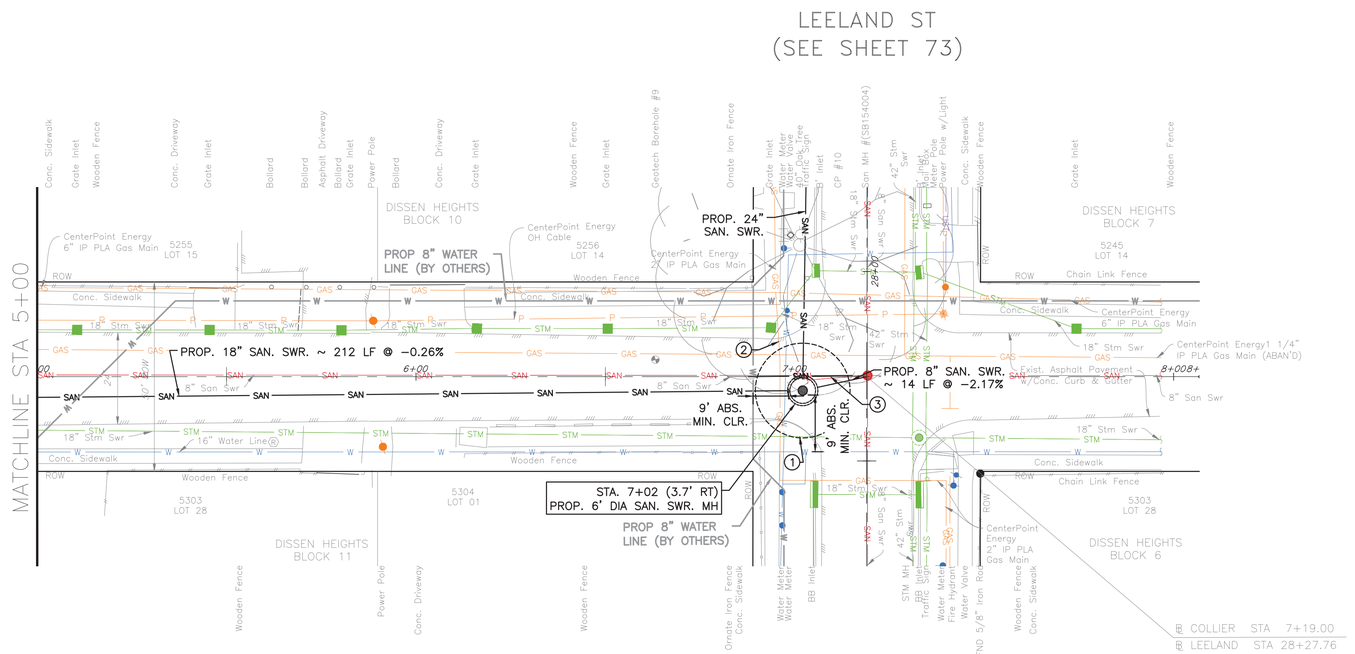
COLLIER PROFILE STA 1+00 TO 6+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO.**60** OF **183**



COLLIER ST (50' R.O.W.)

SEE SHEET 62
FOR PROFILE

TBM:

CP 10 MAG NAIL AT STA. 07+11.54' 17.31' LT, EL. 33.57

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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① REMOVE AND REPLACE STORM SEWER AS NEEDED DURING CONSTRUCTION. COST OF REMOVAL, REPLACEMENT AND MAINTENANCE IS INCIDENTAL TO SHAFT.

② UTILITY TO BE RELOCATED BY OTHERS

③ REMOVE AND REPLACE 8" SANITARY SEWER AS NEEDED. COST IS INCIDENTAL TO SHAFT.

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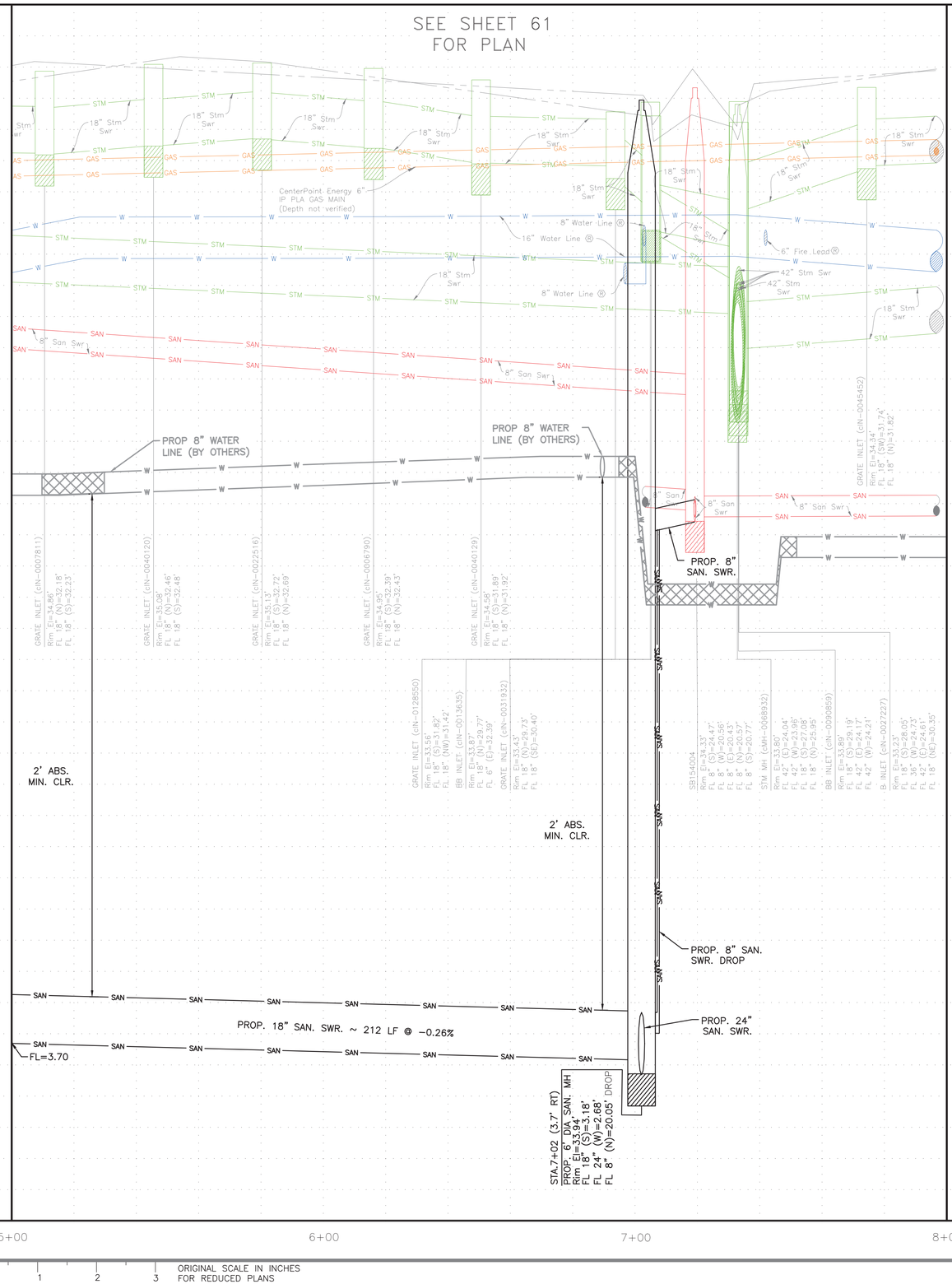
CRMP CIP PACKAGE 5
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IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

COLLIER PLAN STA 5+00 TO END

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **61** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:06pm



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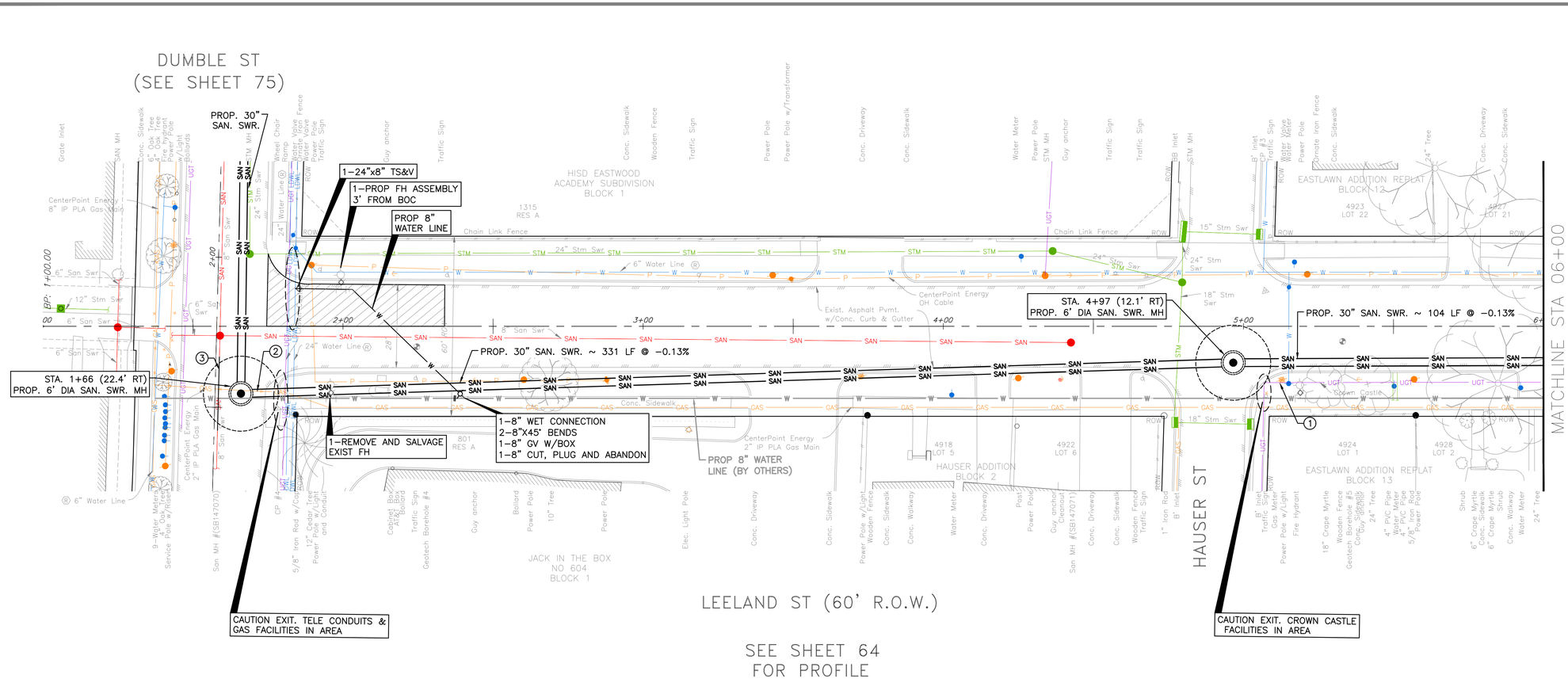
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

COLLIER PROFILE
STA 5+00 TO END

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	62 OF 183

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:06pm



NOTE:

PROJECT BENCH MARK:

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- (2) UTILITY TO BE RELOCATED BY OTHERS
- (3) REMOVE AND REPLACE 8" SANITARY SEWER AS NEEDED. COST IS INCIDENTAL TO SHAFT
- CRITICAL LOCATION SEE COH SPEC 02317
- PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

TBM:

CP 03 MAG NAIL AT STA. 05+07.28' 11.83' LT, EL. 33.97
CP 04 X-CUT AT STA. 01+78.05' 27.27' RT, EL. 32.32

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VERIFICATION OF PRIVATE UTILITY LINES

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Signature valid for six months.

Date

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Signature valid for one year.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

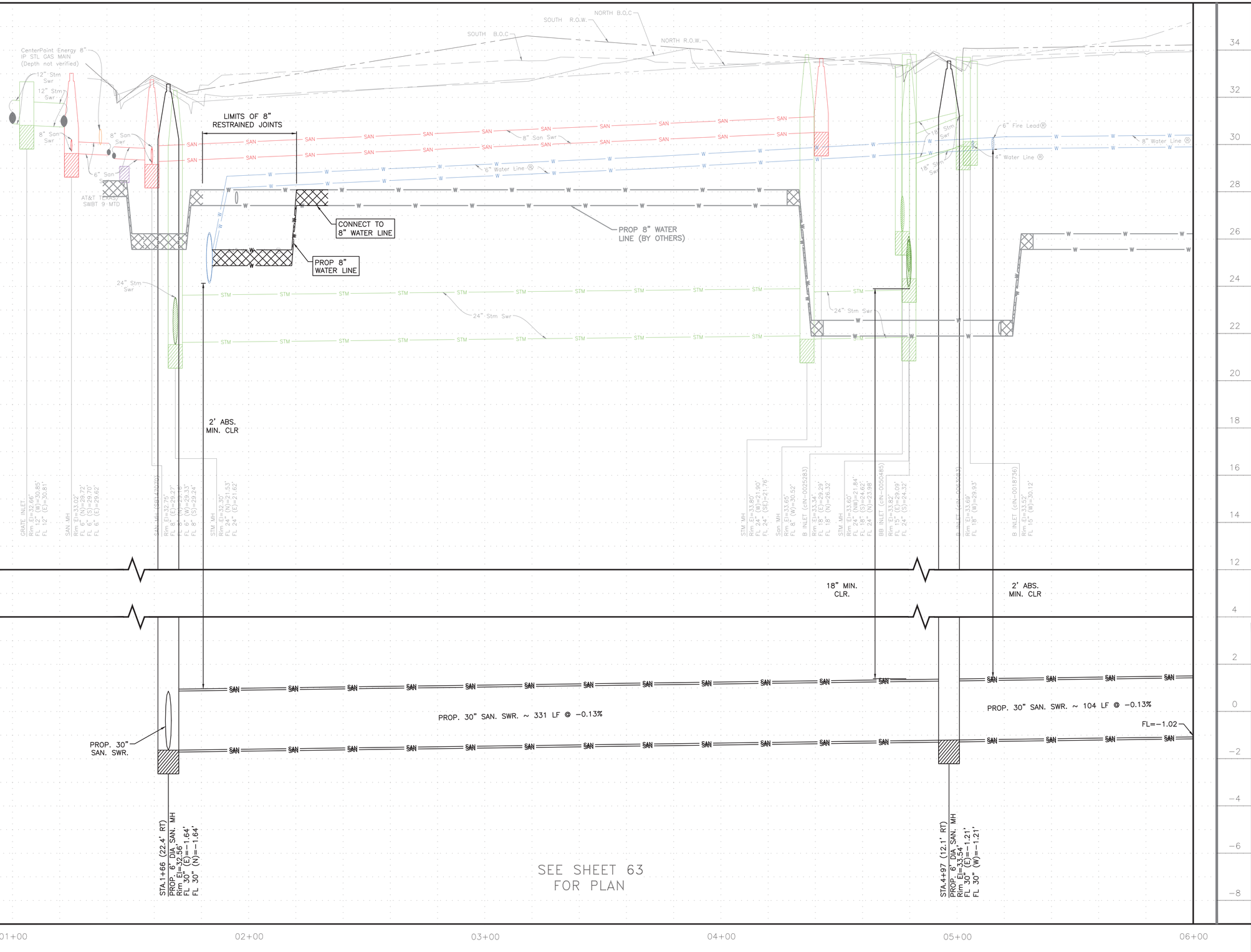
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LEELAND PLAN STA 1+00 TO 6+00

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **63** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 7:22pm



ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:07pm

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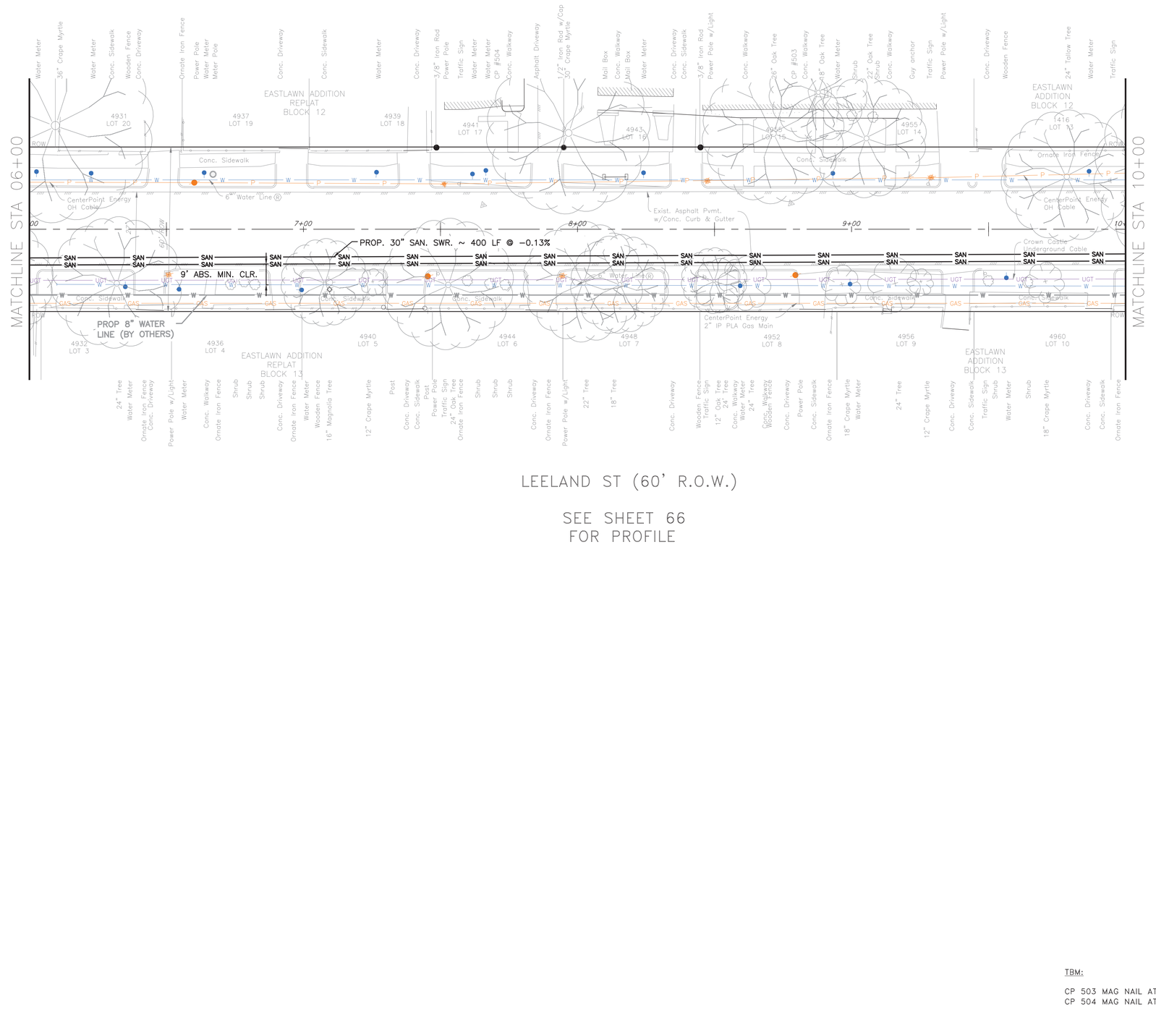
MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LEELAND PROFILE
STA 1+00 TO 6+00

WBS NO. R-01000-0036-3
DRAWING SCALE 1"=20'
CITY OF HOUSTON, PM SABEEN SHAIKH, P.E.
SHEET NO. **64** OF **183**



LEELAND ST (60' R.O.W.)

SEE SHEET 66
FOR PROFILE

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

TBM:

CP 503 MAG NAIL AT STA. 08+77.87' 9.45' LT, EL. 34.15
CP 504 MAG NAIL AT STA. 07+65.59' 8.85' LT, EL. 34.37

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LEELAND PLAN STA 6+00 TO 10+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

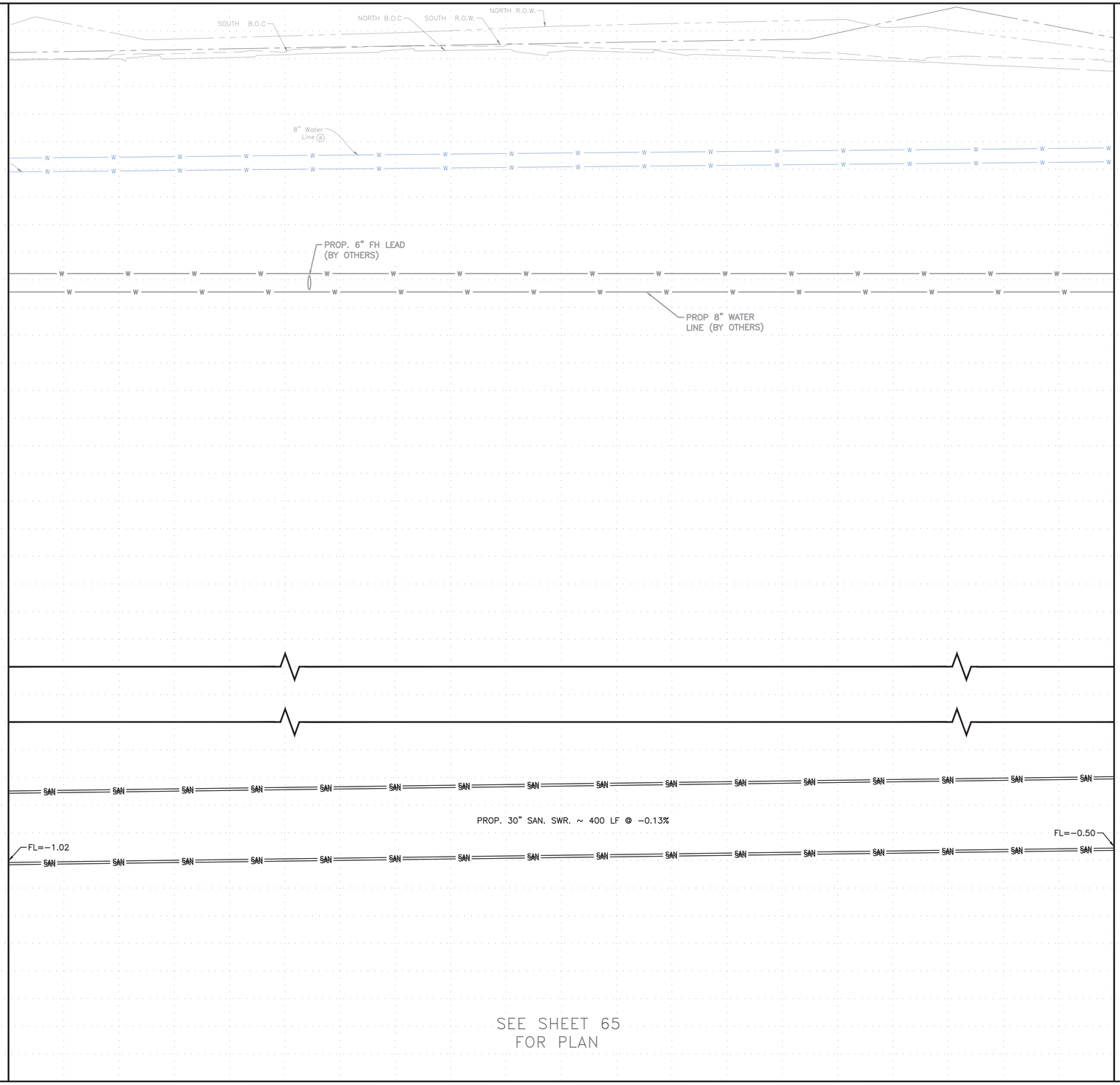
CITY OF HOUSTON, PM

SABEEN SHAIKH, P.E.

SHEET NO. **65** OF **183**

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:07pm



ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:08pm

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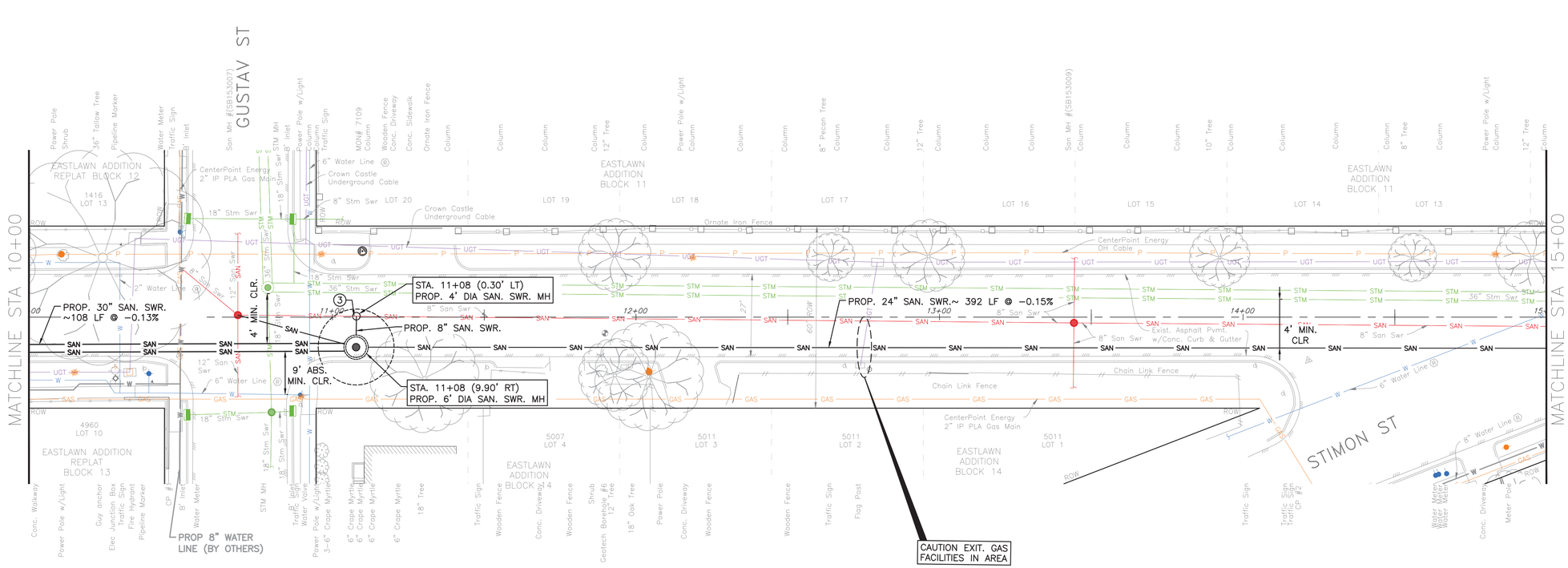
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LEELAND PROFILE
STA 6+00 TO 10+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	66 OF 183



NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

SHAFT SHAPE, & SIZE SHOWN IN FOR REPRESENTATION PURPOSE ONLY. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE AND SHAPE. BACKFILL SHAFT PER COH STD DETAIL 02317-08.

③ REMOVE AND REPLACE 8" SANITARY SEWER AS NEEDED. COST IS INCIDENTAL TO SHAFT

CRITICAL LOCATE SITE

TBM:

CP 01 MAG NAIL AT STA. 10+49.49' 12.26' RT, EL. 33.80
CP 02 MAG NAIL AT STA. 14+21.52' 14.22' RT, EL. 35.28

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FB NO.: P-6406

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LEELAND PLAN STA 10+00 TO 15+00

WBS NO.
R-01000-0036-3

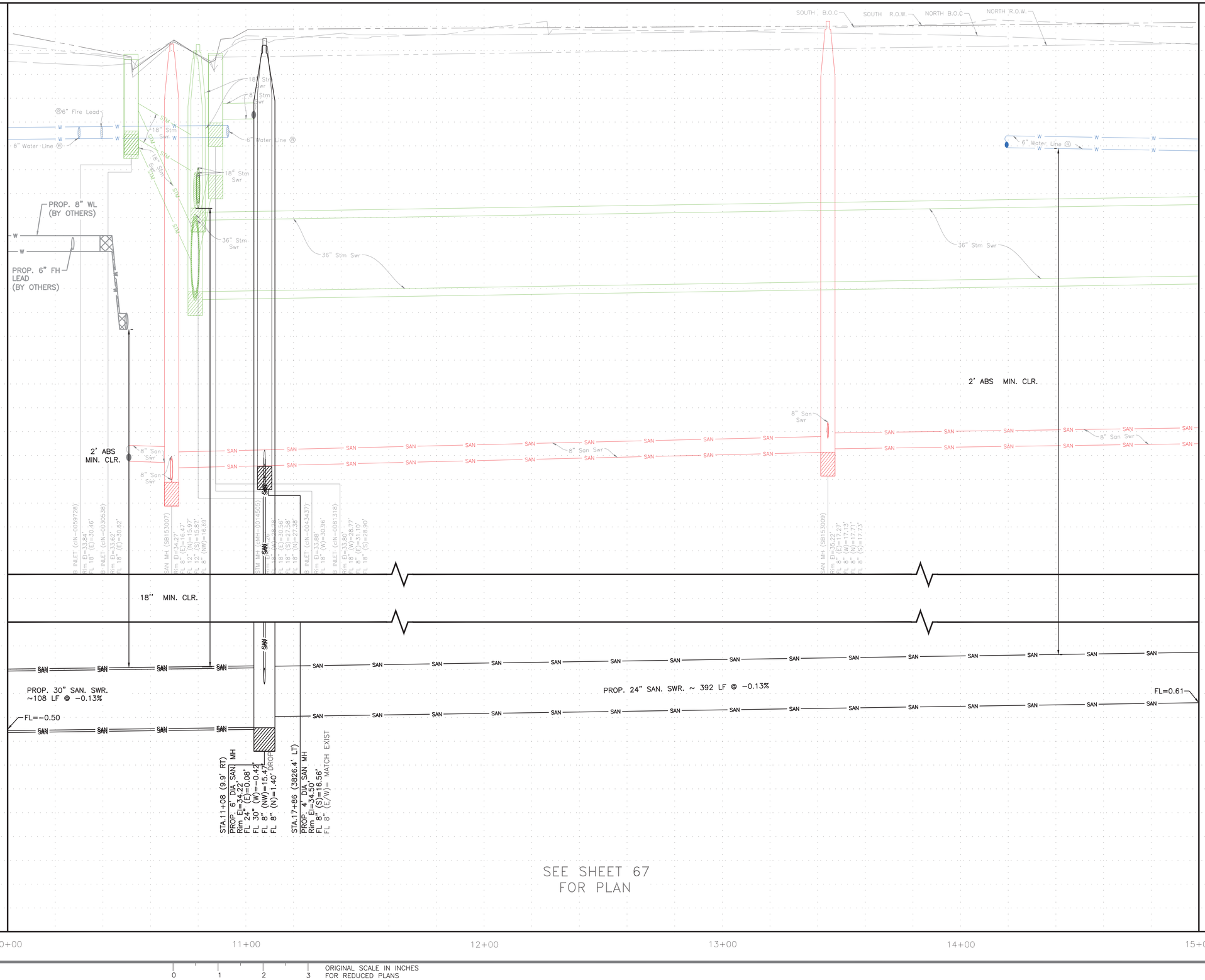
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **67** OF **183**

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:08pm



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:09pm

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MAHESH DUTTA 114252
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DATE 02/10/2026
TBPELS FIRM #F-4528

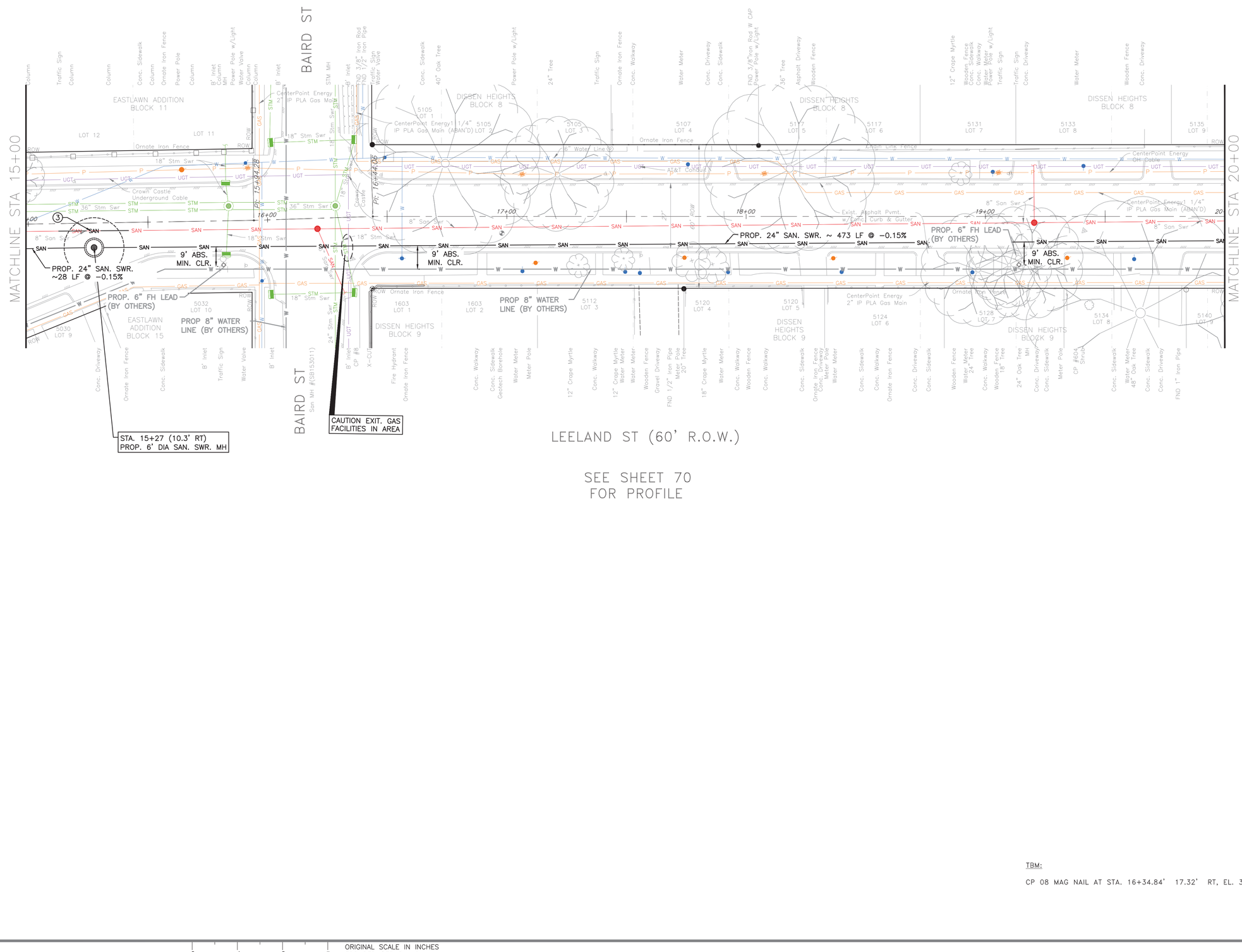
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

LEELAND PROFILE STA 10+00 TO 15+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	**68** OF **183**



SEE SHEET 70
FOR PROFILE

TBM:

CP 08 MAG NAIL AT STA. 16+34.84' 17.32' RT, EL. 34.04

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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③ REMOVE AND REPLACE 8" SANITARY SEWER AS NEEDED. COST IS INCIDENTAL TO SHAFT

CRITICAL LOCATE SITE

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CITY OF HOUSTON
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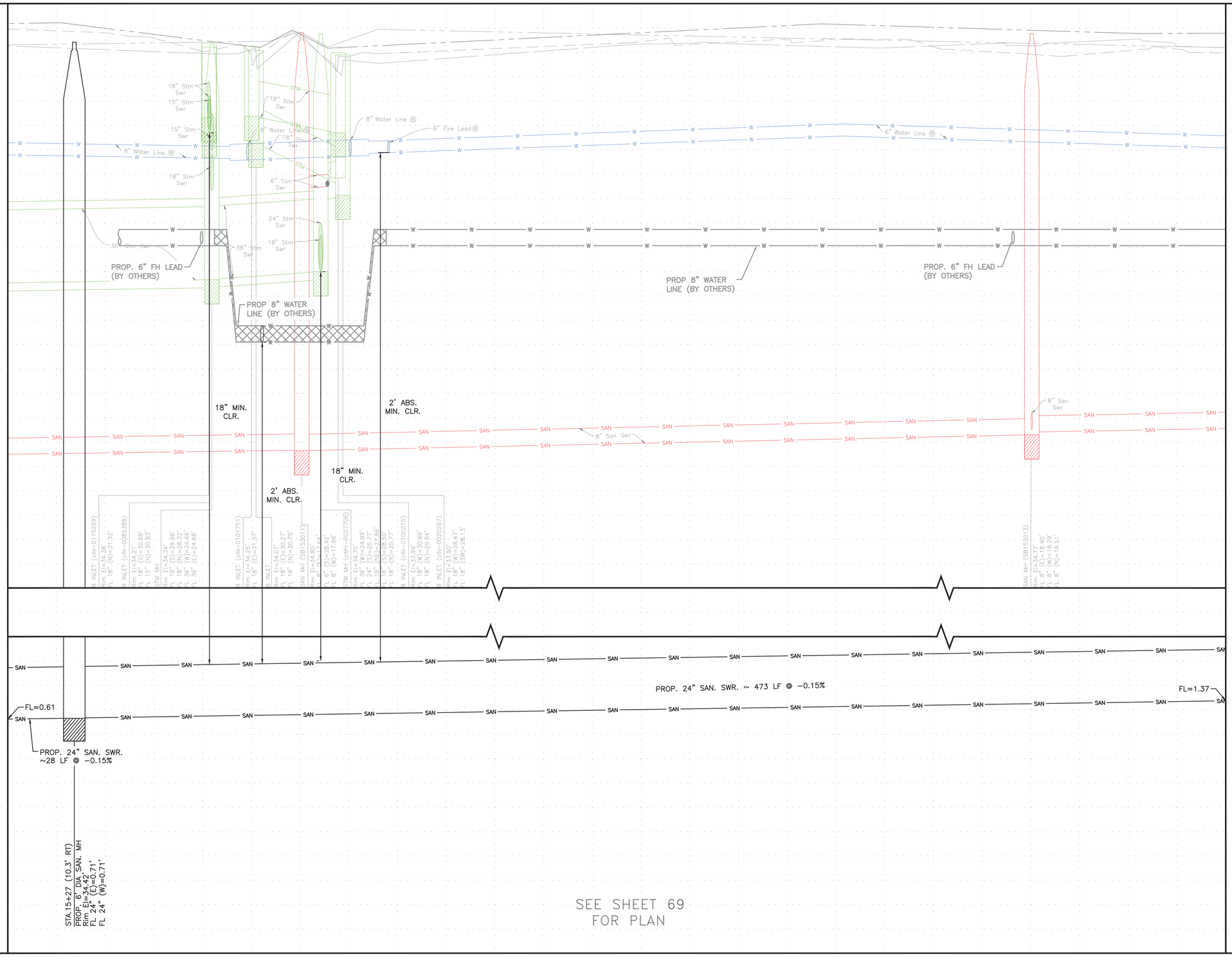
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LEELAND PLAN STA 15+00 TO 20+00

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **69** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:09pm



ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

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CRMP CIP PACKAGE 5
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IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

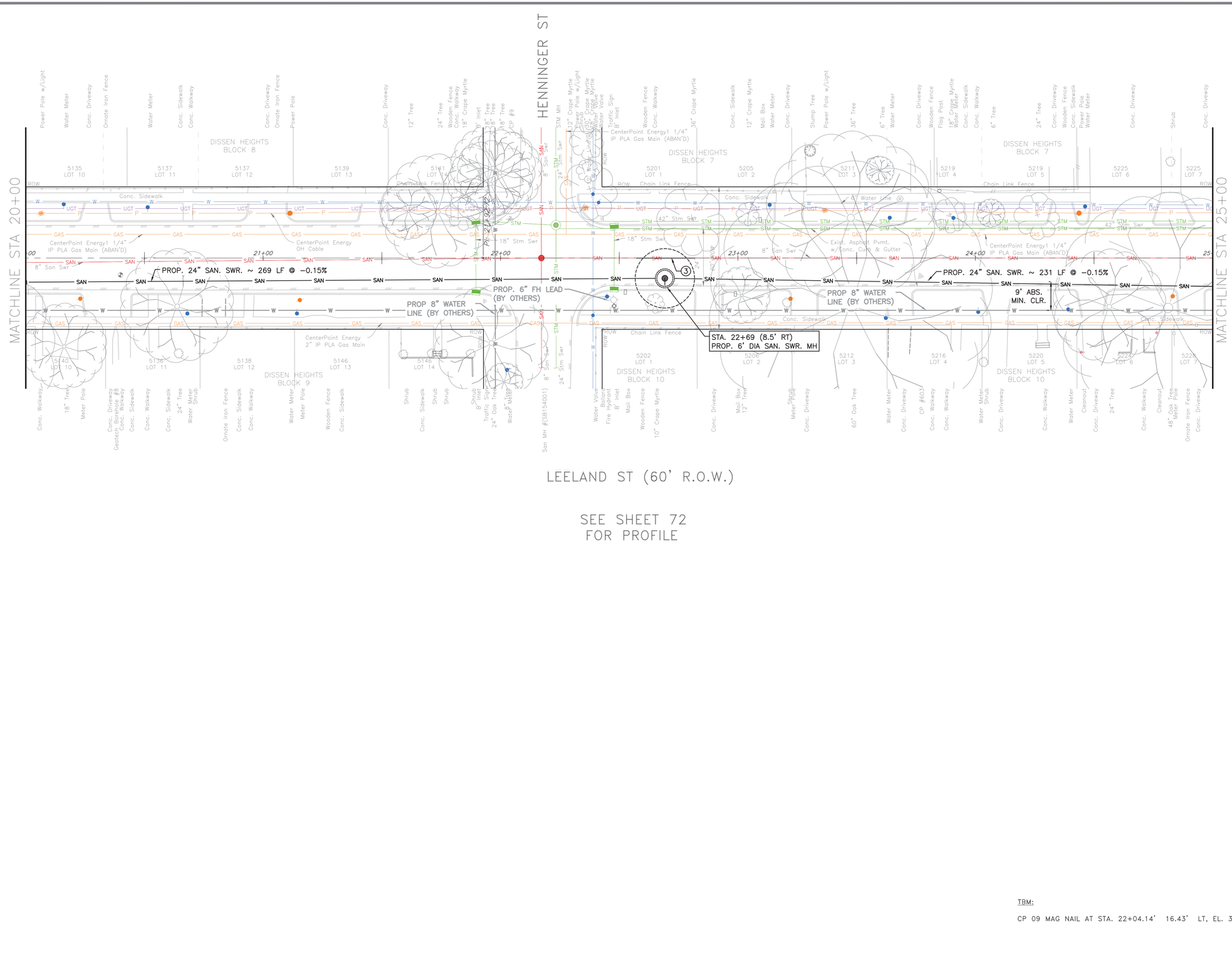
LEELAND PROFILE STA 15+00 TO 20+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **70** OF **183**



SEE SHEET 72
FOR PROFILE

TBM:

CP 09 MAG NAIL AT STA. 22+04.14' 16.43' LT, EL. 33.50

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
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CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LEELAND PLAN STA 20+00 TO 25+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM

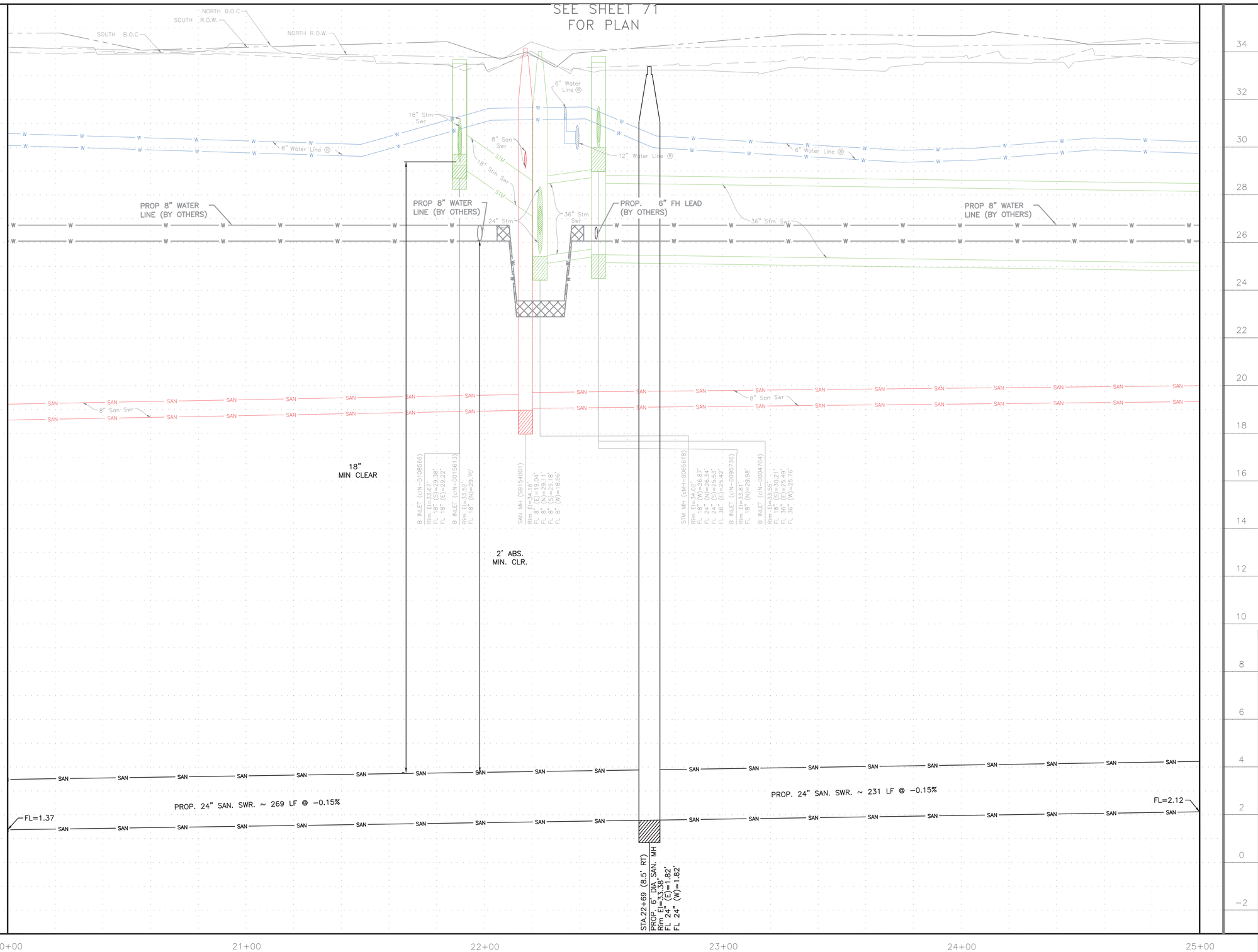
SABEEN SHAIKH, P.E.

SHEET NO. **71** OF **183**

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:10pm

SEE SHEET 71
FOR PLAN



P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:10pm

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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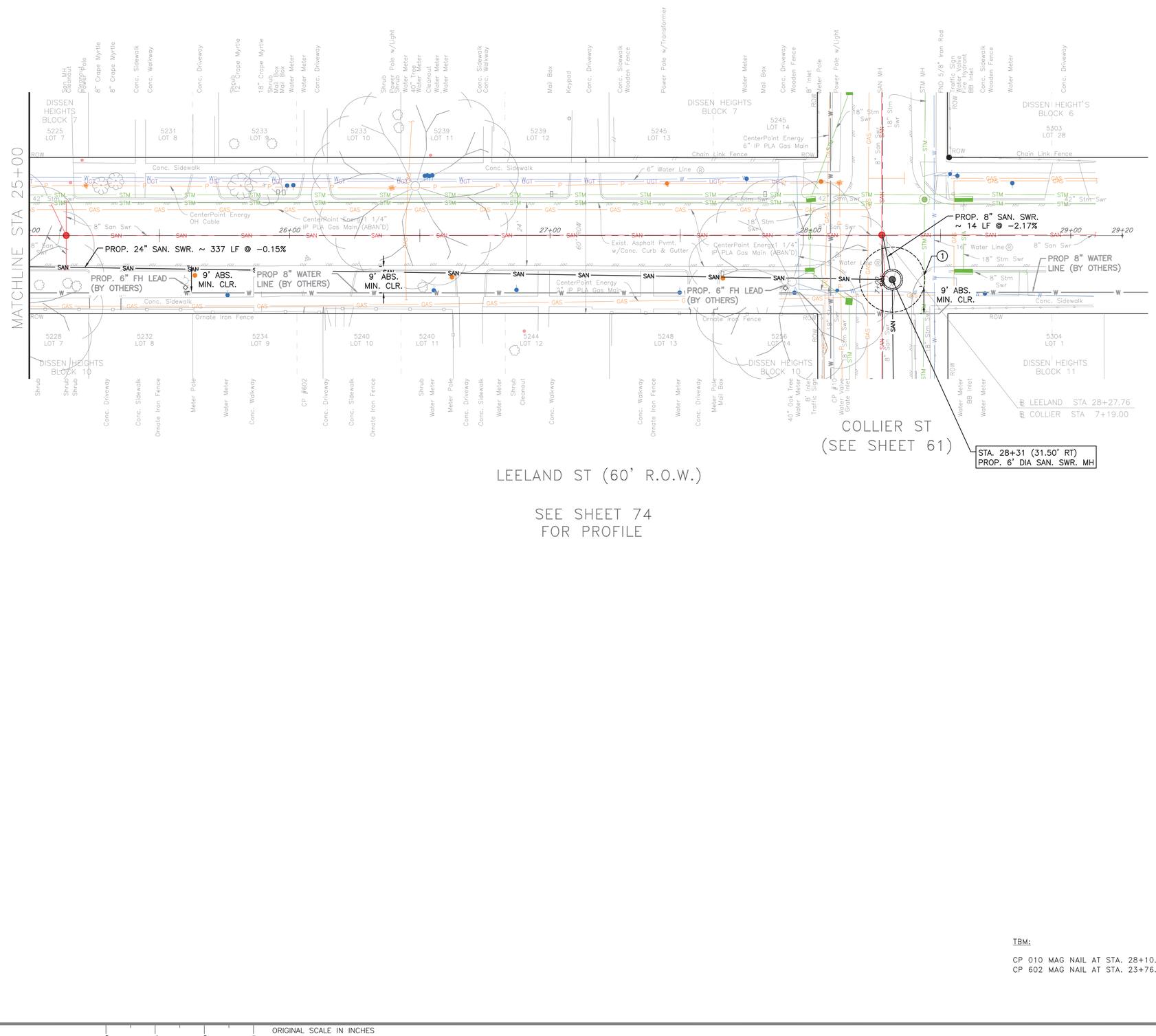
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

LEELAND PROFILE STA 20+00 TO 25+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	**72** OF **183**



NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

SHAFT SHAPE, & SIZE SHOWN IN FOR REPRESENTATION PURPOSE ONLY. CONTRACTOR SHALL DETERMINE APPROPRIATE SIZE AND SHAPE. BACKFILL SHAFT PER COH STD DETAIL 02317-08.

① REMOVE AND REPLACE STORM SEWER AS NEEDED DURING CONSTRUCTION. COST OF REMOVAL, REPLACEMENT AND MAINTENANCE IS INCIDENTAL TO SHAFT.

TBM:

CP 010 MAG NAIL AT STA. 28+10.46' 7.48' RT, EL. 33.58
CP 602 MAG NAIL AT STA. 23+76.92' 7.59' RT, EL. 33.83

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

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Signature valid for one year.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

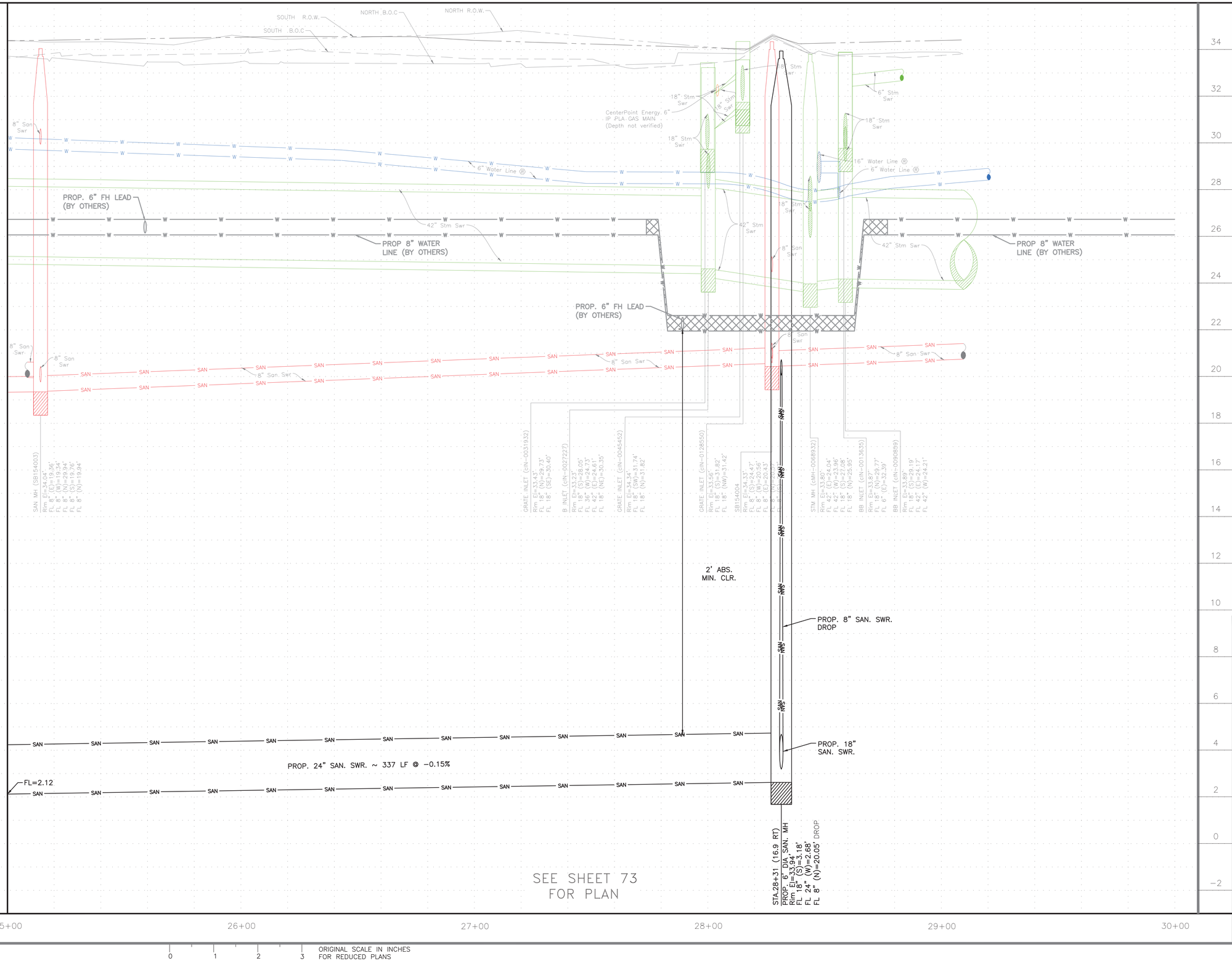
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LEELAND PLAN STA 25+00 TO END

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **73** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:10pm



P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:10pm

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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DATE 02/10/2026

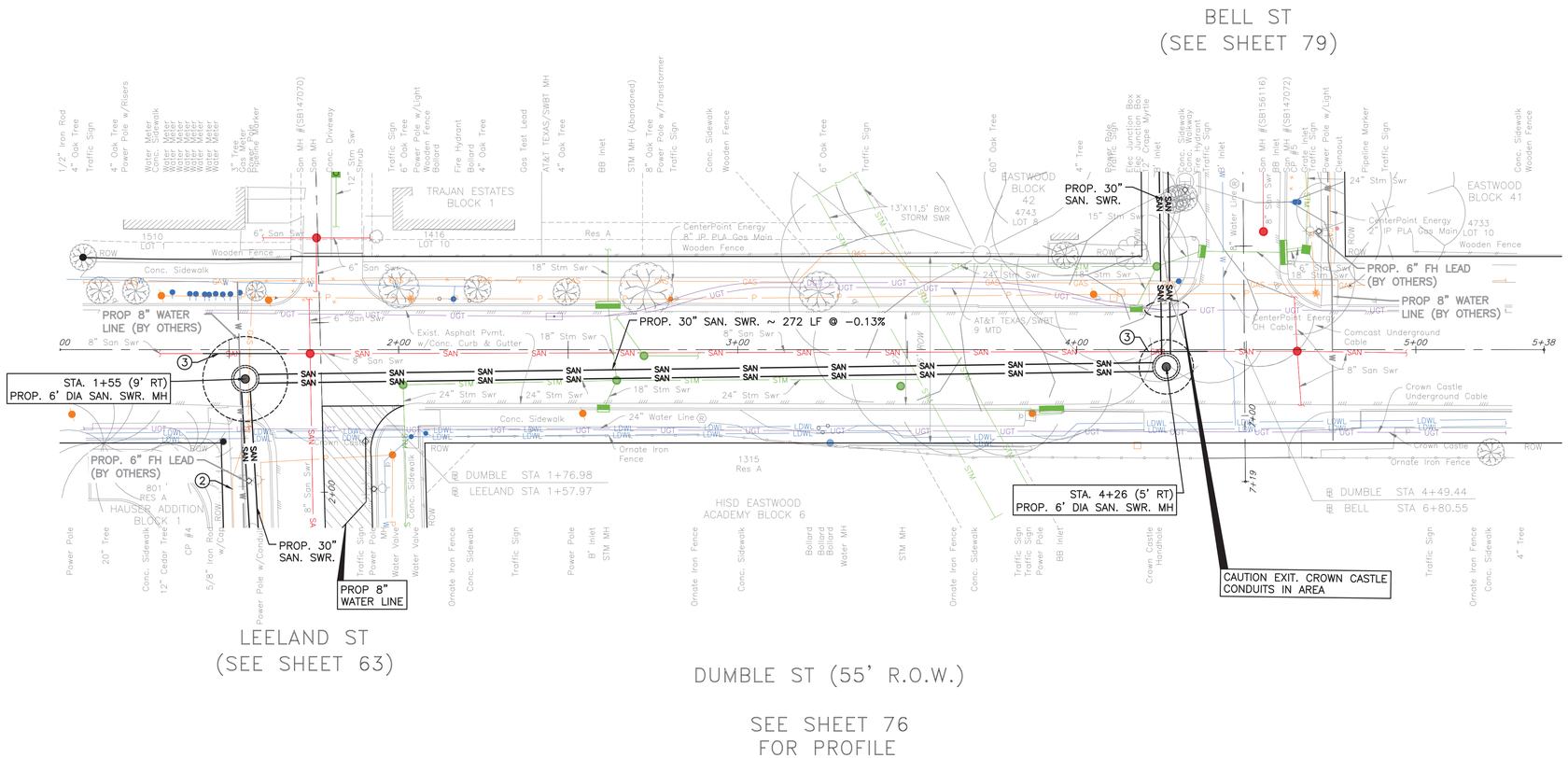
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LEELAND PROFILE
STA 25+00 TO END

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	74 OF 183



NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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② UTILITY TO BE RELOCATED BY OTHERS

③ REMOVE AND REPLACE 8" SANITARY SEWER AS NEEDED. COST IS INCIDENTAL TO SHAFT

CRITICAL LOCATE SITE

PAVEMENT REPAIR AND RESTORATION ACCORDING TO STREET CUT DETAILS: REFER COH DWG NOS 02902-01&02; 02951-01,02 & 03

TBM:

CP 04 X CUT AT STA. 01+50.18' 20.80' RT, EL. 32.32
CP 05 MAG NAIL AT STA. 04+59.15' 19.02' LT, EL. 32.21

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VERIFICATION OF PRIVATE UTILITY LINES

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SURVEYED BY: AMANI
FB NO.: P-6406

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DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

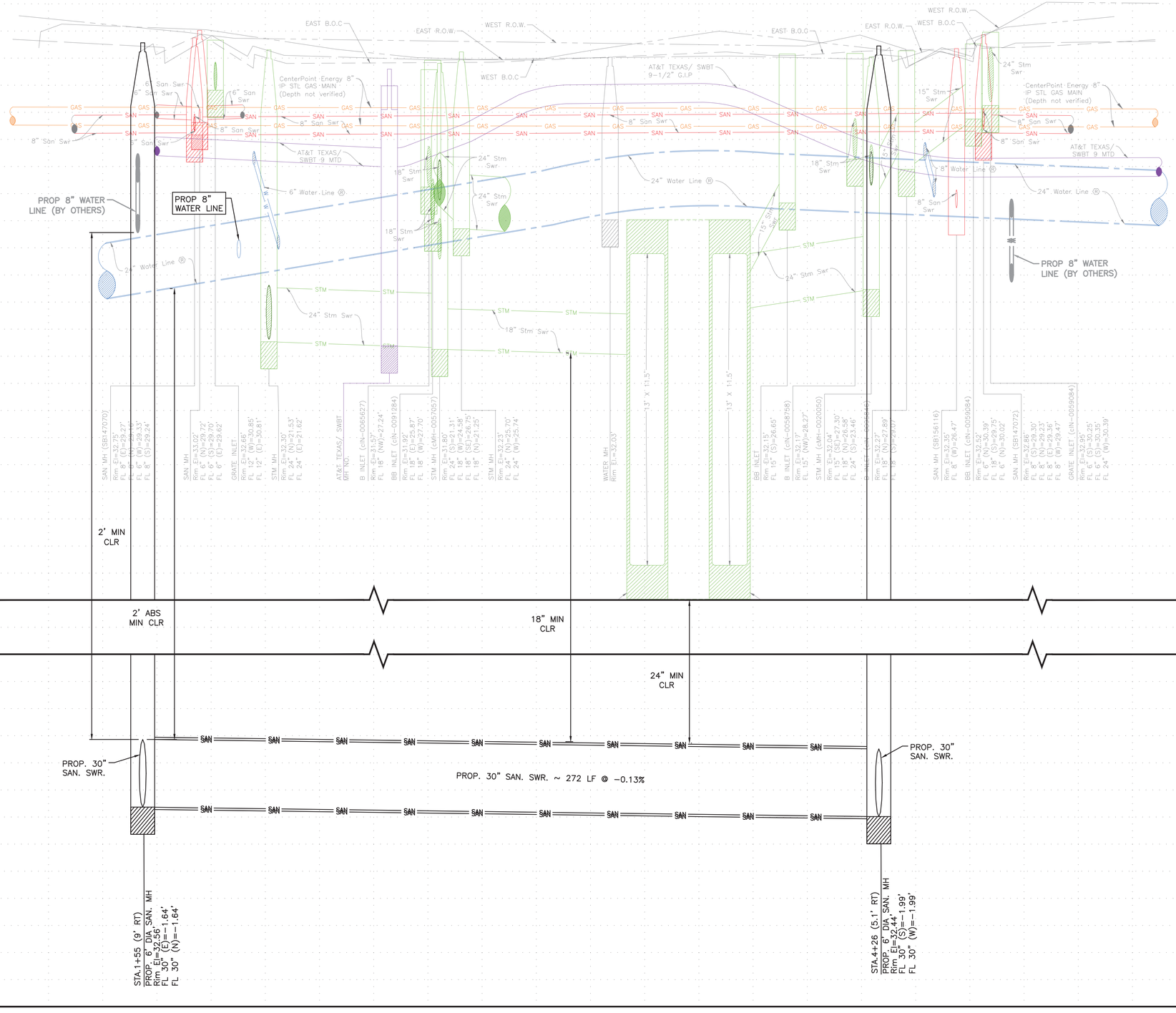
DUMBLE PLAN STA 1+00 TO END

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **75** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:11pm

SEE SHEET 75
FOR PLAN



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

DUMBLE PROFILE
STA 1+00 TO END

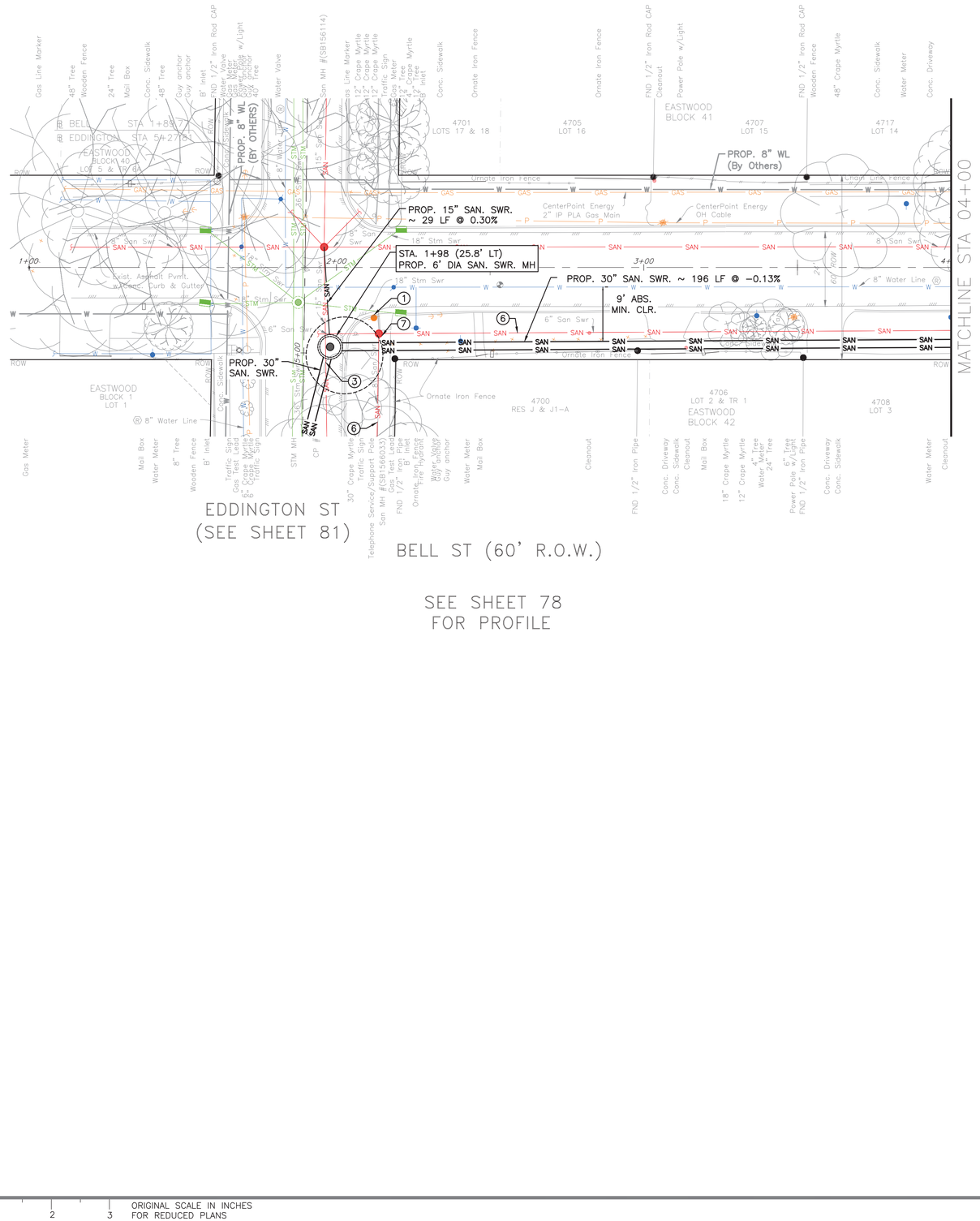
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM

SABEEN SHAIKH, P.E.

SHEET NO. **76** OF **183**



SEE SHEET 78
FOR PROFILE

TBM:

CP 6 MAG NAIL AT STA. 5+27.25' 0.21' RT, EL. 32.50

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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① BRACE AND SUPPORT POWER POLE/TELE SERVICE POLE DURING CONSTRUCTION.

③ REMOVE AND REPLACE 15" SANITARY SEWER AS NEEDED. COST IS INCIDENTAL TO SHAFT

⑥ ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222 AFTER PROPOSED SANITARY SEWER IS IN SERVICE.

⑦ ABANDON EXISTING SANITARY MANHOLE.

NOTICE:

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Date

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FB NO.: P-6406

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DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

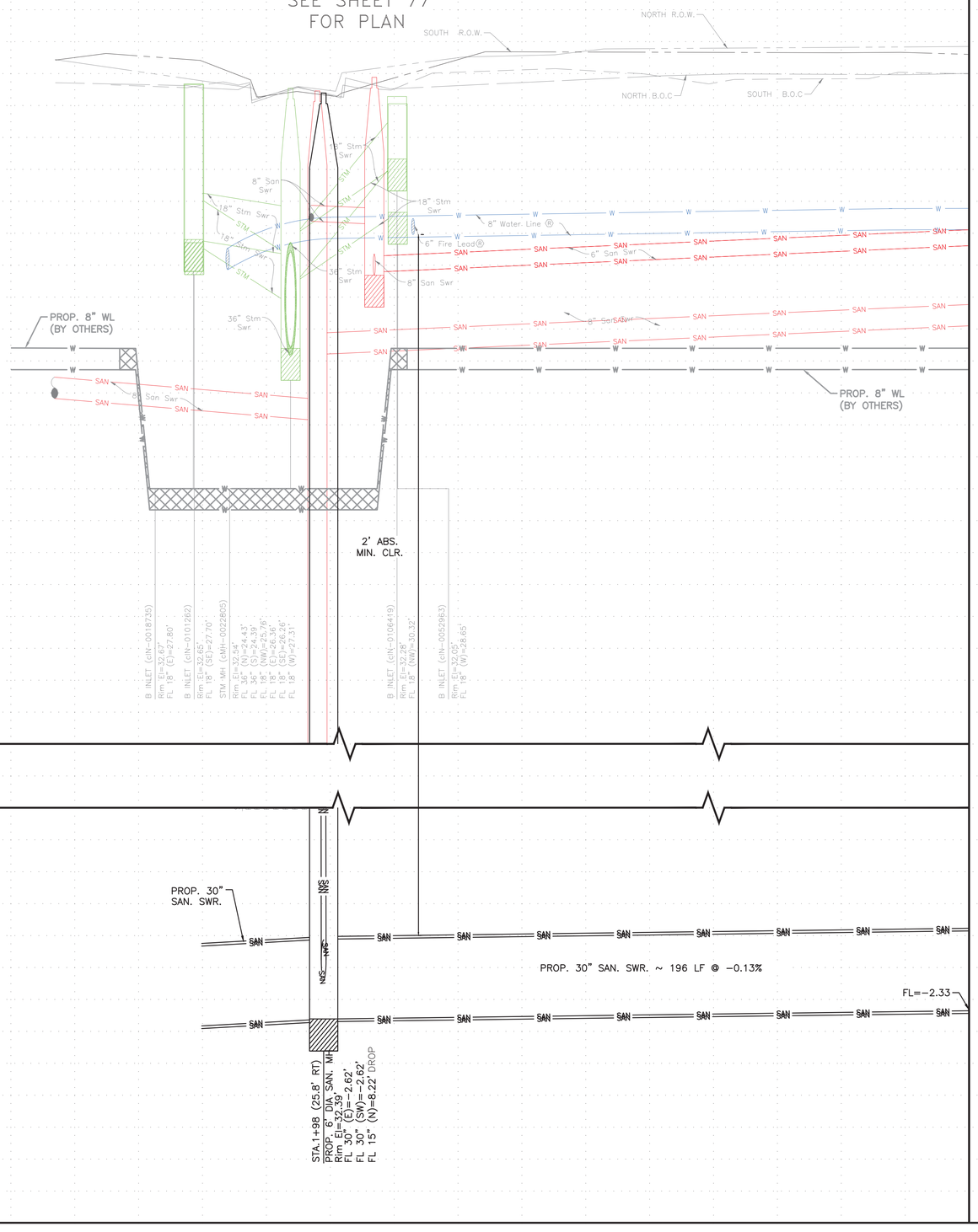
BELL PLAN STA 1+00 TO 4+00

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **77** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:11pm

SEE SHEET 77
FOR PLAN



ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

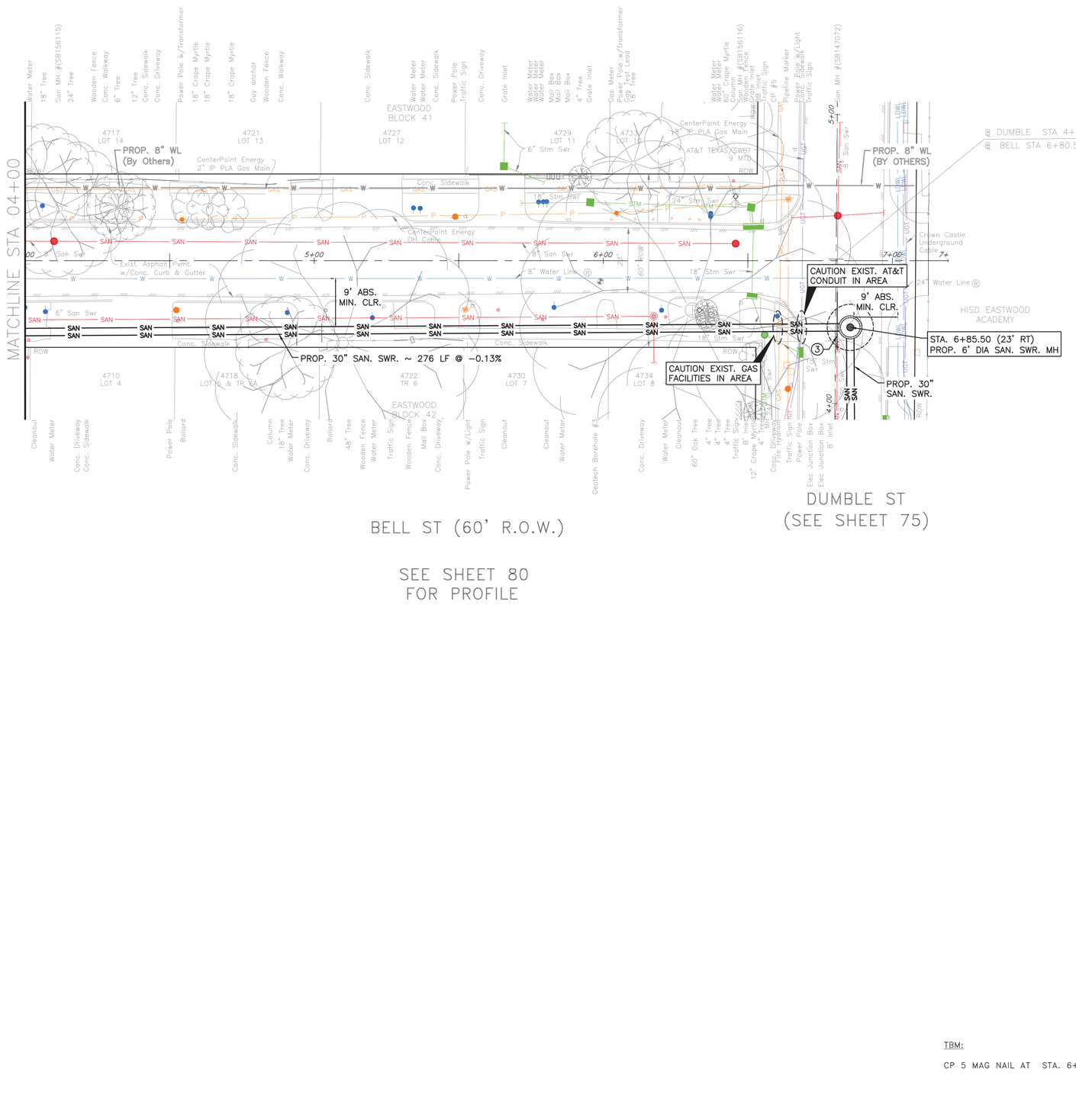
CRMP CIP PACKAGE 5
SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

BELL PROFILE STA 1+00 TO 4+00

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.



SEE SHEET 80
FOR PROFILE

TBM:

CP 5 MAG NAIL AT STA. 6+61.68' 9.86' LT, EL. 32.214

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTES

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③ REMOVE AND REPLACE 8" SANITARY SEWER AS NEEDED. COST IS INCIDENTAL TO SHAFT.

CRITICAL LOCATE SITE

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CITY OF HOUSTON
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CRMP CIP PACKAGE 5
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IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

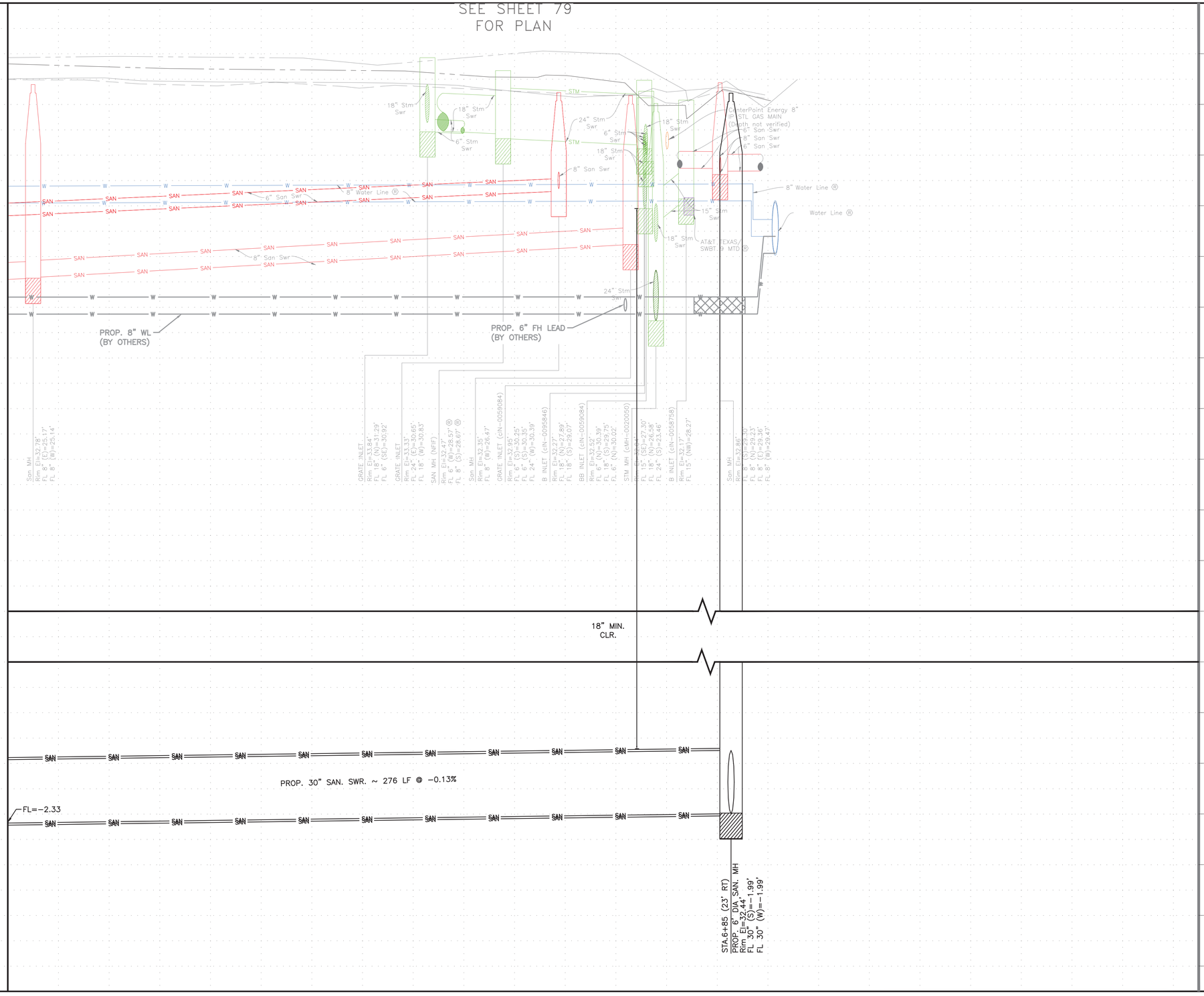
BELL PLAN STA 4+00 TO END

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **79** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SEE SHEET 79
FOR PLAN



ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:13pm

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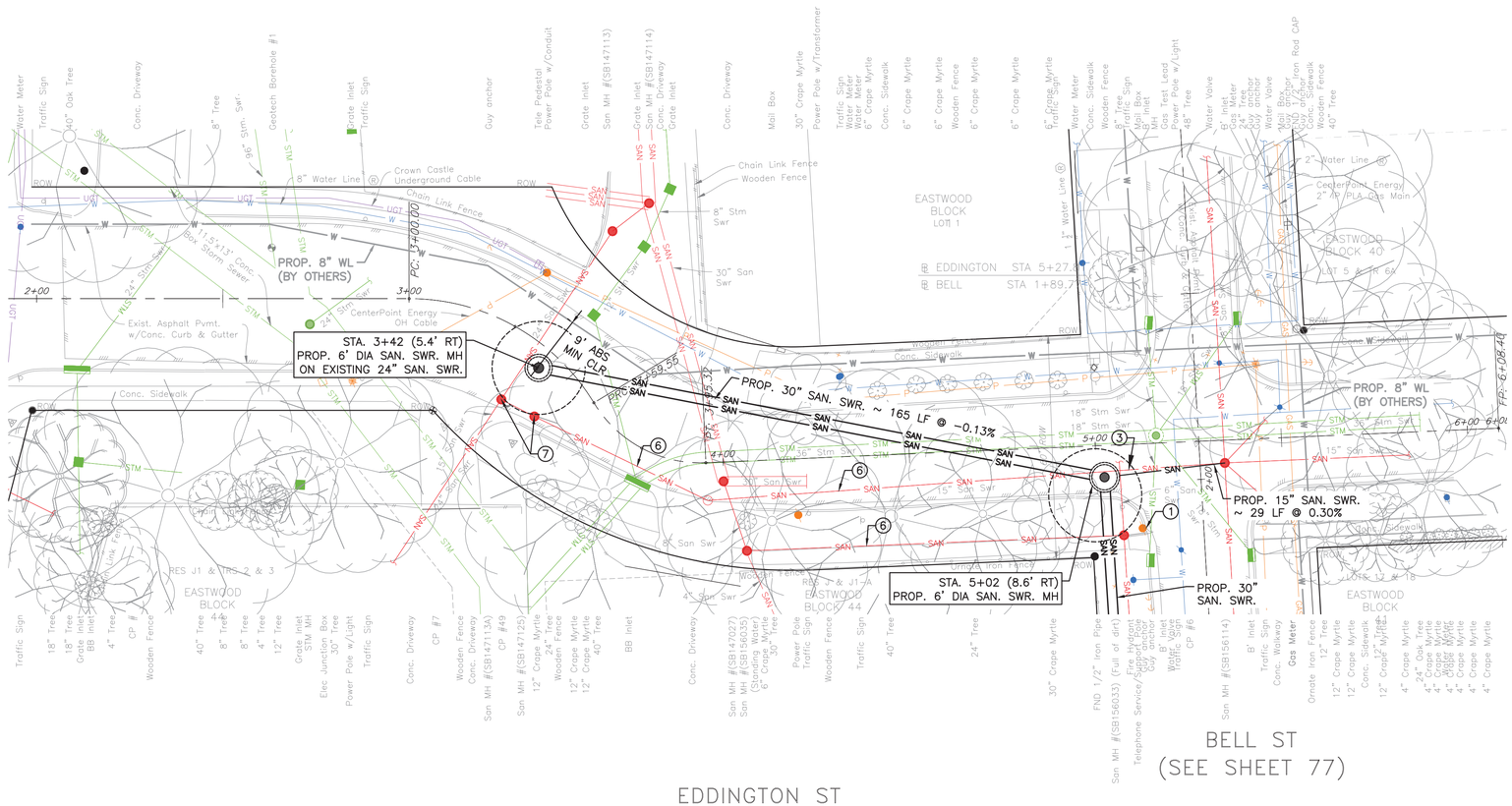
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

BELL PROFILE STA 4+00 TO END

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	**80** OF **183**



NOTE:
CONTRACTOR SHALL COORDINATE WITH CRMP CIP PACKAGE 4, WBS R-01000-0035-3 DURING CONSTRUCTION FOR PROPOSED 30" SANITARY SEWER TIE-IN

TBM:

CP 6	MAG NAIL	AT	STA. 5+27.25'	00.21'	RT, EL. 32.50
CP 7	X-CUT	AT	STA. 3+22.14'	32.52'	RT, EL. 32.19
CP 48	X-CUT	AT	STA. 1+93.35'	33.21'	RT, EL. 33.18
CP 49	712C	AT	STA. 3+56.03'	24.17'	RT, EL. 31.80

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

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(3) REMOVE AND REPLACE 15" SANITARY SEWER AS NEEDED. COST IS INCIDENTAL TO SHAFT.

(6) ABANDON EXISTING SANITARY SEWER PER COH SPEC 02222 AFTER PROPOSED SANITARY SEWER IS IN SERVICE.

(7) ABANDON EXISTING SANITARY MANHOLE

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

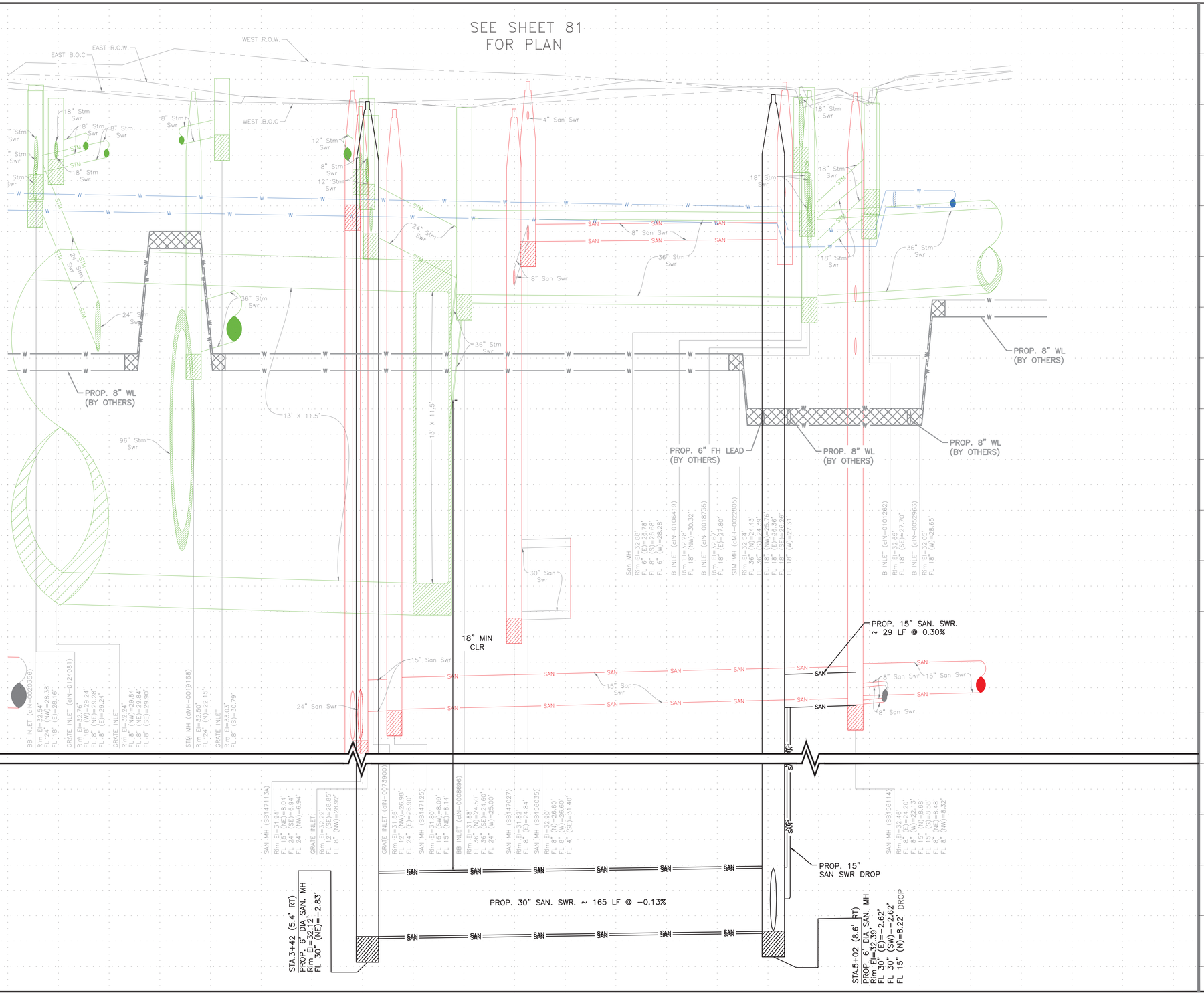
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

EDDINGTON PLAN
STA 2+00 TO END

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=20'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **81** OF **183**	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&Ps\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:13pm



ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 - COH FY23 CRMP Area 6 & 12\CAD_DWG\Streetwise P&P\P&P Sheet 3 - SAN.dwg Feb 10, 2026 5:13pm

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Signature valid for six months.

Date

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HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

MAHESH DUTTA NAME 114252 P.E. NO.

DATE 02/10/2026

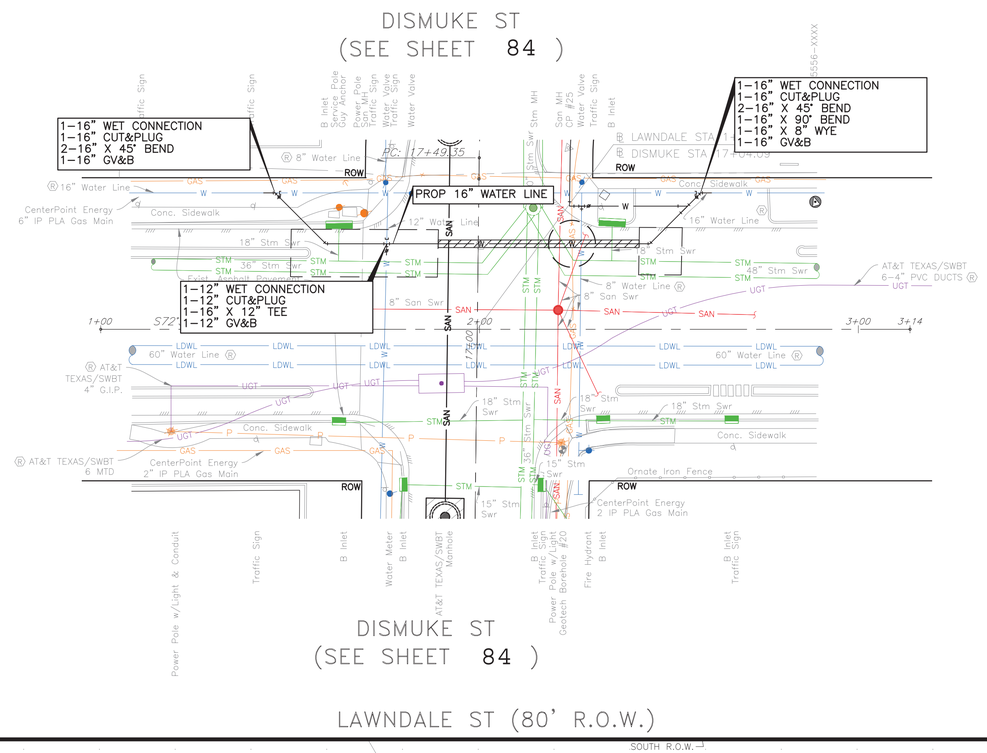
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

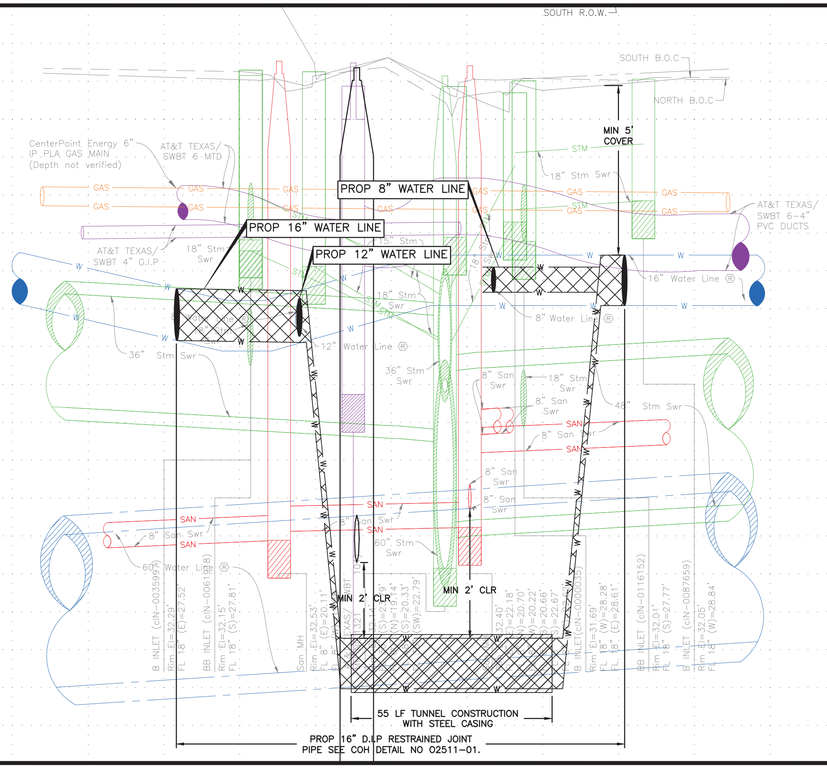
CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

EDDINGTON PROFILE STA 2+00 TO END

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	82 OF 183



LAWNDALE ST (80' R.O.W.)



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

K:\Amani\CRMP Package 5\4-0 Production\4-1 Drawings\Sheet Set\P&P Sheet 1 - WATER_r2.dwg Jan 29, 2026 2:20pm

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556–7109
ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

NOTE:

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2) MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS, AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3) TREES ARE LOCATED IN THE VICINITY OF PROPOSED ALIGNMENT OF WATER LINE AND ITS APPURTENANCES. REFER TO THE TREE PROTECTION PLANS FOR APPROPRIATE PROTECTION MEASURES.
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6) SEE SHEET XX FOR PROPOSED SANITARY SEWER CONSTRUCTION SHEETS.

LEGEND

- EXIST WATER
- EXIST SANITARY
- EXIST STORM SEWER
- PROP WATER
- PROP SANITARY
- CRITICAL LOCATION, SEE SPEC. 02317
- DIP W/ RESTRAINED JOINTS
- PAVEMENT REPAIR, REFER COH DWG NOS. 02951–01, 02951–02, 02951–03

TBM:

CP–X–CUT 025 AT STA. 17+52.78, 23.49' LT, EL. 32.15

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Aurora Technical Services, LLC
engineering + construction management
TX FIRM NO. F–2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056
PHONE: 281–453–7700

SURVEYED BY: AMANI
FB NO.: P–

INTERIM REVIEW ONLY
Document incomplete; not intended for regulatory approval, permit, or construction.
WILLIAM M. WILSHIRE III, P.E.
Engineer
94193
Registered Number
1/16/2026
Date

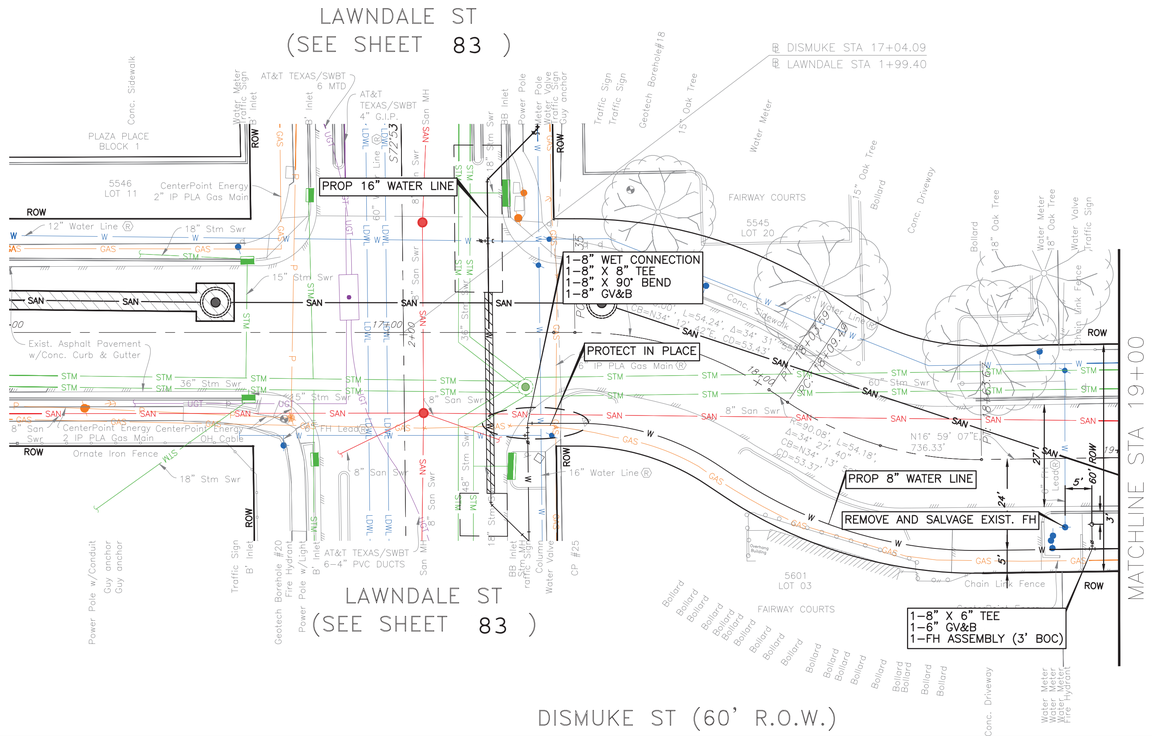
Aurora Technical Services, LLC
Texas Registered Engineering Firm F–2059

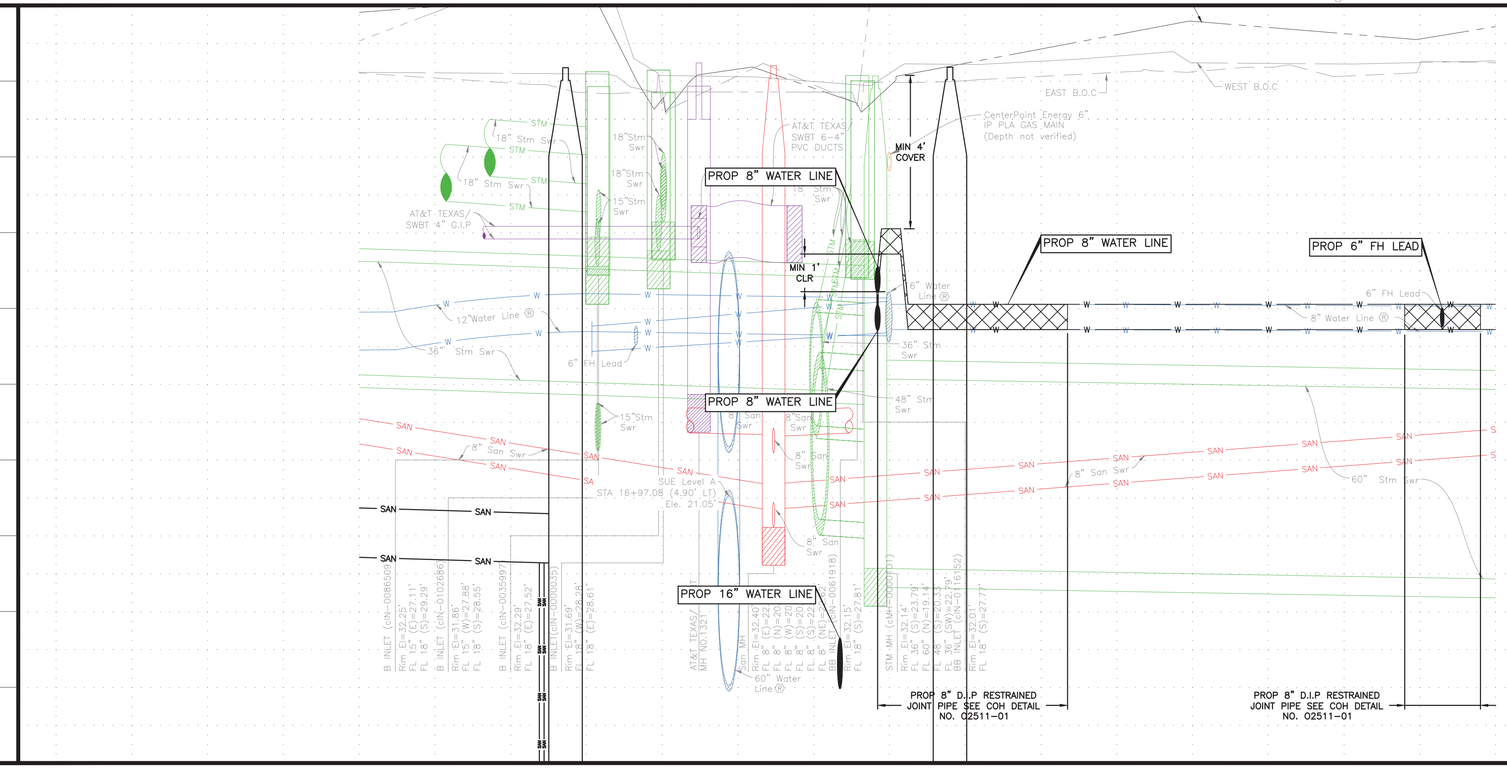
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

LAWNDALE ST PLAN & PROFILE
STA 1+00 TO END

WBS NO.	R–01000–0036–3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	83 OF 183





ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

K:\Amani\CRMP Package 5\4-0 Production\4-1 Drawings\Sheet Set\P&P Sheet 1 - WATER_r2.dwg Jan 29, 2026 2:20pm

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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LEGEND

- W — EXIST WATER
- SAN — EXIST SANITARY
- STM — EXIST STORM SEWER
- W — PROP WATER
- SAN — PROP SANITARY
- CRITICAL LOCATION, SEE SPEC. 02317
- DIP W/ RESTRAINED JOINTS
- PAVEMENT REPAIR, REFER COH DWG NOS. 02951-01, 02951-02, 02951-03

TBM:

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HOUSTON, TEXAS 77056
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SURVEYED BY: AMANI
FB NO.: P-

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WILLIAM M. WILSHIRE III, P.E.
Engineer
94193
Registered Number
1/16/2026
Date

Aurora Technical Services, LLC
Texas Registered Engineering Firm F-2059

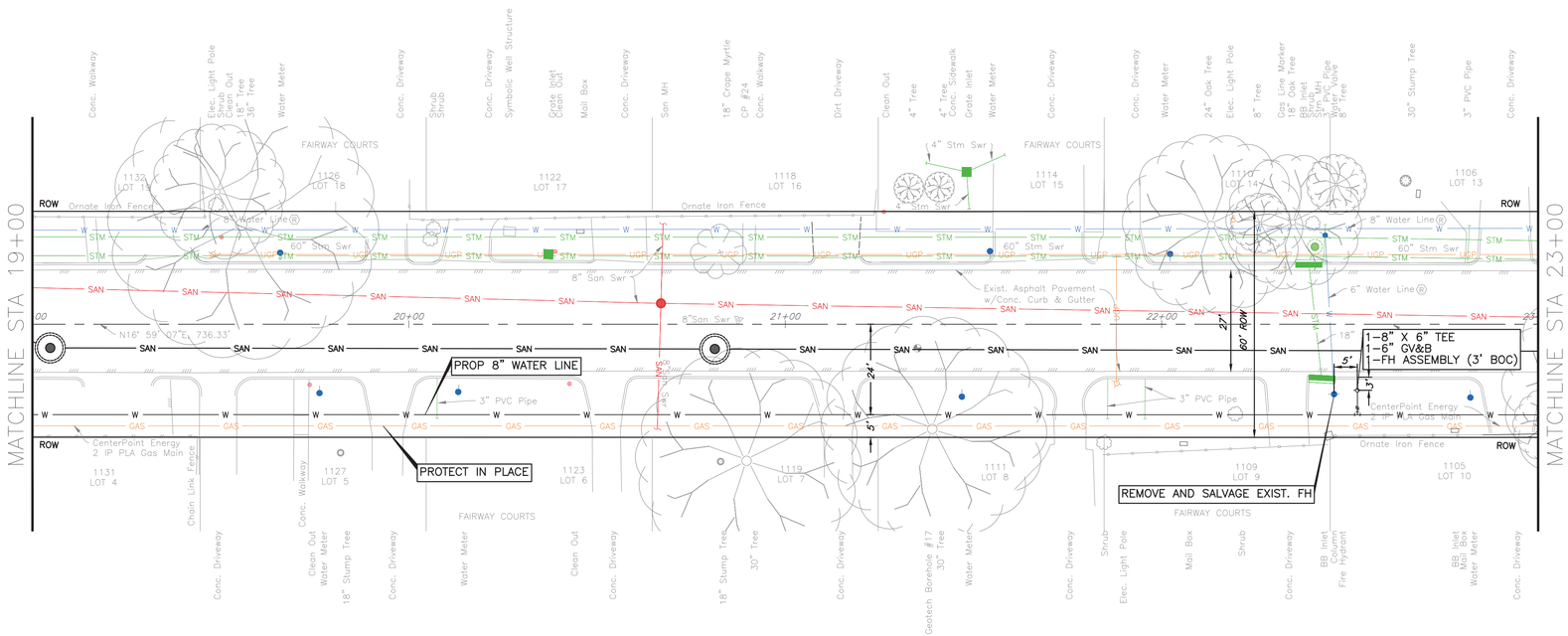
CITY OF HOUSTON

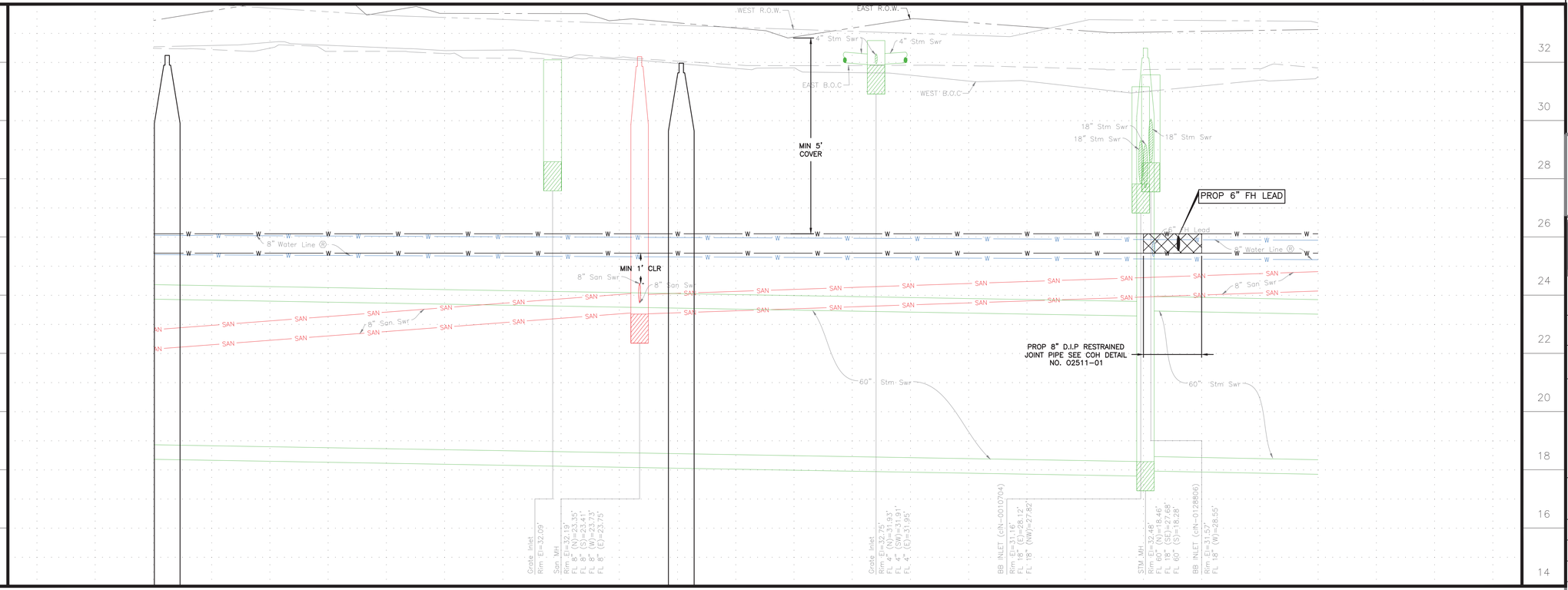
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

DISMUKE ST PLAN & PROFILE
STA 16+00 TO STA 19+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	84 OF 183





0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

K:\Amani\CRMP Package 5\4-0 Production\4-1 Drawings\Sheet Set\P&P Sheet 1 - WATER_r2.dwg Jan 29, 2026 2:21pm

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TBM:

CP-MAG NAIL 024 AT STA. 20+87.59, 01.22' LT, EL. 32.17

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

LEGEND

- EXIST WATER
- EXIST SANITARY
- EXIST STORM SEWER
- PROP WATER
- PROP SANITARY
- CRITICAL LOCATION, SEE SPEC. 02317
- DIP W/ RESTRAINED JOINTS
- PAVEMENT REPAIR, REFER COH DWG NOS. 02951-01, 02951-02, 02951-03

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SURVEYED BY: AMANI
FB NO.: P-

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WILLIAM M. WILSHIRE III, P.E.
Engineer
94193
Registered Number
1/16/2026
Date

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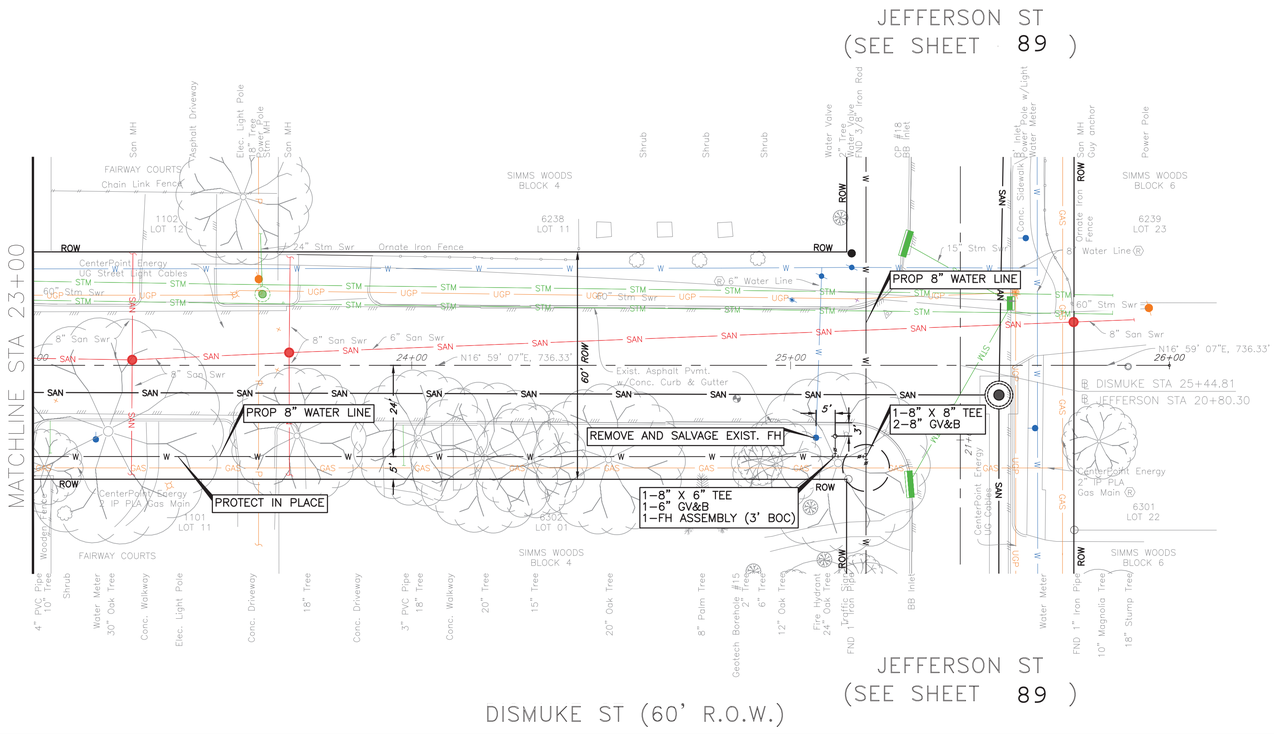
CITY OF HOUSTON

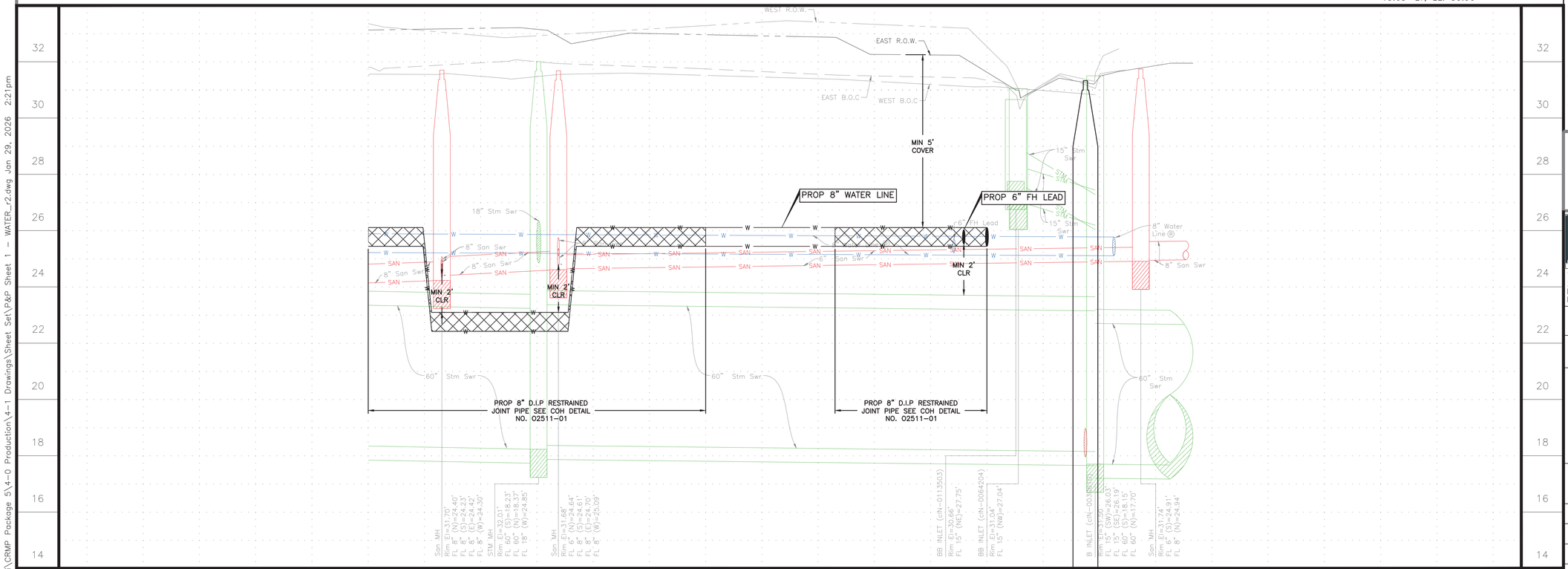
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

DISMUKE ST PLAN & PROFILE STA 19+00 TO STA 23+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	85 OF 183





NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
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ELEVATION = 34.16' Geoid 18

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LEGEND

- EXIST WATER
- EXIST SANITARY
- EXIST STORM SEWER
- PROP WATER
- PROP SANITARY
- CRITICAL LOCATION, SEE SPEC. 02317
- DIP W/ RESTRAINED JOINTS
- PAVEMENT REPAIR, REFER COH DWG NOS. 02951-01, 02951-02, 02951-03

TBM:

CP-MAG NAIL 018 AT STA. 25+25.54, 13.63' LT, EL. 30.96

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Registered Number
1/16/2026
Date

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

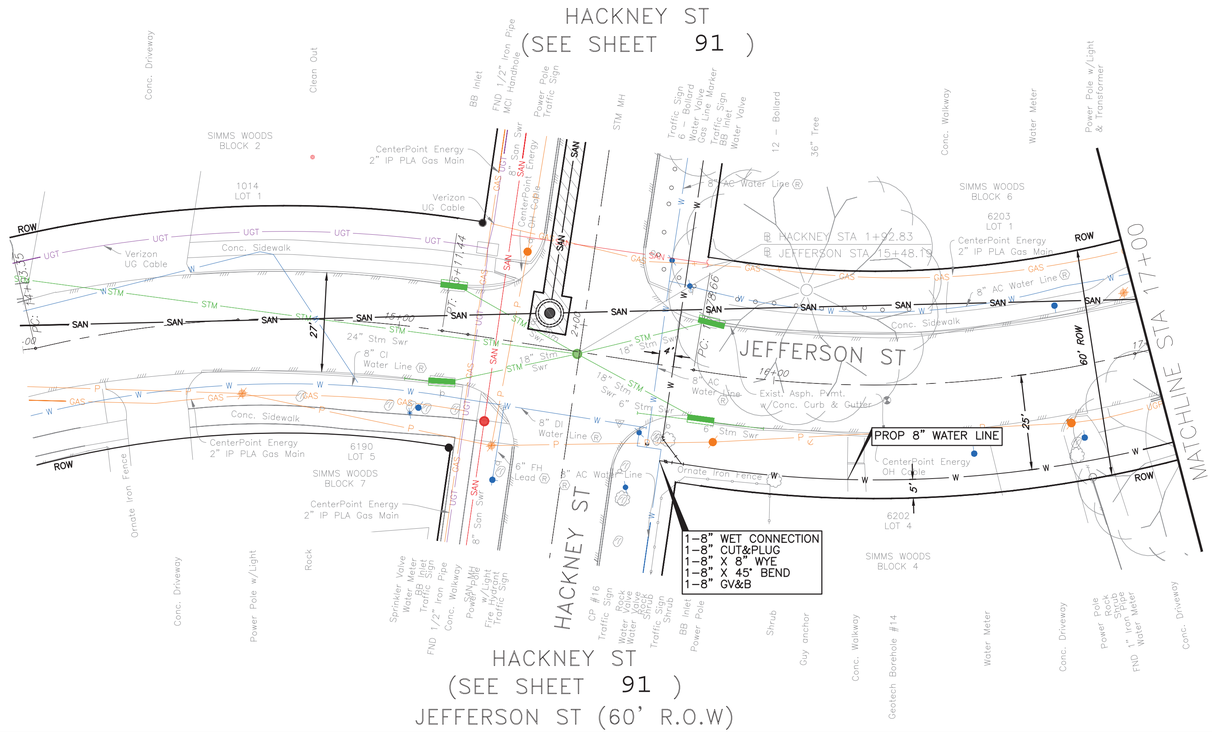
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
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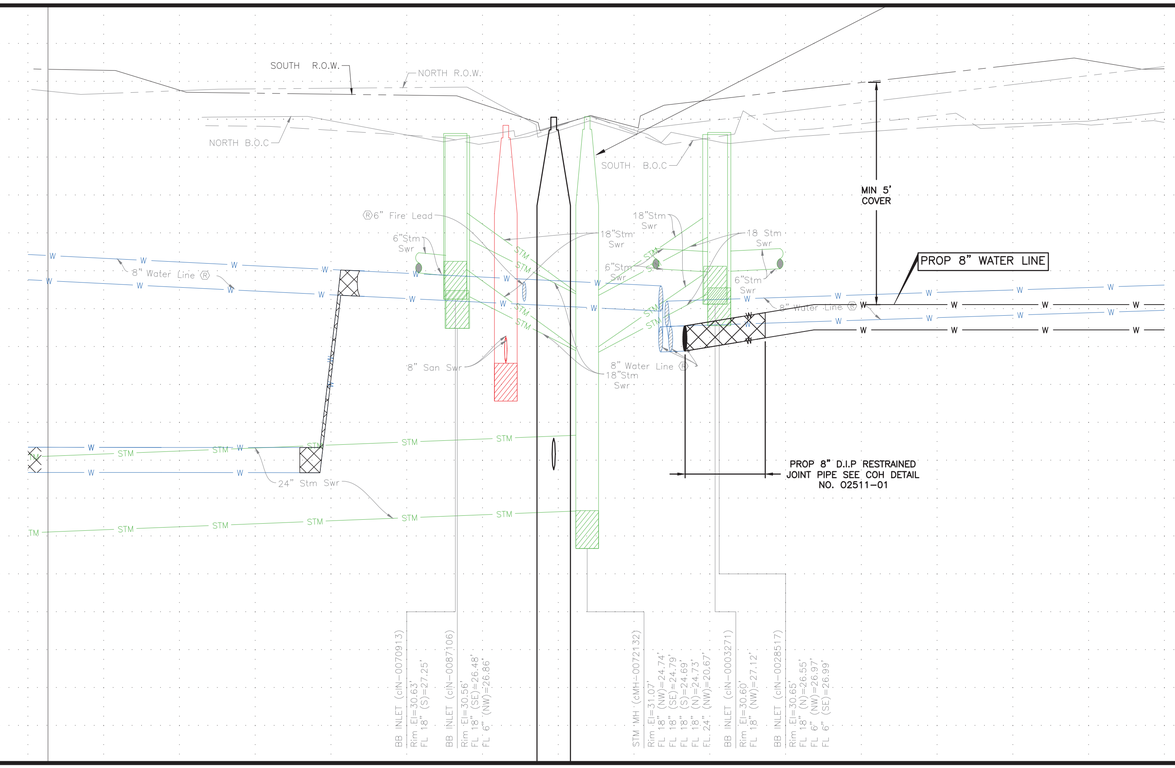
DISMUKE ST PLAN & PROFILE
STA 23+00 TO END

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	86 OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

K:\Amani\CRMP Package 5\4-0 Production\4-1 Drawings\Sheet Set\P&P Sheet 1 - WATER_r2.dwg Jan 29, 2026 2:21pm





TBM:

CP-16-MAG NAIL AT STA. 15+61.51, 16.79' RT, EL. 30.59

NOTE:

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- STM — EXIST STORM SEWER
- W — PROP WATER
- SAN — PROP SANITARY
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

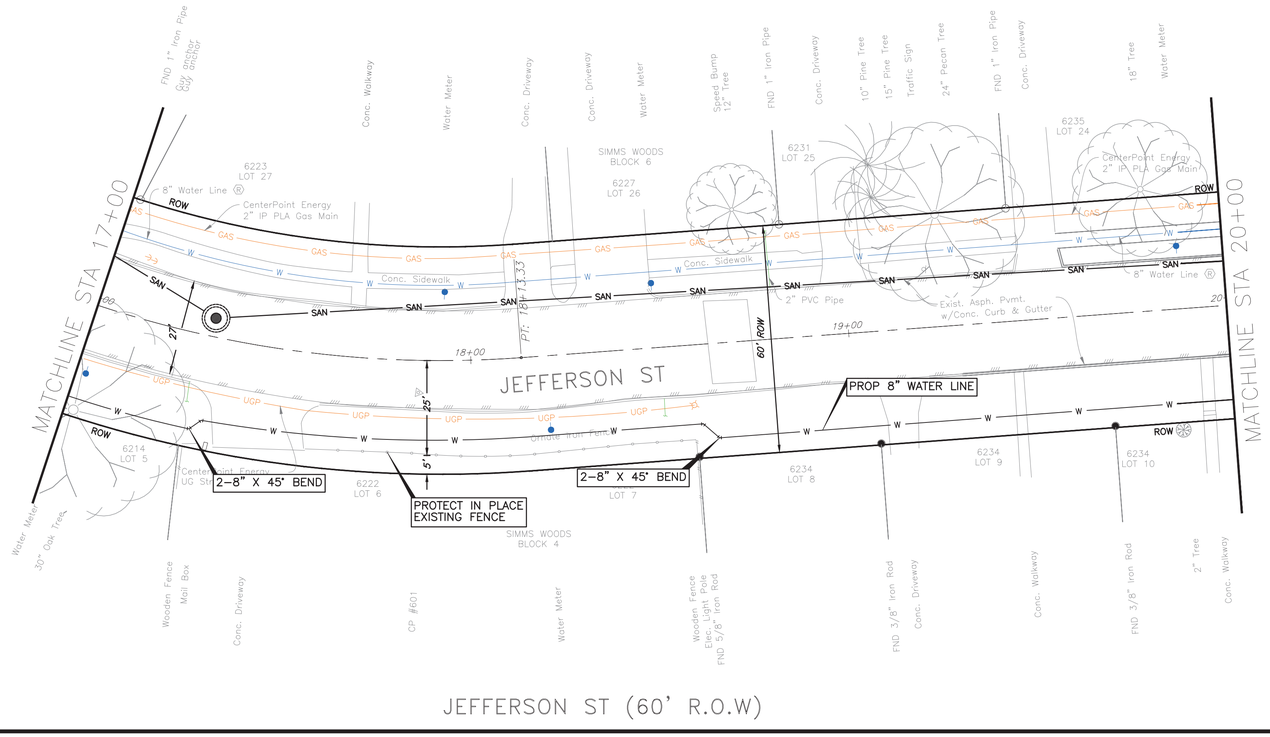
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

JEFFERSON ST PLAN & PROFILE
STA 14+00 TO STA 17+00

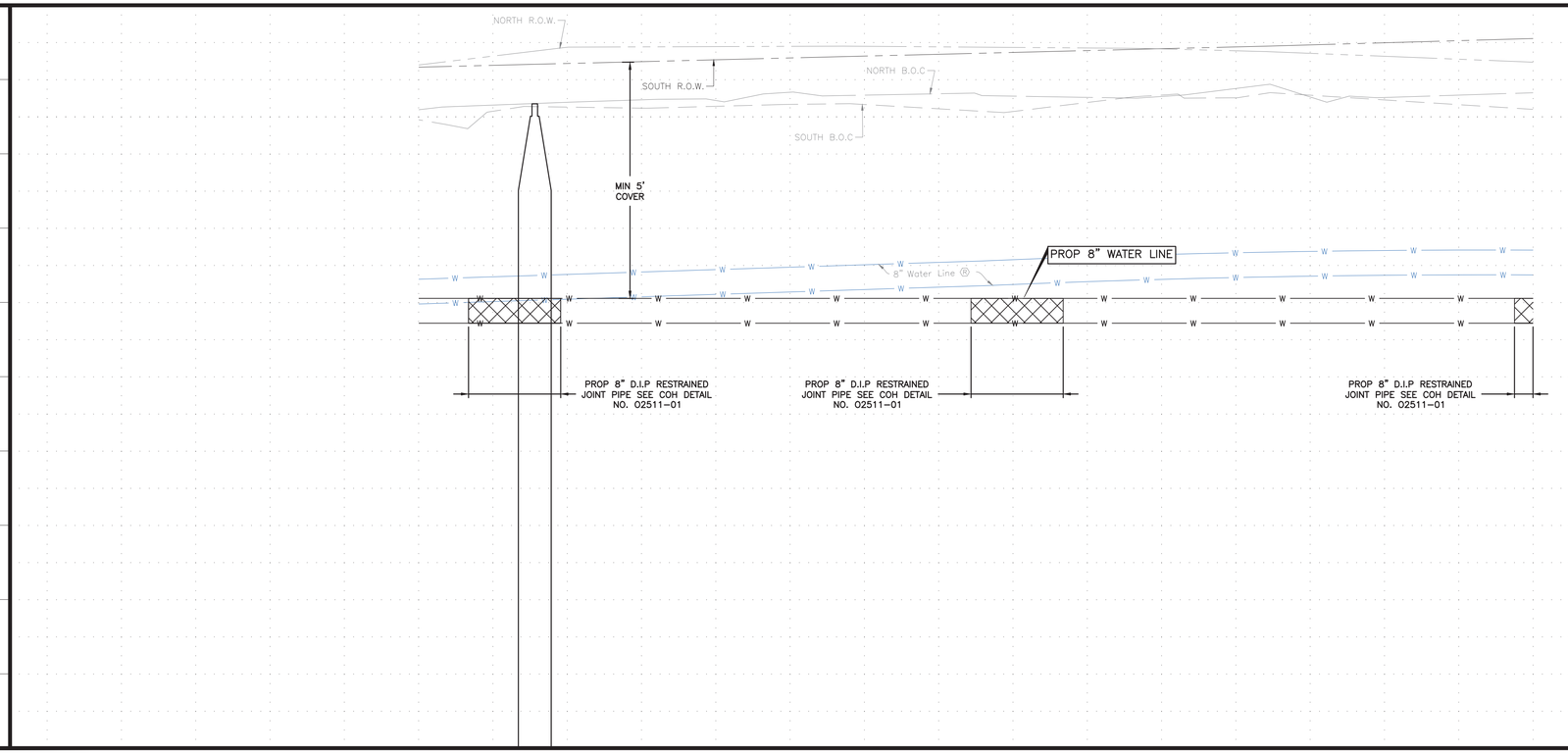
WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	87 OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

K:\Amani\CRMP Package 5\4-0 Production\4-1 Drawings\Sheet Set\P&P Sheet 2 - WATER.dwg Jan 29, 2026 2:21pm



JEFFERSON ST (60' R.O.W)



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

K:\Amani\CRMP Package 5\4-0 Production\4-1 Drawings\Sheet Set\P&P Sheet 2 - WATER.dwg Jan 29, 2026 2:21pm

NOTE:

1) THIS PROJECT SHALL BE BUILT BY MEANS OF TRENCHLESS CONSTRUCTION EXCEPT AS NOTED ON THE DRAWINGS. CONTRACTOR TO DETERMINE THE LOCATION OF PITS IN FIELD SUBJECT TO THE CITY ENGINEER'S APPROVAL.
2) MAINTAIN WATER SERVICES TO ALL CUSTOMERS, FIRE HYDRANTS, AND INTERCONNECTION, PROVIDE TEMPORARY CONNECTION AS NECESSARY DURING CONSTRUCTION.
3) TREES ARE LOCATED IN THE VICINITY OF PROPOSED ALIGNMENT OF WATER LINE AND ITS APPURTENANCES. REFER TO THE TREE PROTECTION PLANS FOR APPROPRIATE PROTECTION MEASURES.
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6) SEE SHEET XX FOR PROPOSED SANITARY SEWER CONSTRUCTION SHEETS.

TBM:

CP-601-MAG NAIL AT STA. 17+86.28, 08.50' RT, EL. 31.16

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

LEGEND

- W — EXIST WATER
- SAN — EXIST SANITARY
- STM — EXIST STORM SEWER
- W — PROP WATER
- SAN — PROP SANITARY
- CRITICAL LOCATION, SEE SPEC. 02317
- DIP W/ RESTRAINED JOINTS
- PAVEMENT REPAIR, REFER COH DWG NOS. 02951-01, 02951-02, 02951-03

NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Date

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

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HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

Aurora Technical Services, LLC
engineering + construction management
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056
PHONE: 281-453-7700
SURVEYED BY: AMANI
FB NO.: P-

INTERIM REVIEW ONLY
Document incomplete, not intended for regulatory approval, permit, or construction.
WILLIAM M. WILSHIRE III, P.E.
Engineer
94191
Registered Number
1/16/2026
Date

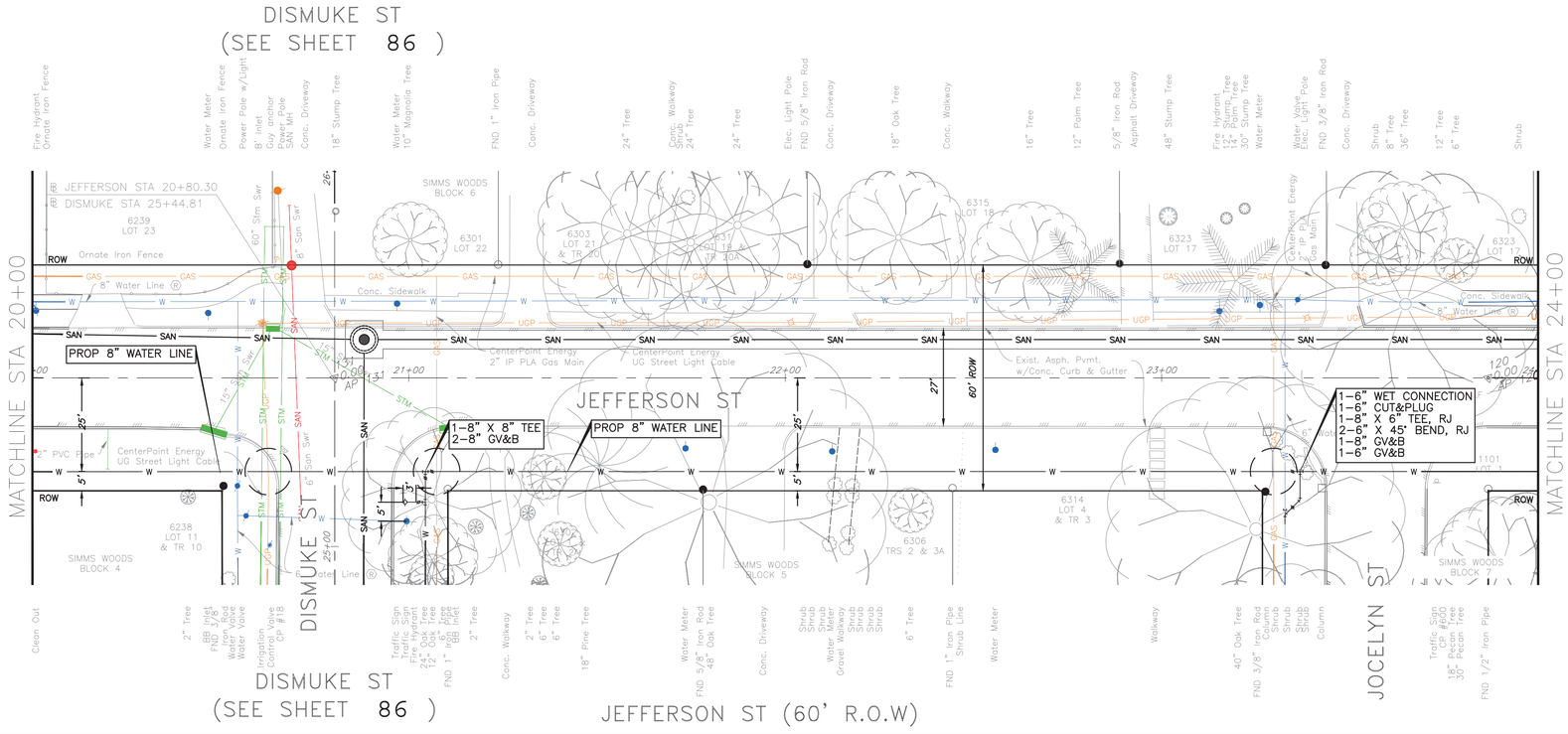
Aurora Technical Services, LLC
Texas Registered Engineering Firm F-2059

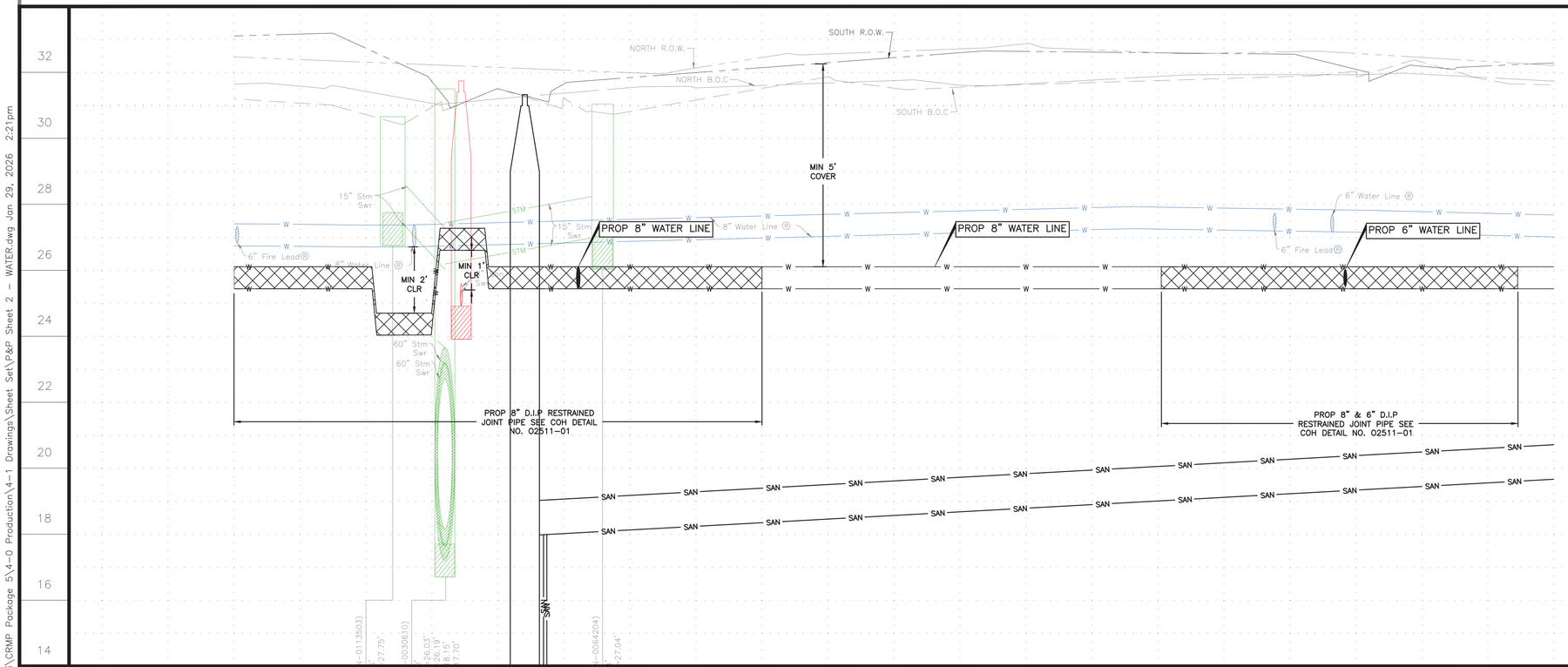
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

JEFFERSON ST PLAN & PROFILE
STA 17+00 TO STA 20+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	88 OF 183





0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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6) SEE SHEET XX FOR PROPOSED SANITARY SEWER CONSTRUCTION SHEETS.

LEGEND

- EXIST WATER
- EXIST SANITARY
- EXIST STORM SEWER
- PROP WATER
- PROP SANITARY
- CRITICAL LOCATION, SEE SPEC. 02317
- DIP W/ RESTRAINED JOINTS
- PAVEMENT REPAIR, REFER COH DWG NOS. 02951-01, 02951-02, 02951-03

TBM:

CP-18-MAG NAIL AT STA. 20+66.68, 19.28' RT, EL. 31.097

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SURVEYED BY: AMANI
FB NO.: P-

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WILLIAM M. WILSHIRE III, P.E.
Engineer
94193
Registered Number
1/16/2026
Date

Aurora Technical Services, LLC
Texas Registered Engineering Firm F-2059

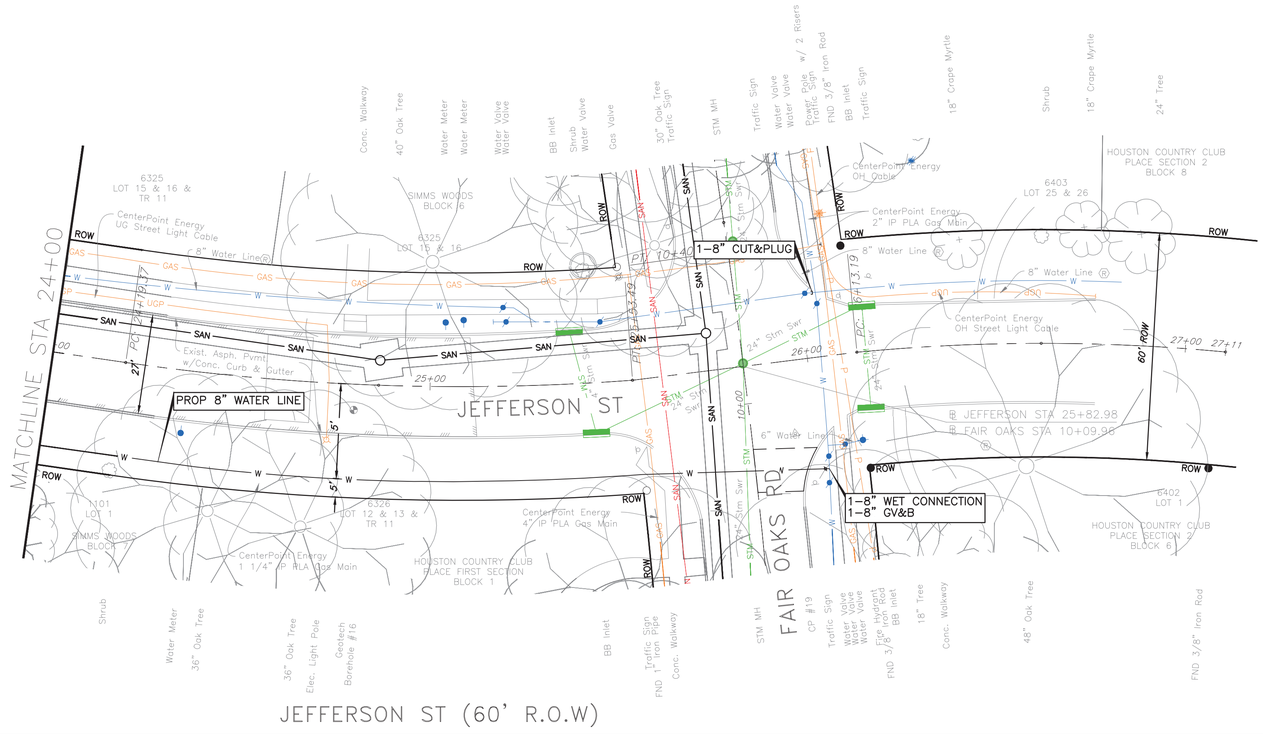
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

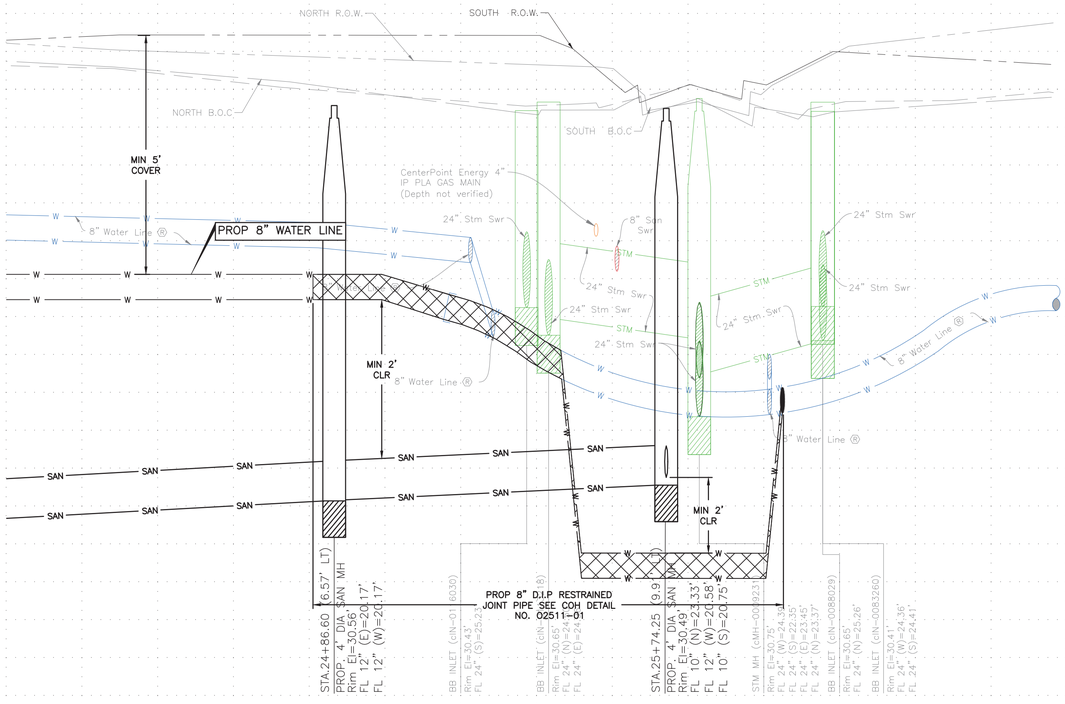
JEFFERSON ST PLAN & PROFILE
STA 20+00 TO STA 24+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	89 OF 183

K:\Amani\CRMP Package 5\4-0 Production\4-1 Drawings\Sheet Set\P&P Sheet 2 - WATER.dwg Jan 29, 2026 2:21pm



JEFFERSON ST (60' R.O.W)



0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

K:\Amani\CRMP Package 5\4-0 Production\4-1 Drawings\Sheet Set\P&P Sheet 2 - WATER.dwg Jan 29, 2026 2:21pm



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TBM:

CP-19-X-CUT AT STA. 25+94.38, 19.32' RT, EL. 30.50

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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- SAN — EXIST SANITARY
- STM — EXIST STORM SEWER
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- SAN — PROP SANITARY
- CRITICAL LOCATION, SEE SPEC. 02317
- DIP W/ RESTRAINED JOINTS
- PAVEMENT REPAIR, REFER COH DWG NOS. 02951-01, 02951-02, 02951-03

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HOUSTON, TEXAS 77056
PHONE: 281-453-7700

SURVEYED BY: AMANI
FB NO.: P-

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WILLIAM M. WILSHIRE III, P.E.
Engineer
94191
Registered Number
1/16/2026
Date

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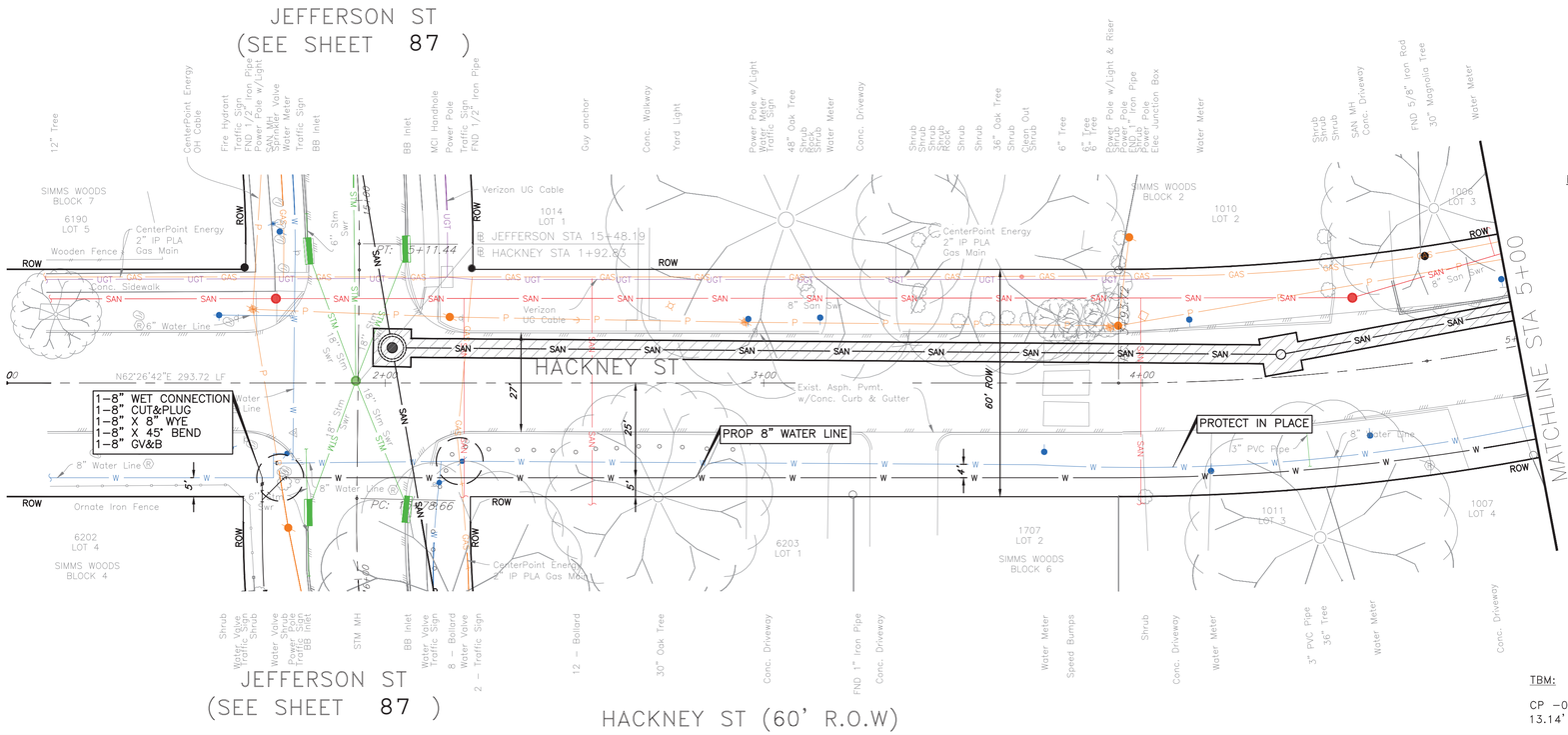
CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

JEFFERSON ST PLAN & PROFILE STA 24+00 TO END

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	90 OF 183





NOTE:

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TBM:

CP -016-MAG NAIL AT STA. 01+75.91,
13.14' RT, EL. 30.59

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VERIFICATION OF PRIVATE UTILITY LINES

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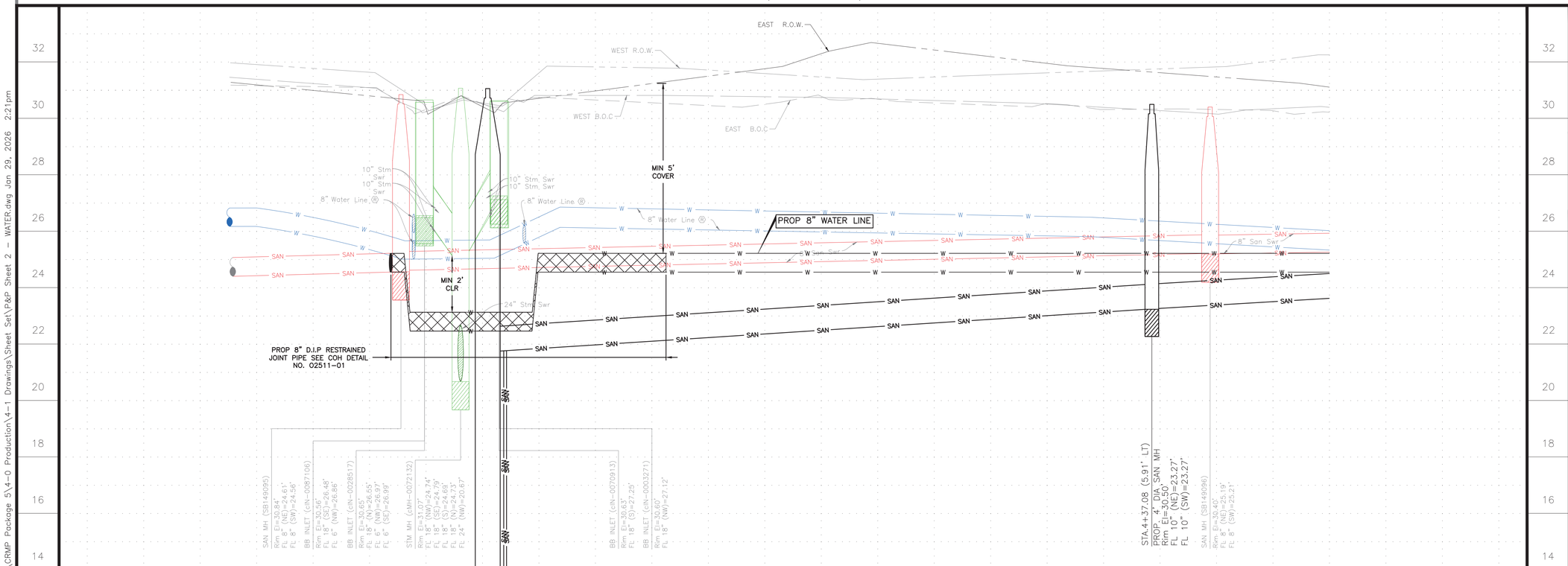
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0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SURVEYED BY: AMANI
FB NO.: P-

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WILLIAM M. WILSHIRE III, P.E.
Engineer
94191
Registered Number
1/16/2026
Date

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Texas Registered Engineering Firm F-2059

CITY OF HOUSTON

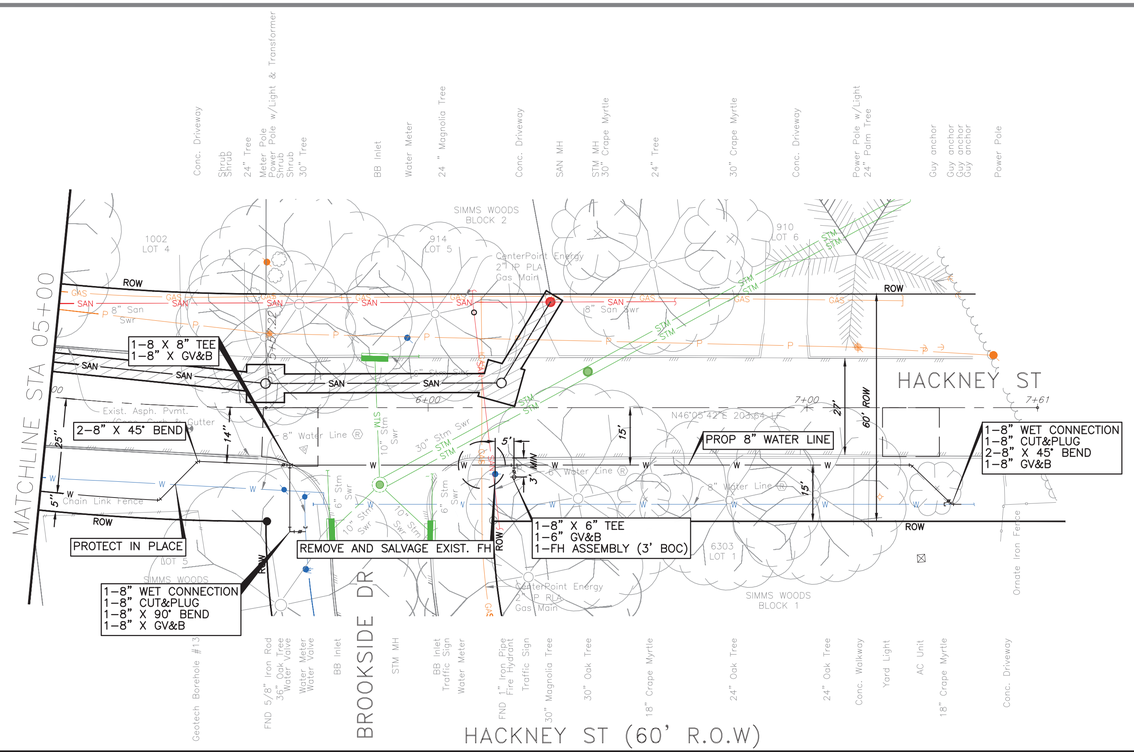
HOUSTON PUBLIC WORKS

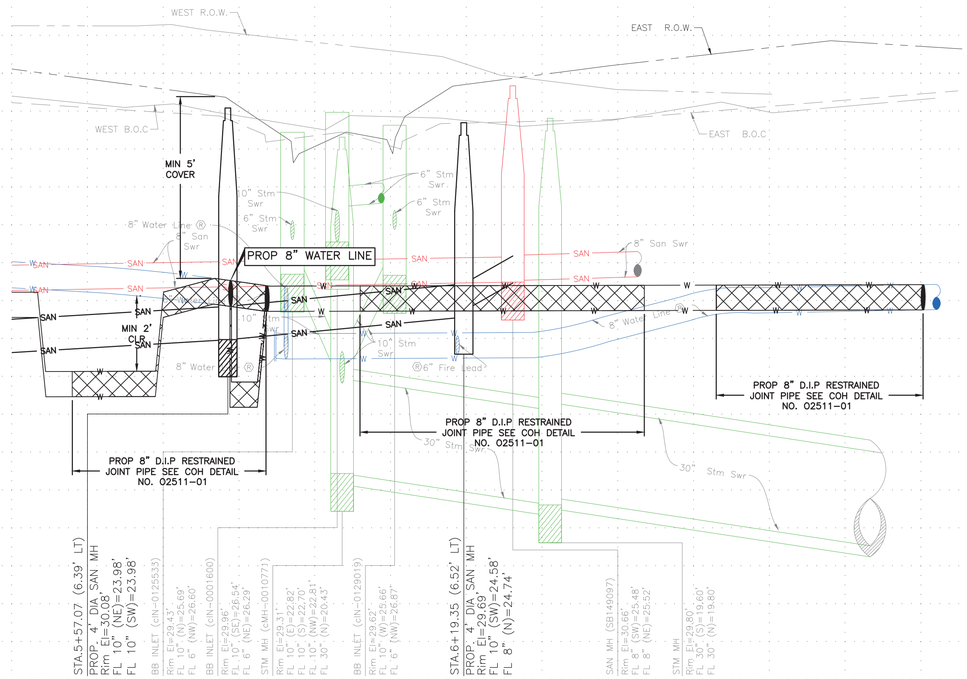
CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

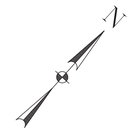
HACKNEY ST PLAN & PROFILE
STA 1+00 TO STA 5+00

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	91 OF 183

K:\Amani\CRMP Package 5\4-0 Production\4-1 Drawings\Sheet Set\P&P Sheet 2 - WATER.dwg Jan 29, 2026 2:21pm







TBM:

CP-017-MAG NAIL AT STA. 05+67.26, 10.91' RT, EL. 29.75

NOTE:

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CITY OF HOUSTON MARKER 5556-7109 ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

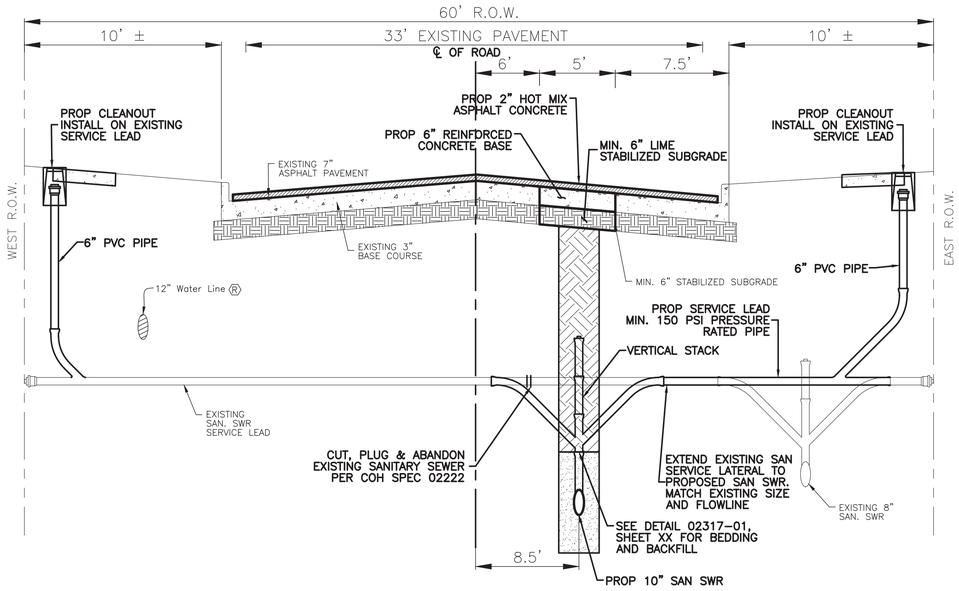
HACKNEY ST PLAN & PROFILE
STA 5+00 TO END

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	92 OF 183

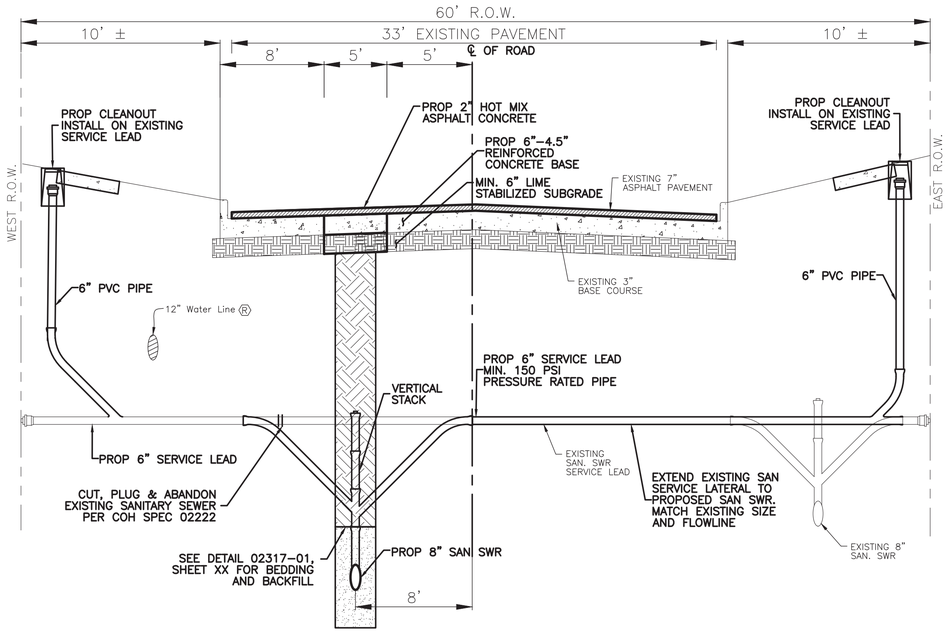
05+00 06+00 07+00

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

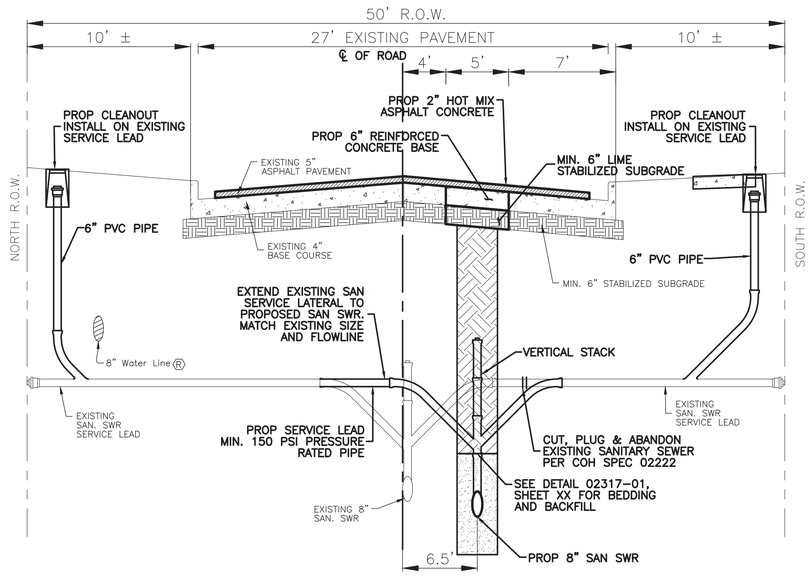
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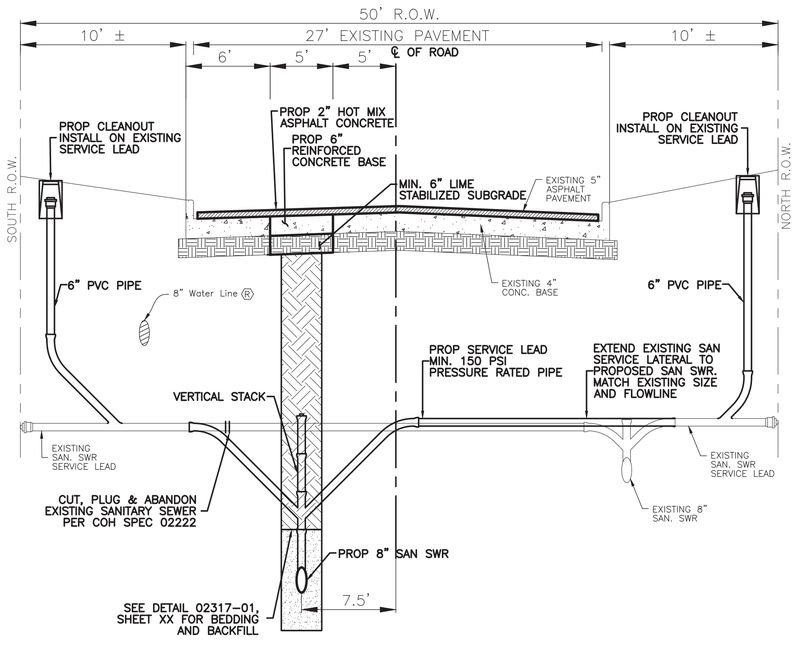
DISMUKE ST
TYPICAL CROSS SECTION
(LOOKING FROM SOUTH TO WEST)
STA 1+00 TO 4+32
N.T.S.



DISMUKE ST
TYPICAL CROSS SECTION
(LOOKING FROM SOUTH TO NORTH)
STA 4+32 TO 16+60
N.T.S.



BARREMORE AND BONSRELL ST
TYPICAL CROSS SECTION
(LOOKING FROM EAST TO WEST)
N.T.S.



TRUETT STREET
TYPICAL CROSS SECTION
(LOOKING FROM EAST TO WEST)
N.T.S.

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SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

MAHESH DUTTA — NAME
114252 — P.E. NO.
02/10/2026 — DATE
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TYPICAL CROSS SECTION
(1 OF 2)

WBS NO.
R-01000-0036-3

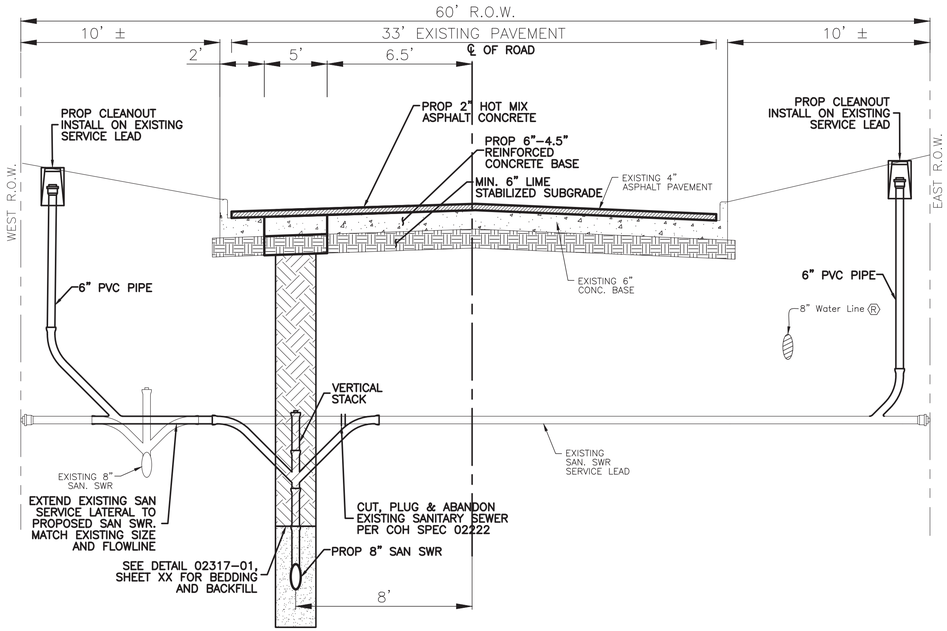
DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

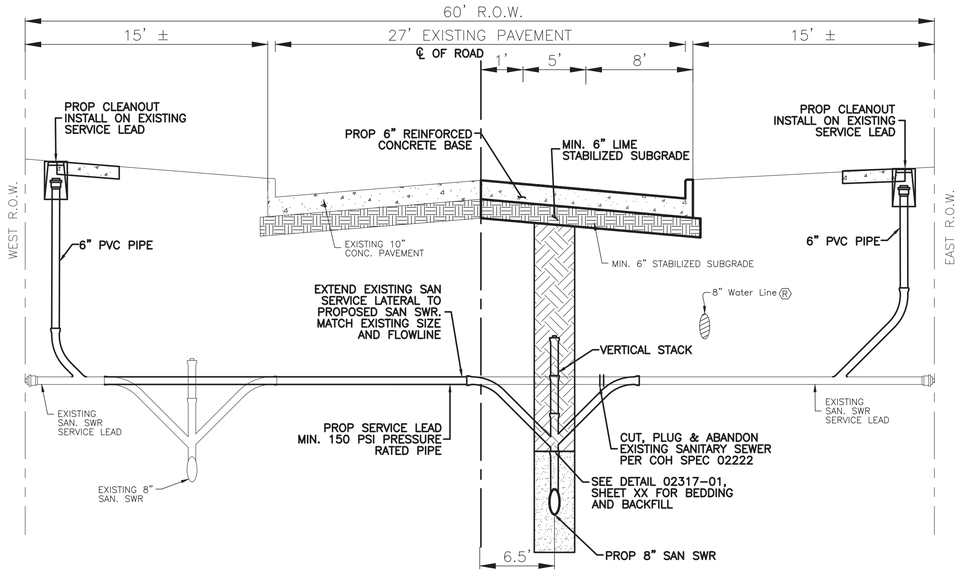
SHEET NO. **93** OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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HACKNEY ST
TYPICAL CROSS SECTION
(LOOKING FROM SOUTH TO NORTH)
N.T.S.



FAIR OAKS ST
TYPICAL CROSS SECTION
(LOOKING FROM SOUTH TO NORTH)
N.T.S.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

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MAHESH DUTTA (NAME) 114252 (P.E. NO.)

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TYPICAL CROSS SECTION
(2 OF 2)

WBS NO.
R-01000-0036-3

DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

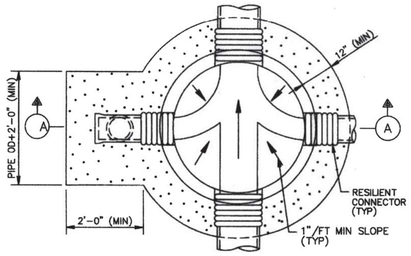
SHEET NO. **94** OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

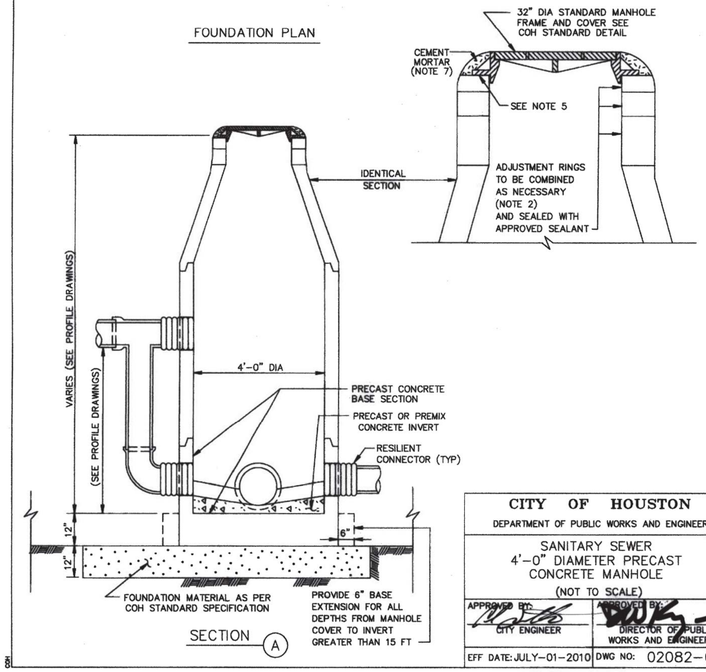
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NOTES:

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



FOUNDATION PLAN



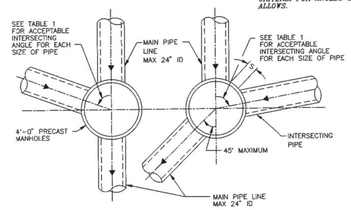
SECTION (A)

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SANITARY SEWER 4'-0" DIAMETER PRECAST CONCRETE MANHOLE (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02082-02

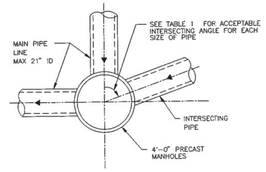
NOTES ON USE OF STANDARD DETAIL 02082-02

NOTES TO SPECIFIER:

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



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



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

TABLE 1

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

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE SIZES IN INCHES							
	6"	8"	10"	12"	15"	18"	21"	24"
6	55	58	60	65	70	75	80	85
8		60	63	68	73	77	82	87
10			66	71	75	80	85	90
12				76	80	85	90	–
15					85	90	–	–
18						–	–	–
21							–	–
24								–

NOT APPLICABLE UNLESS HYDRAULICS DICTATE (INTERSECTING PIPE > MAIN PIPE)

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER 4'-0" DIAMETER PRECAST CONCRETE MANHOLE NOTES (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02082N-02

AMANI ENGINEERING, INC.
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TEL: (713) 270-5700
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SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

SANITARY SEWER MANHOLE DETAILS (1 OF 3)

WBS NO.
R-01000-0036-3

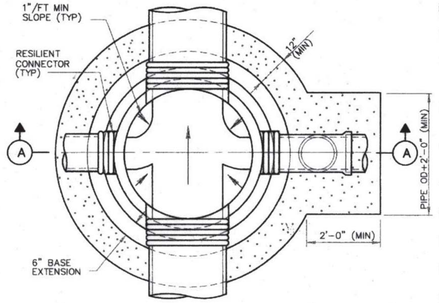
DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **95** OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

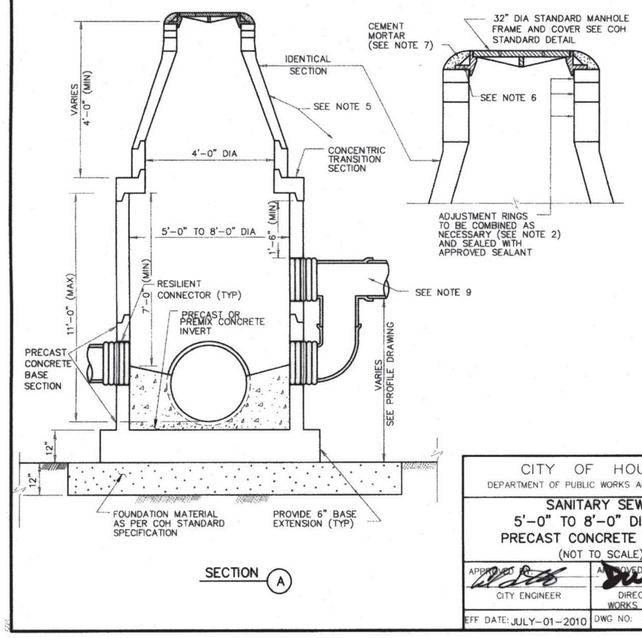
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FOUNDATION PLAN

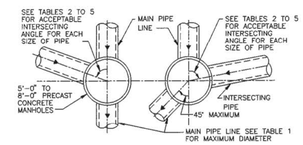
NOTES:

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

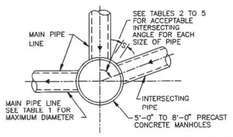


SECTION (A)

CITY OF HOUSTON	
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SANITARY SEWER 5'-0" TO 8'-0" DIAMETER PRECAST CONCRETE MANHOLE (NOT TO SCALE)	
APPROVED BY CITY ENGINEER	APPROVED BY DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02082-03



FOR MAIN PIPES FROM STRAIGHT THROUGH TO 45° DEFLECTION



FOR MAIN PIPE WITH 45° TO 90° DEFLECTION

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

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

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

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

* NOT APPLICABLE
(INTERSECTING PIPE GREATER THAN MAIN PIPE)

NOTES ON USE OF STANDARD DETAIL 02082-03

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

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

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

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

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

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

NOTES TO SPECIFIER:

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

CITY OF HOUSTON	
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE GROUP	
SANITARY SEWER 5'-0" TO 8'-0" DIAMETER PRECAST CONCRETE MANHOLE NOTES (NOT TO SCALE)	
APPROVED BY CITY ENGINEER	APPROVED BY DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02082N-03

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

SANITARY SEWER MANHOLE DETAILS (2 OF 3)

WBS NO.
R-01000-0036-3

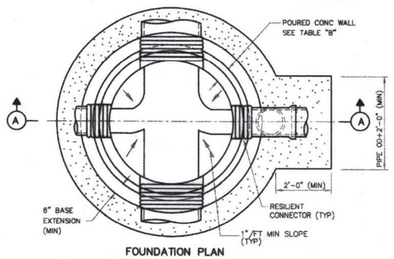
DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

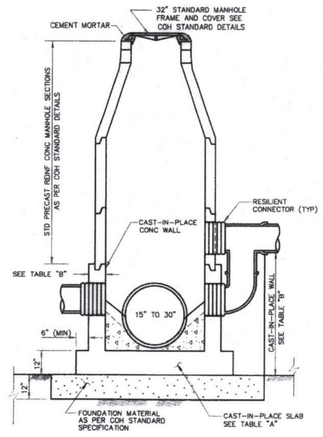
SHEET NO. **96** OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 – COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\X-STD DETAILS.dwg Feb 10, 2026 3:21pm



FOUNDATION PLAN



ELEVATION (A)

NOTES:

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

NOTES ON USE OF STANDARD DETAIL

TABLE "A"

BASE SLAB REINFORCING AND THICKNESS

MH INSIDE DIA (FT)	DEPTH TO INV (FT)	BASE THICKNESS	REINFORCING (E, W, T & B)
8	≤ 20	1'-0"	# 6 @ 10"
	≤ 25	1'-2"	# 6 @ 8"
	≤ 30	1'-4"	# 6 @ 7"
	≤ 40	1'-8"	# 6 @ 6"
	≤ 50	1'-8"	# 6 @ 6"
	≤ 60	1'-10"	# 6 @ 5"
6	≤ 15	1'-0"	# 5 @ 8"
	≤ 20	1'-0"	# 5 @ 6"
	≤ 25	1'-2"	# 5 @ 7"
	≤ 30	1'-2"	# 5 @ 6"
	≤ 40	1'-2"	# 6 @ 8"
	≤ 50	1'-4"	# 6 @ 8"
	≤ 60	1'-4"	# 6 @ 7"
5	≤ 15	1'-0"	# 5 @ 8"
	≤ 20	1'-0"	# 5 @ 7"
	≤ 25	1'-0"	# 5 @ 6"
	≤ 30	1'-0"	# 6 @ 10"
	≤ 40	1'-2"	# 6 @ 10"
	≤ 50	1'-2"	# 6 @ 9"
	≤ 60	1'-2"	# 6 @ 8"
4	≤ 20	1'-0"	# 5 @ 8"
	≤ 25	1'-0"	# 5 @ 6"
	≤ 30	1'-0"	# 5 @ 7"
	≤ 40	1'-0"	# 6 @ 10"

TABLE "B"

WALL REINFORCING AND THICKNESS

MH INSIDE DIA (FT)	DEPTH TO PIPE TO INV (FT)	MAXIMUM CAST-IN-PLACE WALL HEIGHT	WALL THICKNESS	REINFORCING AT EACH FACE	
				VERTICAL	HORIZONTAL
8	≤ 20	6'-0"	0'-10"	# 6 @ 12"	# 8 @ 12"
	≤ 25	6'-6"	0'-10"	# 6 @ 10"	
	≤ 30	7'-0"	0'-10"	# 6 @ 8"	
	≤ 40	8'-0"	1'-0"	# 6 @ 8"	
	≤ 50	9'-0"	1'-2"	# 6 @ 8"	
	≤ 60	10'-0"	1'-4"	# 6 @ 8"	
6	≤ 15	5'-0"	0'-8"	# 5 @ 12"	# 5 @ 12"
	≤ 20	5'-8"	0'-8"	# 5 @ 8"	
	≤ 25	6'-0"	0'-9"	# 5 @ 8"	
	≤ 30	6'-0"	0'-9"	# 5 @ 6"	# 5 @ 8"
	≤ 40	7'-0"	0'-10"	# 5 @ 8"	
	≤ 50	7'-0"	1'-0"	# 6 @ 8"	
	≤ 60	8'-0"	1'-2"	# 6 @ 7"	
5	≤ 15	5'-0"	0'-8"	# 5 @ 8"	# 4 @ 12"
	≤ 20	5'-4"	0'-8"	# 5 @ 7"	
	≤ 25	5'-8"	0'-10"	# 5 @ 6"	
	≤ 30	6'-0"	0'-10"	# 6 @ 10"	# 5 @ 12"
	≤ 40	6'-4"	0'-10"	# 6 @ 10"	
	≤ 50	6'-8"	1'-0"	# 6 @ 8"	
	≤ 60	7'-0"	1'-0"	# 6 @ 8"	
4	≤ 20	4'-8"	0'-8"	# 5 @ 12"	# 4 @ 12"
	≤ 25	5'-0"	0'-8"	# 5 @ 10"	
	≤ 30	5'-8"	0'-10"	# 6 @ 12"	
	≤ 40	6'-0"	0'-10"	# 6 @ 12"	

NOTE TO SPECIFIER:

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

SANITARY SEWER
PRECAST CONCRETE MANHOLE
WITH CAST-IN-PLACE BASE
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER — DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010 | DWG NO: 02082-08

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
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MAHESH DUTTA — NAME
114252 — P.E. NO.
02/10/2026 — DATE
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

SANITARY SEWER
MANHOLE DETAILS
(3 OF 3)

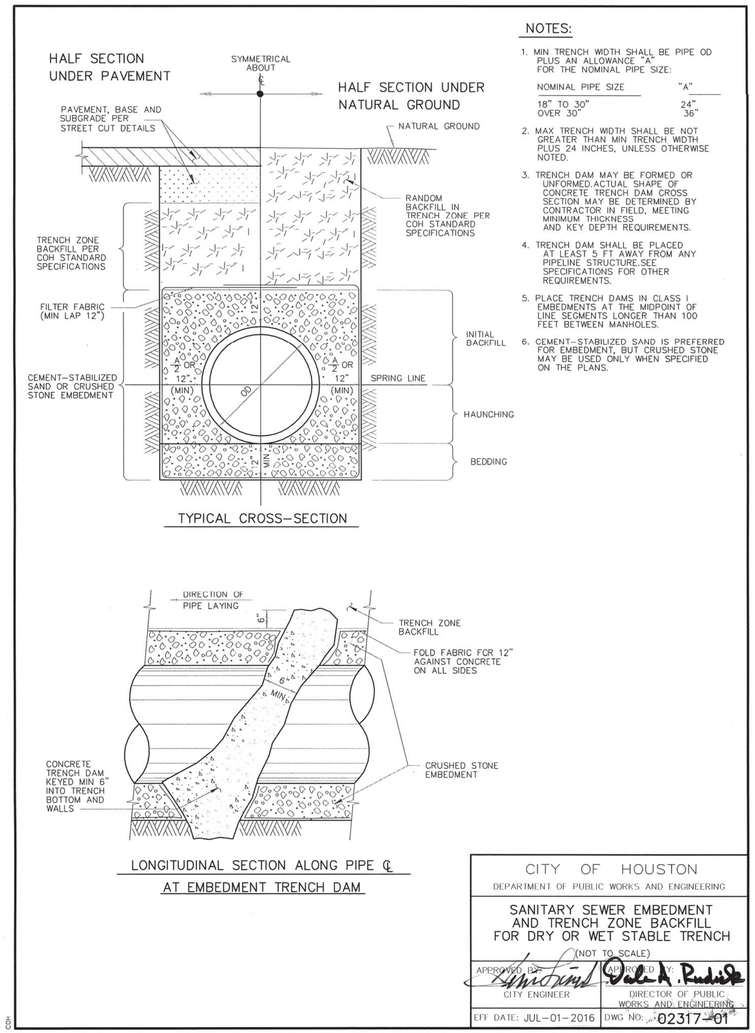
WBS NO.
R-01000-0036-3

DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **97** OF 183

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NOTES:

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

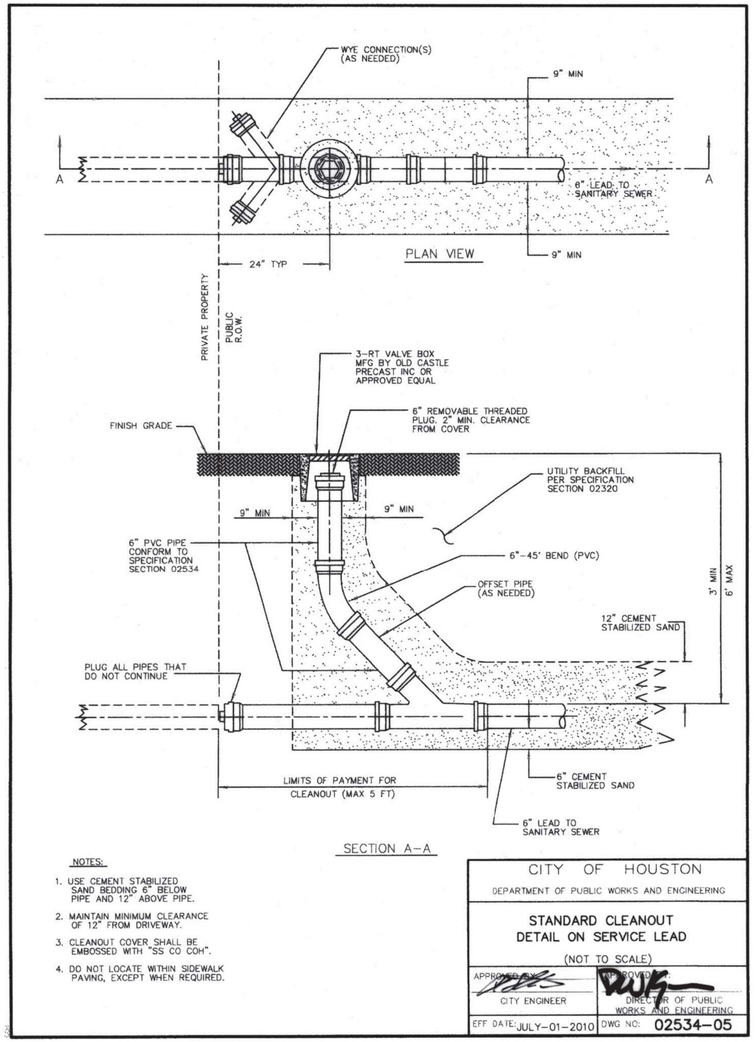
NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"

2. MAX TRENCH WIDTH SHALL BE NOT GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
3. TRENCH DAM MAY BE FORMED OR UNFORMED. ACTUAL SHAPE OF CONCRETE TRENCH DAM CROSS SECTION MAY BE DETERMINED BY CONTRACTOR IN FIELD, MEETING MINIMUM THICKNESS AND KEY DEPTH REQUIREMENTS.
4. TRENCH DAM SHALL BE PLACED AT LEAST 5 FT AWAY FROM ANY PIPELINE STRUCTURE. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.
5. PLACE TRENCH DAMS IN CLASS I EMBEDMENTS AT THE MIDPOINT OF LINE SEGMENTS LONGER THAN 100 FEET BETWEEN MANHOLES.
6. CEMENT-STABILIZED SAND IS PREFERRED FOR EMBEDMENT, BUT CRUSHED STONE MAY BE USED ONLY WHEN SPECIFIED ON THE PLANS.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

SANITARY SEWER EMBEDMENT
AND TRENCH ZONE BACKFILL
FOR DRY OR WET STABLE TRENCH
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2016	DWG NO: 02317-01



NOTES:

1. USE CEMENT STABILIZED SAND BEDDING 6" BELOW PIPE AND 12" ABOVE PIPE.
2. MAINTAIN MINIMUM CLEARANCE OF 12" FROM DRIVEWAY.
3. CLEANOUT COVER SHALL BE EMBOSSED WITH "SS CO COH".
4. DO NOT LOCATE WITHIN SIDEWALK PAVING, EXCEPT WHEN REQUIRED.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STANDARD CLEANOUT
DETAIL ON SERVICE LEAD
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02534-05

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA (NAME) 114252 (P.E. NO.)
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

SANITARY SEWER CONSTRUCTION & PIPE BEDDING DETAILS

WBS NO.
R-01000-0036-3

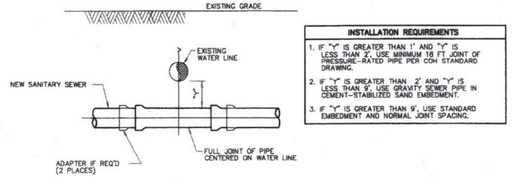
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NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. **98** OF 183

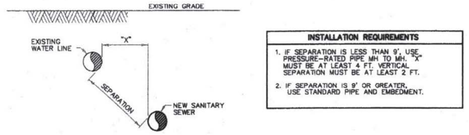
ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

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NEW SANITARY SEWER CROSSING EXISTING WATER LINE

INSTALLATION REQUIREMENTS
1. IF "Y" IS GREATER THAN 1' AND "Y" IS LESS THAN 2', USE MINIMUM 18 FT JOINT OF PRESSURE-RATED PIPE PER COH STANDARD DRAWING.
2. IF "Y" IS GREATER THAN 2' AND "Y" IS LESS THAN 9', USE GRAVITY SEWER PIPE IN CEMENT-STABILIZED SAND EMBEDMENT.
3. IF "Y" IS GREATER THAN 9', USE STANDARD EMBEDMENT AND NORMAL JOINT SPACING.



NEW SANITARY SEWER PARALLEL TO EXISTING WATER LINE

INSTALLATION REQUIREMENTS
1. IF SEPARATION IS LESS THAN 9', USE PRESSURE-RATED PIPE MH TO MH. "X" MUST BE AT LEAST 4 FT. VERTICAL SEPARATION MUST BE AT LEAST 2 FT.
2. IF SEPARATION IS 9' OR GREATER, USE STANDARD PIPE AND EMBEDMENT.

INSTALLING SANITARY SEWERS CROSSING OR PARALLEL TO WATER LINES

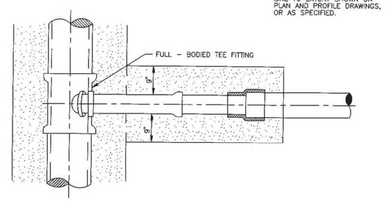
NOTES:

1. SANITARY SEWER MUST BE BELOW WATER LINE WHEREVER POSSIBLE. WHEN WATERLINE IS BELOW THE SANITARY SEWER PROVIDE MINIMUM 2 FT SEPARATION AND INSTALL PIPE IN ACCORDANCE TO CHAPTER 7 TABLE 7.3 OF COH DESIGN MANUAL.
2. WHEN PRESSURE-RATED PIPE IS REQUIRED, PROVIDE PIPE WITH MINIMUM 150 psi PRESSURE RATING.
3. ADAPTERS MUST BE FACTORY MOLDED OR FABRICATED, WITH RING STIFFNES AT LEAST EQUAL TO THE ADJOINING SANITARY SEWER PIPE, AND USING RESILIENT GASKET OR SEAL MATERIAL. FLEXIBLE RUBBER "BOOT" TYPE ADAPTERS WILL NOT BE ACCEPTED.
4. INSTALL FORCE MAINS SAME AS FOR GRAVITY SEWER, USING SPECIFIED PRESSURE PIPE.
5. "Y" MUST ALWAYS BE GREATER THAN OR EQUAL TO 1 FT FOR PRESSURE RATED SS AND 2 FT FOR NON-PRESSURE RATED SS.
6. "X" MUST BE GREATER THAN OR EQUAL TO 4 FT.
7. ALTERNATIVES MAY BE SHOWN ON THE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS.
8. SEPARATION REQUIREMENTS SHOWN HERE DO NOT APPLY TO SERVICE CONNECTIONS - REFER TO PLUMBING CODE FOR APPLICABLE REQUIREMENTS.

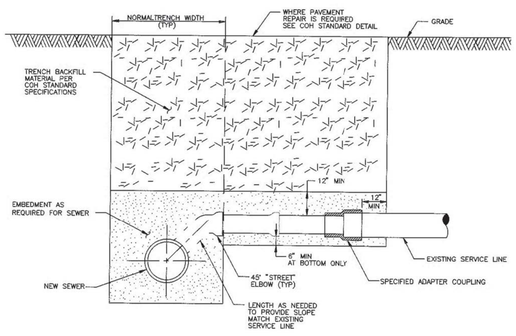
CITY OF HOUSTON	
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
SANITARY SEWER INSTALLING SANITARY SEWERS CROSSING OR PARALLEL TO WATER LINES (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02531-05

NOTE:

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



PLAN



CROSS-SECTION OF SEWER AT SERVICE CONNECTION

CITY OF HOUSTON	
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER SERVICE RECONNECTION ON NEW OR REPLACEMENT SEWER (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02534-04

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA — NAME
114252 — P.E. NO.
02/10/2026 — DATE
TBPELS FIRM #F-4528

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

SANITARY SEWER SERVICE RECONNECTION DETAILS (1 OF 2)

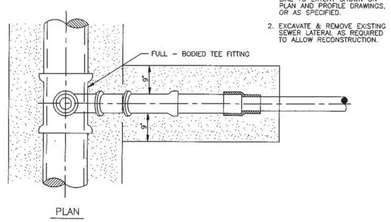
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NTS	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **99** OF 183	

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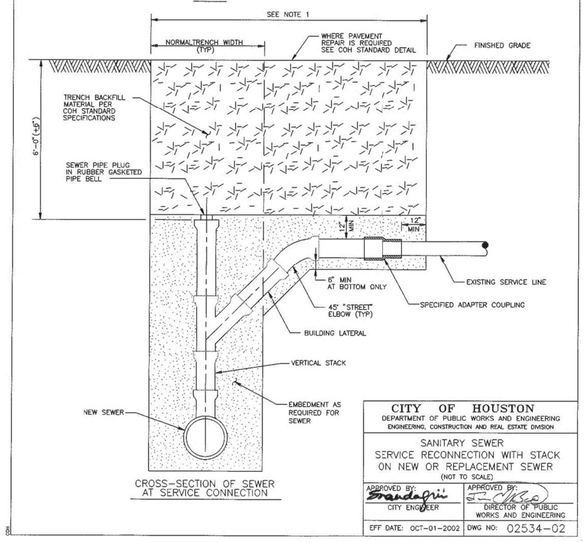
0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

NOTES:

1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN AND PROFILE DRAWINGS, OR AS SPECIFIED.
2. EXCAVATE & REMOVE EXISTING SEWER LATERAL AS REQUIRED TO ALLOW RECONSTRUCTION.

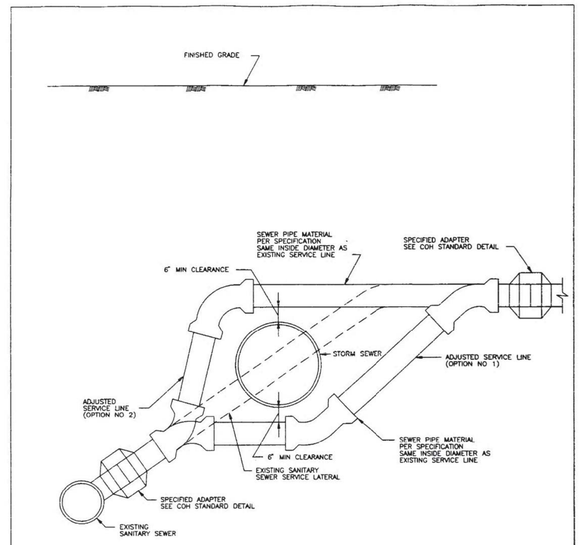


PLAN



CROSS-SECTION OF SEWER AT SERVICE CONNECTION

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER SERVICE RECONNECTION WITH STACK ON NEW OR REPLACEMENT SEWER (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02534-02



CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION	
SANITARY SEWER SERVICE LINE RECONNECTION FOR STORM SEWER CONFLICTS (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: OCT-01-2002	DWG NO: 02534-03

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

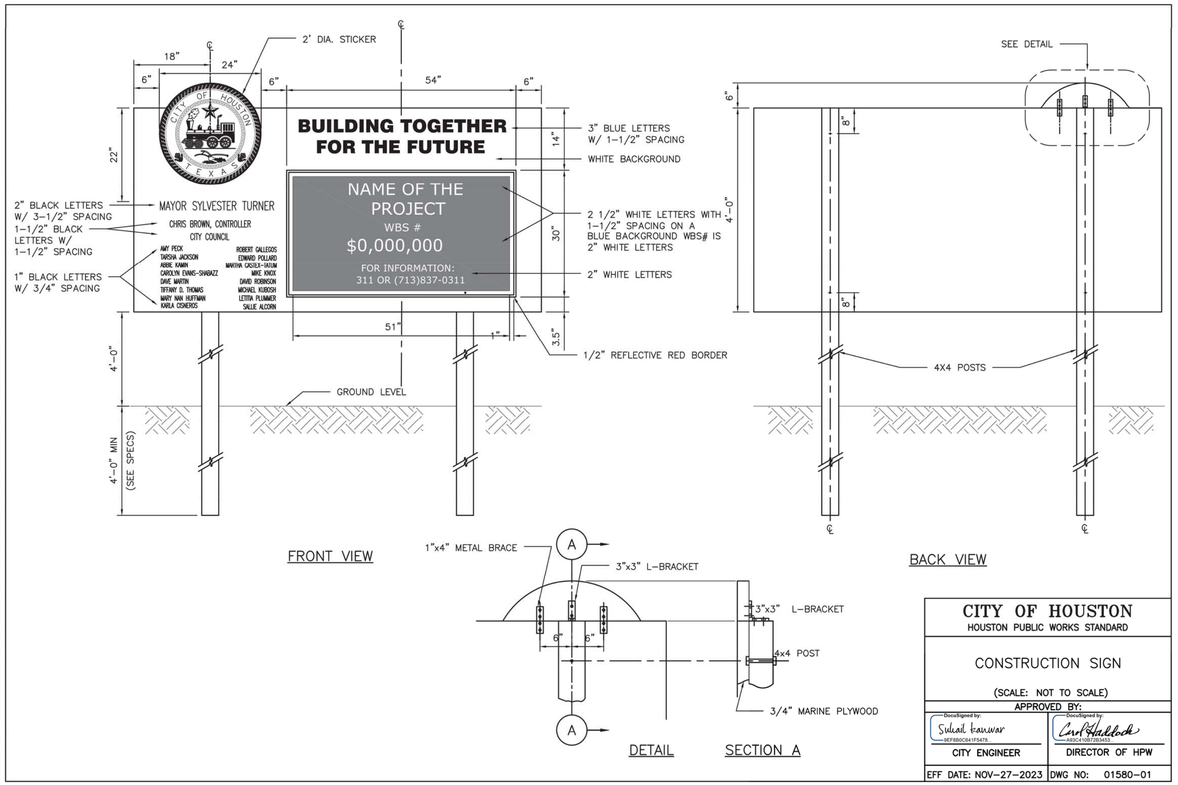
SANITARY SEWER SERVICE RECONNECTION DETAILS (2 OF 2)

WBS NO. R-01000-0036-3
DRAWING SCALE
NTS
CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.
SHEET NO. **100** OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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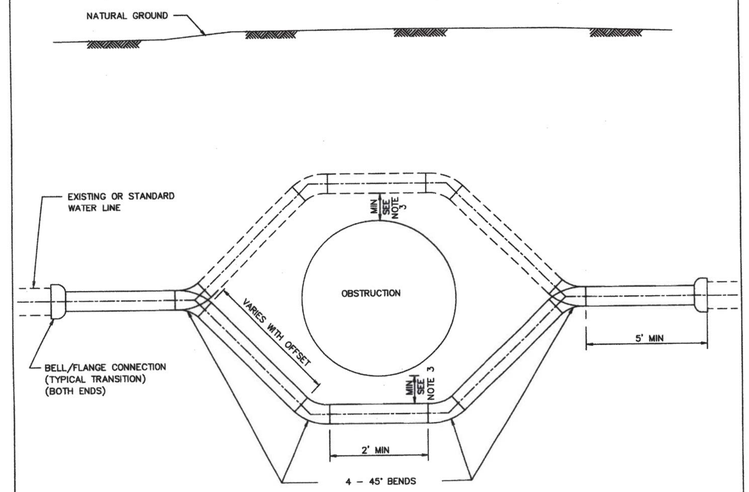


CITY OF HOUSTON HOUSTON PUBLIC WORKS STANDARD	
CONSTRUCTION SIGN (SCALE: NOT TO SCALE)	
APPROVED BY:	
Docusigned by: Suhail Tanwar CITY ENGINEER	Docusigned by: Carl Haddock DIRECTOR OF HPW
EFF DATE: NOV-27-2023	DWG NO: 01580-01

DISCLAIMER:
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NOTE:

1. MATERIALS AND COATINGS TO BE IN ACCORDANCE WITH WATER LINE STANDARD SPECIFICATIONS.
2. RESTRAIN EXISTING PIPING BEYOND STEEL SECTION AS REQUIRED TO PREVENT MOVEMENT.
3. AS PER DESIGN GUIDELINE.



PIPE OFFSET ALTERNATES

1. DUCTILE IRON PIPE PRESSURE 250 PSI WITH APPROVED RESTRAINED JOINTS.
2. PVC PIPE WITH INTEGRAL RESTRAINED JOINT SYSTEM, OR DUCTILE – IRON RESTRINED JOINT FITTINGS, EPOXY LINED AND COATED. USE 250 PSI AWWA C900 DR 14 FOR PVC RESTRAINED JOINTS.
3. PVC NOT ALLOWED FOR GREATER THAN 20 FT OF COVER OR FOR DIAMETER LARGER THAN 20 IN.
4. USE ONLY DUCTILE IRON AND PVC PRODUCTS LISTED ON OCE DIVISION APPROVED PRODUCTS LIST AND IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS.

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TYPICAL STEEL PIPE OFFSET SECTION FOR WATER LINES (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010	DWG NO: 02511-01

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA (NAME) 114252 (P.E. NO.)
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

CONSTRUCTION SIGN & PIPE OFFSET FOR WATER LINES DETAILS

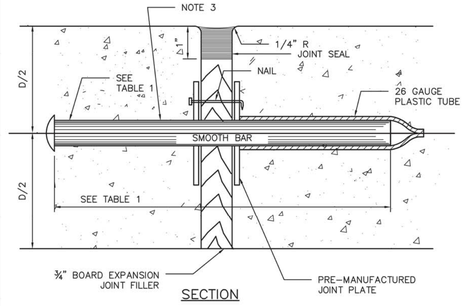
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CITY OF HOUSTON, PM SABEEN SHAIKH, P.E.	
SHEET NO. **101** OF 183	

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0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

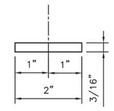
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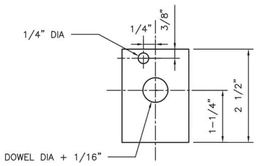
SECTION

DOWEL TYPE EXPANSION JOINT



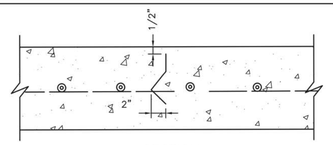
PLAN VIEW

JOINT PLATE



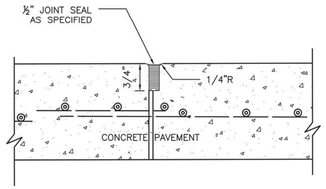
ELEVATION VIEW

JOINT PLATE



SECTION

DEFORMED METAL STRIP



SECTION

CONSTRUCTION JOINT SEAL

TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
6	3/4	18	12
7	1	18	12
8	1	18	12
9	1 1/4	18	12
10	1 1/4	18	12
11	1 1/4	18	12
12	1 1/4	18	12

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS. UNITS TO BE SPACED 12" CENTER ON CENTER.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE BASE. EXTEND THICKENED CONCRETE AS NEEDED TO MAINTAIN 3" MIN COVER.
5. CITY OF HOUSTON APPROVED PRODUCTS MAY BE USED AS JOINT PLATE ALTERNATIVE.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PAVEMENT EXPANSION AND CONSTRUCTION JOINT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

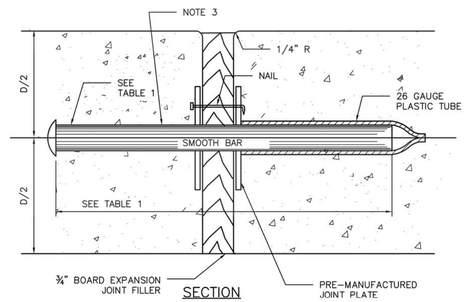
Docusigned by: Suhail Kanwar — CITY ENGINEER

Docusigned by: Khang Nguyen — CITY TRAFFIC ENGINEER

Docusigned by: Carl Haddock — DIRECTOR OF HPW

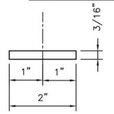
EFF DATE: NOV-27-2023 | DWG NO: 02752-01

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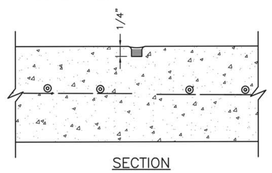
SECTION

DOWEL TYPE EXPANSION JOINT



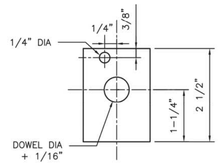
PLAN VIEW

JOINT PLATE



SECTION

CONTROL JOINT

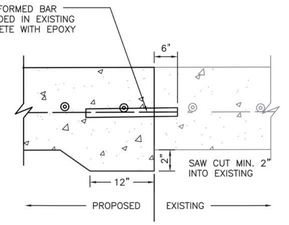


ELEVATION VIEW

JOINT PLATE

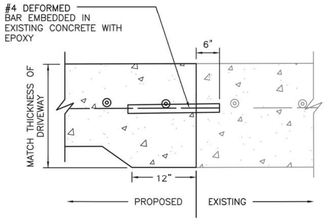
TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
4 1/2	1/2	18	12
5	1/2	18	12
6	3/4	18	12
7	1	18	12



SECTION

SIDEWALK TO EXISTING SIDEWALK



SECTION

SIDEWALK TO EXISTING DRIVEWAY

NOTES:

1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 3 FEET MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE 5 FEET.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN A 2 INCH MINIMUM COVER.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

SIDEWALK EXPANSION AND CONSTRUCTION JOINT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

Docusigned by: Suhail Kanwar — CITY ENGINEER

Docusigned by: Khang Nguyen — CITY TRAFFIC ENGINEER

Docusigned by: Carl Haddock — DIRECTOR OF HPW

EFF DATE: NOV-27-2023 | DWG NO: 02752-02

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Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
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MAHESH DUTTA (NAME) 114252 (P.E. NO.)

DATE 02/10/2026

TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

CONSTRUCTION & EXPANSION JOINT DETAILS

WBS NO.
R-01000-0036-3

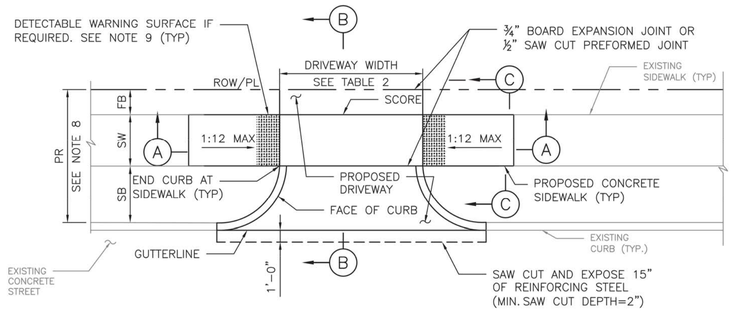
DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

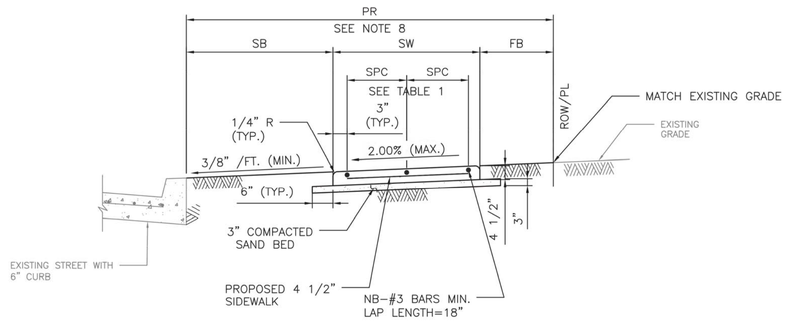
SHEET NO. **102** OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

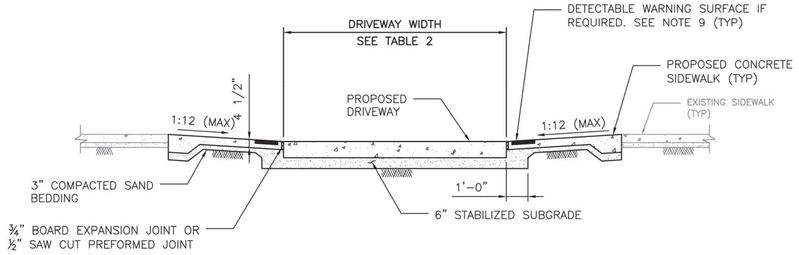
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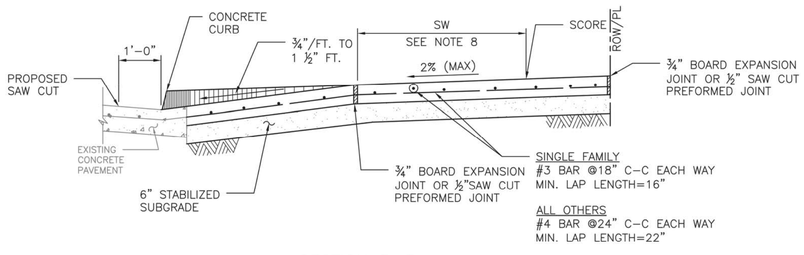
PLAN VIEW
DRIVEWAY



SECTION C–C
TYPICAL SIDEWALK SECTION



SECTION A–A
PROPOSED SIDEWALK THROUGH DRIVEWAY
WITH EXCESSIVE ELEVATION DIFFERENCE
WITH EXISTING SIDEWALK



SECTION B–B
TYPICAL DRIVEWAY SECTION

TABLE 1

REINFORCING STEEL INFORMATION
FOR 4 ½ " THICK SIDEWALKS
EXPANSION JOINT SPACING = 40 FT
fc' = 3,500 PSI AND fy = 60,000 PSI
REFER TO CONTRACT DRAWINGS FOR SIDEWALKS WIDER THAN 6 FEET.

SIDEWALK THICKNESS (IN)	SIDEWALK WIDTH (FT)	LONGITUDINAL STEEL #3 BARS			TRANSVERSE STEEL #3 BARS SPACING (IN)
		NO. OF BARS "NB"	SPACING "SPC" (IN)	END BAR SPACING (IN)	
4.5	5	3	27	3	48
4.5	6	4	22	3	48

TABLE 2

DRIVEWAY DESIGN CRITERIA (1)(2)

TRAFFIC TYPE	TYPE A DRIVEWAY (FOR SINGLE FAMILY RESIDENTIAL HOUSES OR DUPLEXES)				TYPE B DRIVEWAY (SHARED ACCESS/SHARED DRIVEWAY)				TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)			
	WIDTH (FT)		RADIUS (FT)		WIDTH (FT)		RADIUS (FT)		WIDTH (FT)		RADIUS (FT)	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
ONE–WAY	10	12	4	10	12(5)	16(5)	4(5)	10(5)	15	20	10	20
TWO–WAY	10(3)	24(4)	4	10	16(6)	24	4	10	24	35	10	20

(1) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTICLE 15.2.07.C.1.F FOR DRIVEWAYS THAT REQUIRE A VEHICLE SWEPT PATH ANALYSIS.
(2) REFER TO INFRASTRUCTURE DESIGN MANUAL ARTCILES 15.2.07.C.1.G.(1) AND 15.2.07.C.1.G.(2) FOR TYPE 1 PAE AND TYPE 2 PAE REQUIREMENTS.
(3) THE MINIMUM WIDTH FOR JOINT ACCESS DRIVEWAY IS 12 FT.
(4) REFER TO CHAPTER 42 OF THE CODE OF ORDINANCES FOR DRIVEWAY WIDTHS FOR NARROW LOTS.
(5) ONLY MURS AND COURTYARD STYLE DEVELOPMENTS ON CORNER LOTS CAN HAVE ONE–WAY DRIVEWAYS.
(6) REFER TO CHAPTER 42, SECTION 42–146 OF THE CODE OF ORDINANCES FOR EXCEPTIONS TO THE MINIMUM DRIVEWAY WIDTH FOR SHARED DRIVEWAYS.

NOTES:

1. REPAIR, RECONSTRUCTION OR REPLACEMENT OF SIDEWALKS SHALL MEET PERMITTING REQUIREMENTS OF CODE OF ORDINANCES SECTION 40–552.
2. FOR REPAIR, RECONSTRUCTION, OR REPLACEMENT OF EXISTING SIDEWALKS:
   - 2.1. EXISTING SIDEWALKS LESS THAN OR EQUAL TO 20 FEET IN TOTAL LENGTH:
     - 2.1.1. THE PROPOSED SIDEWALK WIDTH WILL BE ALLOWED TO MATCH THE EXISTING SIDEWALK.
   - 2.2. EXISTING SIDEWALKS GREATER THAN 20 FEET IN TOTAL LENGTH:
     - 2.2.1. THE SIDEWALK WIDTH FOR THE ENTIRE PROPERTY WIDTH SHALL BE IMPROVED TO MEET WIDTH REQUIREMENTS ACCORDING TO THE LATEST INFRASTRUCTURE DESIGN MANUAL.
   - 2.3. 20 FOOT TOTAL LENGTH IS DEFINED AS:
     - 2.3.1. UP TO 10 FEET ON BOTH SIDES OF THE DRIVEWAY; OR
     - 2.3.2. UP TO 20 FEET WHEN SIDEWALK AFFECTED IS LOCATED ONLY ON ONE SIDE OF THE DRIVEWAY.
3. ALL JOINTS ALONG THE SIDEWALK SHALL BE CONSTRUCTED ACCORDING TO DRAWING 02752–02 AND SPECIFICATION 02752.
4. DRIVEWAYS SHALL BE MINIMUM 6" THICK FOR SINGLE FAMILY AND DUPLEXES. DRIVEWAYS SHALL BE MINIMUM 7" THICK FOR ALL OTHERS (I.E. COMMERCIAL, INDUSTRIAL, ETC.)
5. DRIVEWAYS AND SIDEWALKS SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE AND INCLUDE 5 1/2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
6. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
7. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL *NOT* BE ACCEPTED BY THE CITY OF HOUSTON.
8. REFER TO CONTRACT DRAWINGS FOR PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
9. DETECTABLE WARNING SURFACES:
   - 9.1. SIDEWALK SHALL HAVE A DETECTABLE WARNING SURFACE WHERE:
     - 9.1.1. SIDEWALK INTERSECTS TYPE C DRIVEWAYS (COMMERCIAL DRIVEWAYS) THAT ARE STOP, YIELD, OR TRAFFIC SIGNAL CONTROLLED; OR
     - 9.1.2. SIDEWALK SLOPE IS GREATER THAN 1:20 AND INTERSECTS A TYPE C DRIVEWAY (COMMERCIAL DRIVEWAY)
   - 9.2. DETECTABLE WARNING SURFACES ARE OPTIONAL WHERE SIDEWALKS INTERSECT TYPE A DRIVEWAYS (SINGLE FAMILY RESIDENTIAL HOLSES OR DUPLEXES) OR TYPE B DRIVEWAYS (SHARED ACCESS/SHARED DRIVEWAYS).
   - 9.3. REFER TO STANDARD DETAILS 02775–06 TO 02775–07 FOR DETECTABLE WARNING SURFACE STANDARDS.

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukait Tanwar 9EFBB0C841F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER
APPROVED BY: DocuSigned by: Curt Haddock A83C410B72B3453...	
DIRECTOR OF HOUSTON PUBLIC WORKS	
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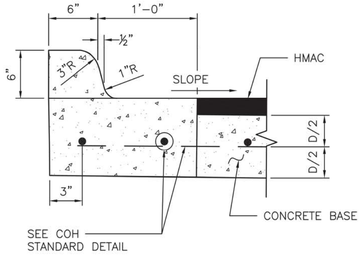
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DRIVEWAY AND SIDEWALK DETAILS

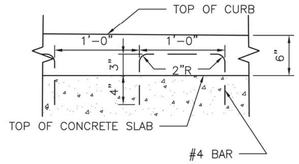
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DRAWING SCALE	NTS
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SHEET NO.	103 OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

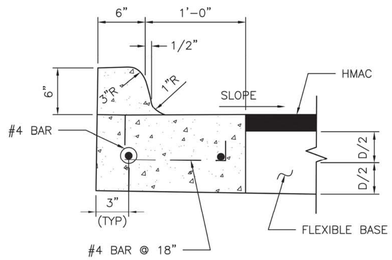
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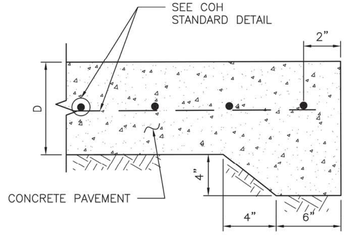
ESPLANADE CURB CONNECTED TO CONCRETE BASE



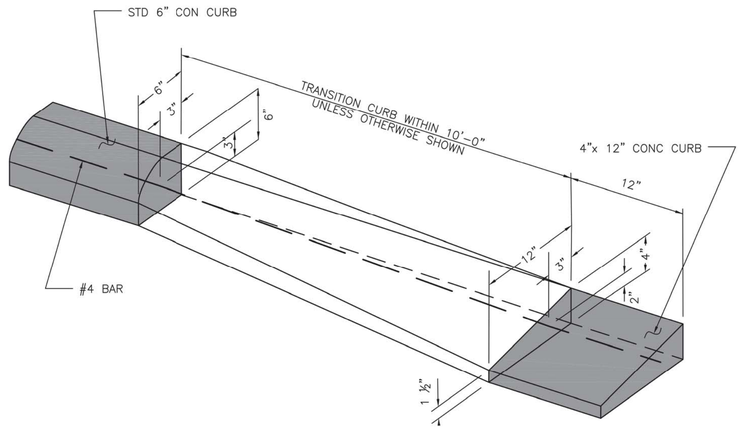
ALTERNATE CONCRETE CURB REINFORCEMENT



ESPLANADE CURB CONNECTED TO FLEXIBLE BASE

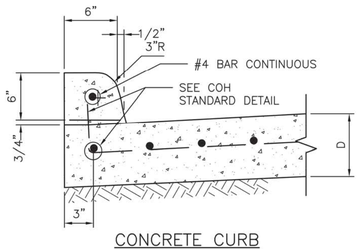


STANDARD CONCRETE PAVING HEADER

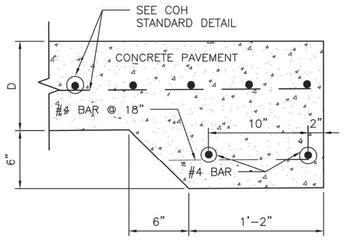


CURB TRANSITION

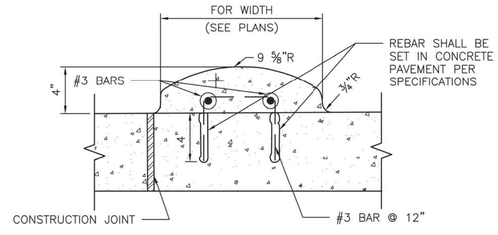
(SEE NOTES)



CONCRETE CURB

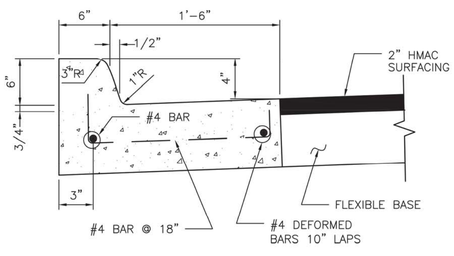


STANDARD RAILROAD HEADER

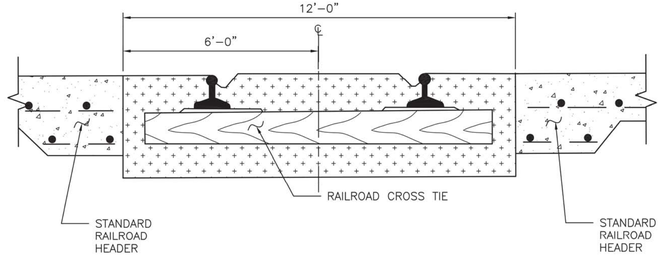


MOUNTABLE CURB

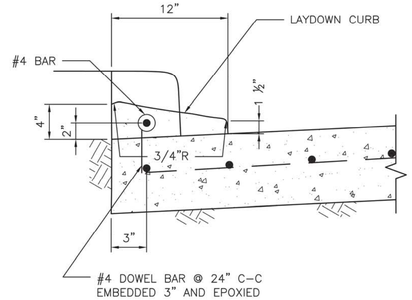
WHEN CONCRETE CURB IS TO BE PLACED EXISTING CONCRETE USE BASE #4 BAR @ 18x10" LONG, DOWELED AND SET IN EPOXY GROUT. SET #4 DOWEL BARS, 25" LONG AT 12" C–C WHEN PAVEMENT SECTION POURED.



MONOLITHIC CURB AND GUTTER

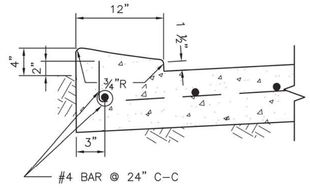


STANDARD RAILROAD CROSSING – SINGLE TRACK



4–INCH x 12–INCH TRANSITION CURB

(SEE NOTES)



4–INCH x 12–INCH MONOLITHIC CURB

(SEE NOTES)

4"x12" MONOLITHIC AND TRANSITION CURB NOTES:

1. 6–INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS, NON–RESIDENTIAL STREETS, AND RESIDENTIAL STREETS.
2. TRANSITIONS FROM 6– INCH CONCRETE CURB TO 4–INCH x 12–INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10–FEET TRANSITION CURB IS NOT POURED MONOLITHICALLY WITH THE PAVEMENT, THEN REINFORCING STEEL AS SHOWN IN "4–INCH x 12–INCH TRANSITION CURB" IS TO BE INSTALLED.

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CITY ENGINEER	CITY TRAFFIC ENGINEER

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DocuSigned by: Carol Haddock A83C4150726343...
DIRECTOR OF HCUSTON PUBLIC WORKS

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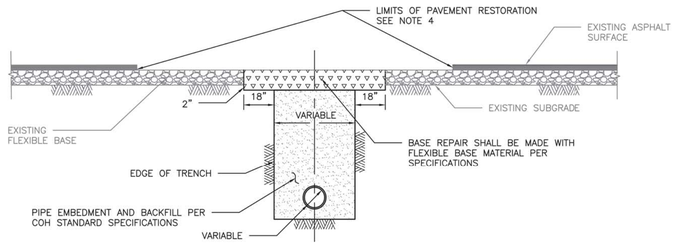
CURB, CURB AND GUTTER AND HEADER DETAILS

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DRAWING SCALE NTS	
CITY OF HOUSTON, PM SABEEN SHAIKH, P.E.	
SHEET NO. **104** OF 183	

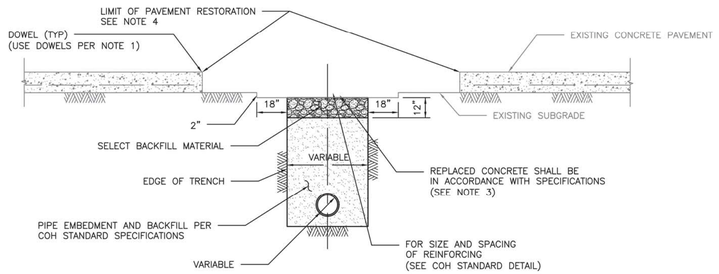
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ELEVATION A
REPAIR OF FLEXIBLE BASE PAVEMENT



ELEVATION B
REPAIR OF REINFORCED CONCRETE PAVEMENT

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 WITH ASPHALT, REPLACE WITH 2" MIN HMAC SURFACING.
3. REFER TO STANDARD DETAIL 02751–01 FOR REINFORCING STEEL REQUIREMENTS.
4. REFER TO STANDARD DETAIL 02951–01 THROUGH 03 FOR PAVEMENT RESTORATION LIMITS.

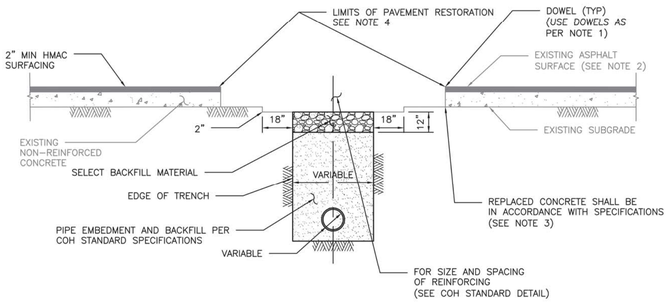
CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

PAVEMENT REPAIR DETAIL
FOR STREET CUTS
(FLEX–BASE PAVEMENT & CONCRETE PAVEMENT)
(SCALE: NOT TO SCALE)

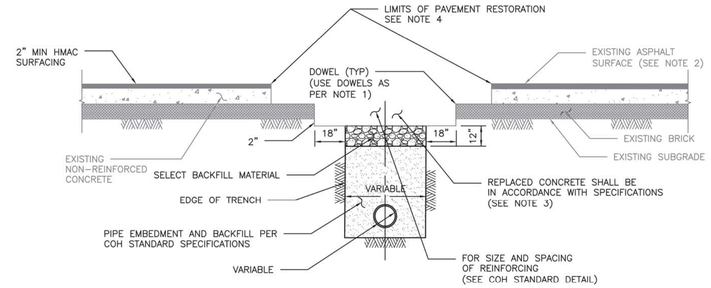
APPROVED BY:

DocuSigned by: Sukul Tanwar 9E7EB0C0A1F1447... CITY ENGINEER	DocuSigned by: Carl Haddock A93C410B72834E3... DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN 95A26EFDA75B4CD... CITY TRAFFIC ENGINEER	
EFF DATE: NOV–27–2023	DWG NO: 02951–04

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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: Sukul Tanwar 9E7EB0C0A1F1447... CITY ENGINEER	DocuSigned by: Carl Haddock A93C410B72834E3... DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN 95A26EFDA75B4CD... CITY TRAFFIC ENGINEER	
EFF DATE: NOV–27–2023	DWG NO: 02951–05

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
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TEL: (713) 270–5700
Texas Registered Engineering Firm No. F–4528
Texas Registered Surveying Firm No. 100282–00

SURVEYED BY: AMANI
FB NO.: P–6406

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MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F–4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

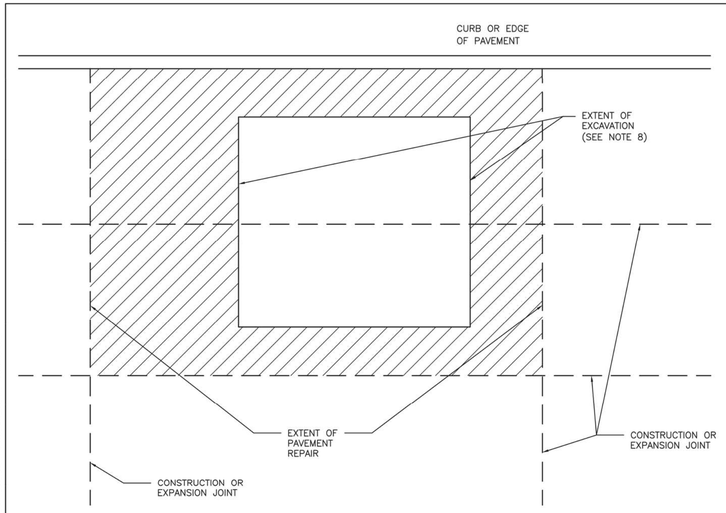
PAVEMENT REPAIR DETAILS
(1 OF 3)

WBS NO. R–01000–0036–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **105** OF 183	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 – COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\X–STD DETAILS.dwg Feb 10, 2026 3:22pm

DISCLAIMER:
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NOTES:

1. EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND PARALLEL TO TRAVEL WAY.
2. REPLACE ENTIRE PANEL WIDTH AND LENGTH TO NEAREST CONSTRUCTION OR EXPANSION JOINT BEYOND EDGE OF EXCAVATION.
3. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL WITHIN EXISTING PAVEMENT. PROVIDE HORIZONTAL DOWELS (PER SPECIFICATION SECTION 02951–PAVEMENT REPAIR AND RESTORATION) IF EXISTING REINFORCING IS BROKEN OFF.
4. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
5. MAINTAIN EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE DIRECTED BY CITY ENGINEER.
6. SPECIALTY PAVEMENTS (IE: BRICK PAVERS) TO BE REPLACED WITH MATCHING PAVEMENT IN ALL CASES.
7. REPLACE PAVEMENT MARKINGS IN ACCORDANCE WITH CITY OF HOUSTON STANDARD SPECIFICATIONS 02764–RAISED PAVEMENT MARKERS AND 02767–THERMOPLASTIC PAVEMENT MARKINGS.
8. EXTENT OF EXCAVATION INCLUDES 18" OVERCUT AS SHOWN ON STANDARD DETAIL 02951–04 PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX–BASE PAVEMENT & CONCRETE PAVEMENT).

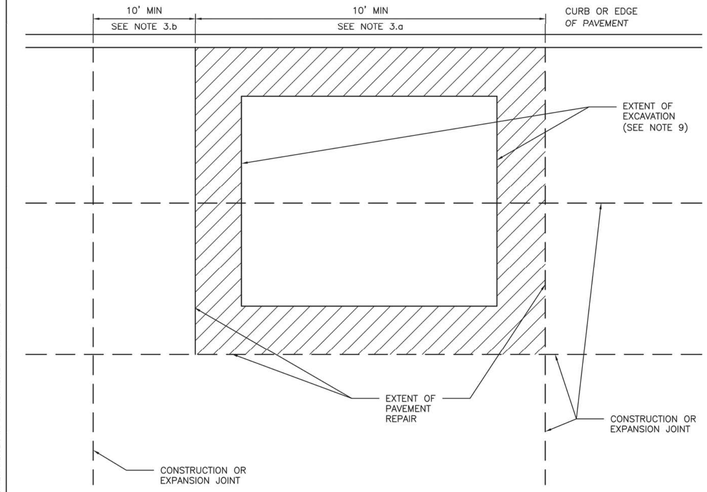
CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET CUT FOR CONCRETE PAVEMENT REPLACEMENT/RESTORATION AGE OF PAVEMENT ≤ 5YRS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukat Kanwar — CITY ENGINEER	DocuSigned by: Carl Stahlbock — DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER	
EFF DATE: NOV–27–2023	DWG NO: 02951–01

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NOTES:

1. EXTENT OF PAVEMENT REPAIR SHALL BE PERPENDICULAR AND *PARALLEL TO TRAVEL WAY.*
2. WIDTH:
   REPLACE PANEL WIDTH TO NEAREST CONSTRUCTION OR EXPANSION JOINT BEYOND EDGE OF EXCAVATION.
3. LENGTH:
   a. MINIMUM LENGTH OF PAVEMENT REPAIR ALONG TRAVEL WAY IS 10' FROM THE NEAREST JOINT.
   b. IF EXTENT OF PAVEMENT REPAIR IS LESS THAN 10' FROM EXISTING CONSTRUCTION OR EXPANSION JOINT, EXTEND PAVEMENT REPAIR TO EXISTING JOINT.
4. SAW CUT AND EXPOSE 15" OF REINFORCING STEEL AROUND EDGE OF PANEL REPLACEMENT. PROVIDE HORIZONTAL DOWELS (PER SPECIFICATION SECTION 02951–PAVEMENT REPAIR AND RESTORATION) IF REINFORCING IS BROKEN OFF OR DOES NOT EXIST.
5. REPLACE CURB WHEN ADJACENT LANE IS REPLACED.
6. MAINTAIN EXPANSION JOINTS AT EXISTING LOCATIONS UNLESS OTHERWISE DIRECTED BY CITY ENGINEER.
7. SPECIALTY PAVEMENTS (IE: BRICK PAVERS) TO BE REPLACED WITH MATCHING PAVEMENT IN ALL CASES.
8. REPLACE PAVEMENT MARKINGS IN ACCORDANCE WITH CITY OF HOUSTON STANDARD SPECIFICATIONS 02764–RAISED PAVEMENT MARKERS AND 02767–THERMOPLASTIC PAVEMENT MARKINGS.
9. EXTENT OF EXCAVATION INCLUDES 18" OVERCUT AS SHOWN ON STANDARD DETAIL 02951–04 PAVEMENT REPAIR DETAIL FOR STREET CUTS (FLEX–BASE PAVEMENT & CONCRETE PAVEMENT).

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

STREET CUT FOR CONCRETE PAVEMENT REPLACEMENT/RESTORATION AGE OF PAVEMENT > 5YRS
(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukat Kanwar — CITY ENGINEER	DocuSigned by: Carl Stahlbock — DIRECTOR OF HPW
DocuSigned by: KHANG NGUYEN — CITY TRAFFIC ENGINEER	
EFF DATE: NOV–27–2023	DWG NO: 02951–02

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Texas Registered Surveying Firm No. 100282–00

SURVEYED BY: AMANI
FB NO.: P–6406

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MAHESH DUTTA (NAME) 114252 (P.E. NO.)
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

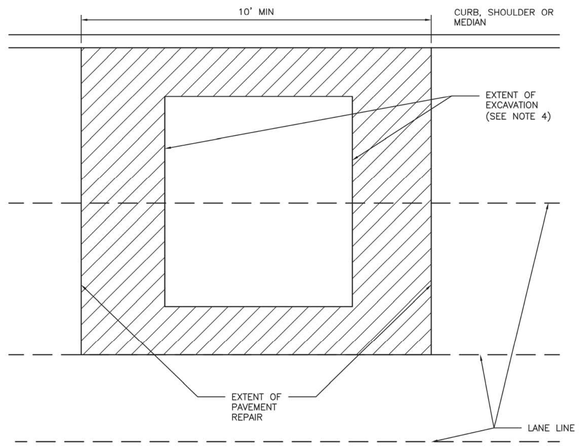
PAVEMENT REPAIR DETAILS
(2 OF 3)

WBS NO. R–01000–0036–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **106** OF 183	

0 1 2 3 ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

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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: Sukait Kanwar — CITY ENGINEER	DocuSigned by: Carl Haddock — DIRECTOR OF HPW
DocuSigned by: HANG NGUYEN — CITY TRAFFIC ENGINEER	
EFF DATE: NOV–27–2023	DWG NO: 02951–03

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MAHESH DUTTA (NAME) 114252 (P.E. NO.)
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

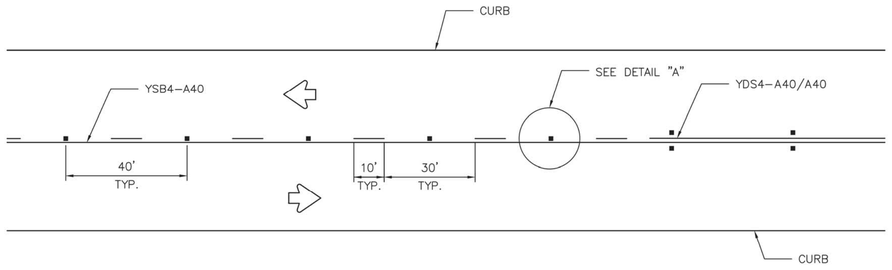
PAVEMENT REPAIR DETAILS
(3 OF 3)

WBS NO. R–01000–0036–3	
DRAWING SCALE	
NTS	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. **107** OF 183	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

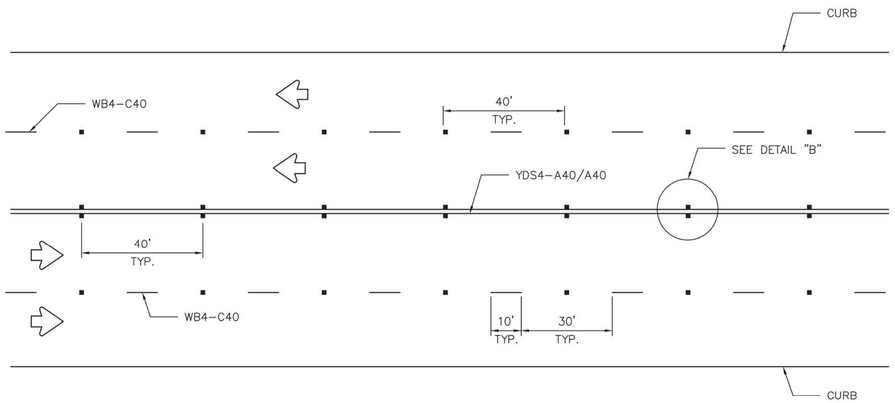
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CENTERLINE & FOR ALL TWO LANE STREETS WITH PASSING ZONE

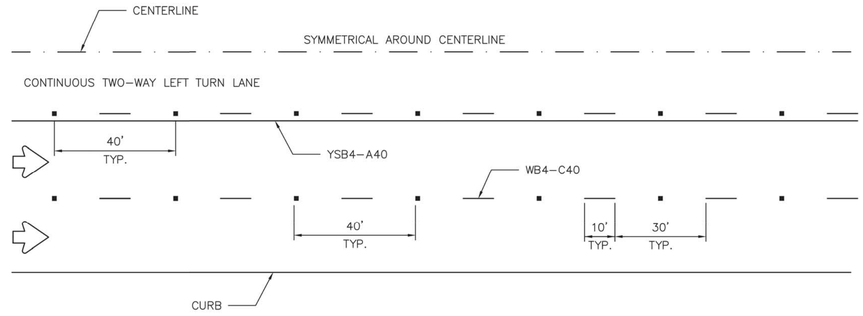


CENTERLINE & LANE LINES FOR FOUR LANE TWO–WAY STREETS

RRPM TYPE C, CLEAR FACE TOWARD NORMAL TRAFFIC, SHALL BE PLACED ON 40–FOOT CENTERS.

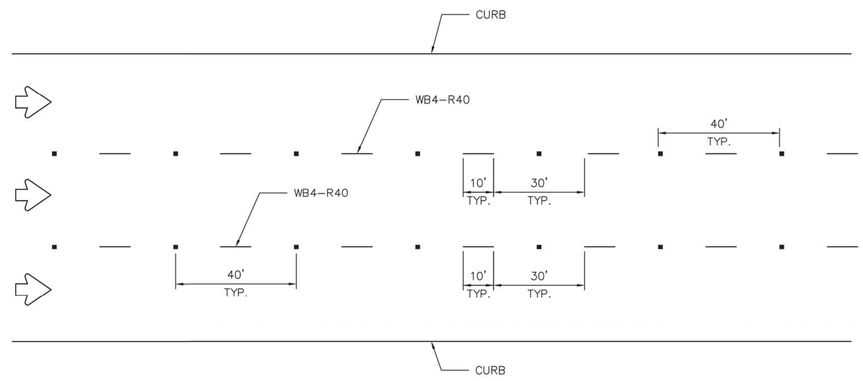


CENTERLINE & LANE LINES FOR TWO–WAY LEFT TURN LANE



LANE LINES FOR ONE–WAY MULTILANE STREET

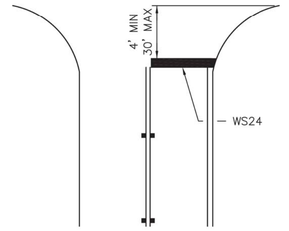
RRPM TYPE R SHALL HAVE CLEAR FACE TOWARD NORMAL TRAFFIC AND RED FACE TOWARD WRONG–WAY TRAFFIC.



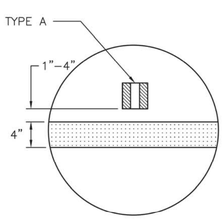
GENERAL NOTES:

1. EDGELINE ADJACENT TO CURB AND GUTTER IS NOT REQUIRED IN ALL CASES, HOWEVER SHALL BE PLACED AS DIRECTED BY CITY TRAFFIC ENGINEER.
2. THE TRAVELED WAY INCLUDES ONLY THAT PORTION OF THE ROADWAY USED FOR VEHICULAR TRAVEL AND NOT THE PARKING LANES, SIDEWALKS, BERMS AND SHOULDERS. THE TRAVELED WAYS SHALL BE MEASURED FROM THE INSIDE OF EDGELINE TO INSIDE OF EDGELINE OF A TWO LANE ROADWAY.
3. ALL RAISED PAVEMENT MARKERS PLACED IN BROKEN LINES SHALL BE PLACED IN LINE WITH AND MIDWAY BETWEEN THE STRIPES.
4. ON CONCRETE PAVEMENTS THE RAISED PAVEMENT MARKERS SHOULD BE PLACED TO ONE SIDE OF THE LONGITUDINAL JOINTS.
5. ALL PAVEMENT MARKING MATERIAL SHALL MEET THE REQUIRED MATERIAL SPECIFICATIONS AS SPECIFIED BY CITY OF HOUSTON STANDARD SPECIFICATIONS.

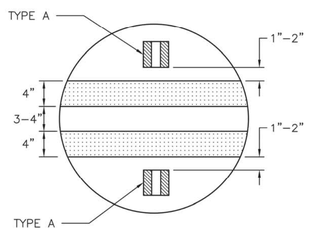
GUIDE FOR PLACEMENT OF STOP LINES & CENTERLINE



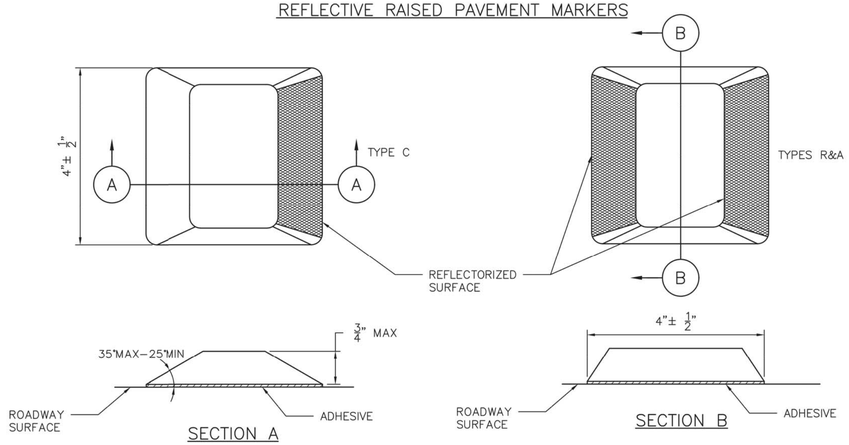
DETAIL "A"



DETAIL "B"



REFLECTIVE RAISED PAVEMENT MARKERS



APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar 9EF8B0C641F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carol Haddock A93C4108729345 3...
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV–27–2023 | DWG NO: 02760–05

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MAHESH DUTTA NAME — 114252 P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F–4528

SURVEYED BY: AMANI
FB NO.: P–6406

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

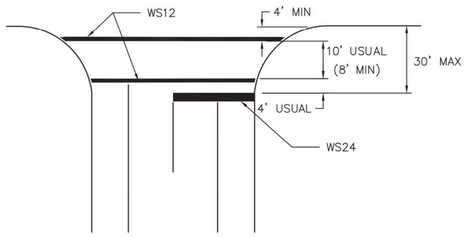
PAVEMENT MARKINGS DETAILS

WBS NO.	R–01000–0036–3
DRAWING SCALE	NTS
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO. **108** OF 183	

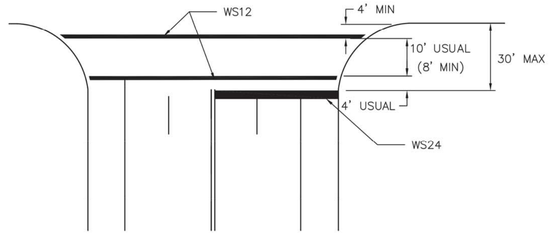
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

P:\Cadd\2024\24014 – COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\Y–STD DETAILS.dwg Feb 10, 2026 3:22pm

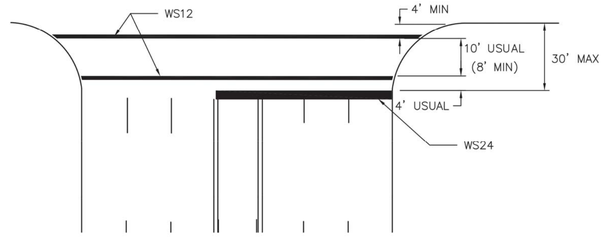
TWO LANES WITH SHOULDERS



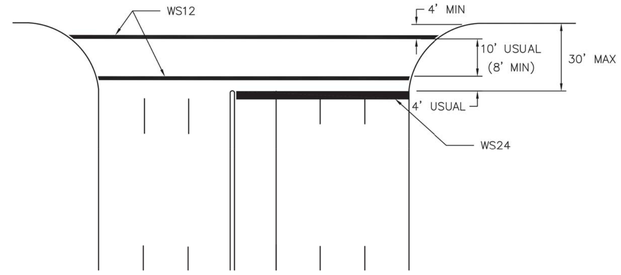
FOUR LANES WITH SHOULDERS



MULTI – LANES



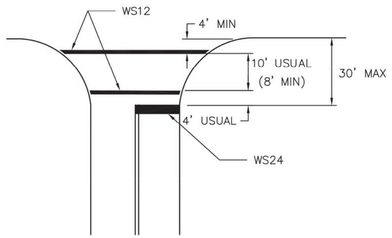
MULTI – LANE WITH MEDIAN



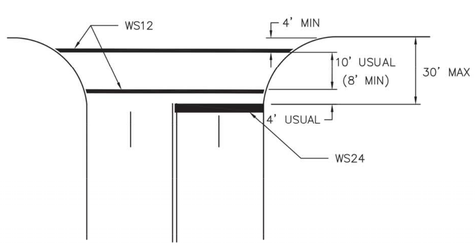
NOTES:

1. CROSSWALKS AND STOP LINES SHALL BE WHITE.
2. "D" IS EQUAL TO ONE HALF THE WIDTH OF TRAVEL LANE.

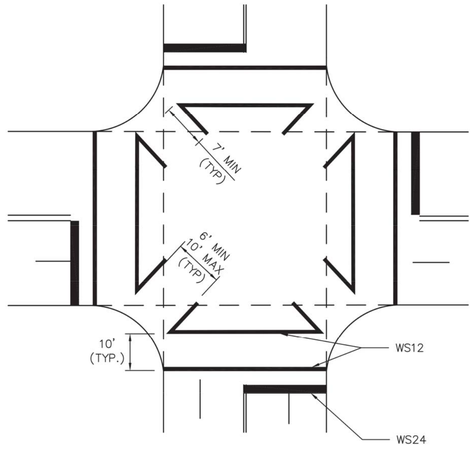
TWO LANES



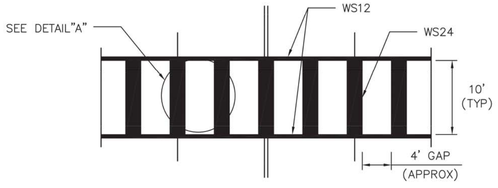
FOUR LANES



EXCLUSIVE PEDESTRIAN PHASE

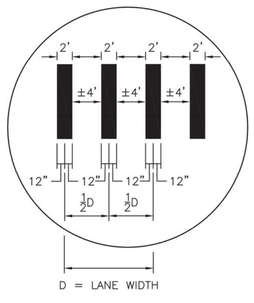


HIGH VISIBILITY CROSSWALK DETAIL



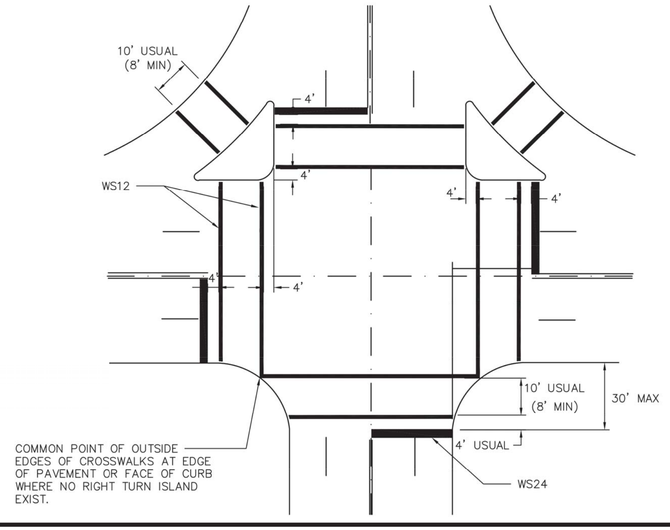
TYPICALLY USED AT SIGNALIZED AND NON–SIGNALIZED CROSSINGS ON COLLECTOR AND ARTERIAL ROADWAYS AND AT LOCATIONS REQUIRING EXTRA EMPHASIS.

DETAIL "A"



D = LANE WIDTH

INTERSECTION WITH RIGHT – TURN ISLANDS



COMMON POINT OF OUTSIDE EDGES OF CROSSWALKS AT EDGE OF PAVEMENT OR FACE OF CURB WHERE NO RIGHT TURN ISLAND EXIST.

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukait Kanwar 9EF8B0084 1F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA75B4CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:

DocuSigned by: Carol Haddock A93C41087283453...

DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV–27–2023 | DWG NO: 02760–12

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270–5700
Texas Registered Engineering Firm No. F–4528
Texas Registered Surveying Firm No. 100282–00

SURVEYED BY: AMANI
FB NO.: P–6406

PRELIMINARY

FOR INTERIM REVIEW ONLY

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

MAHESH DUTTA (NAME) 114252 (P.E. NO.)
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON

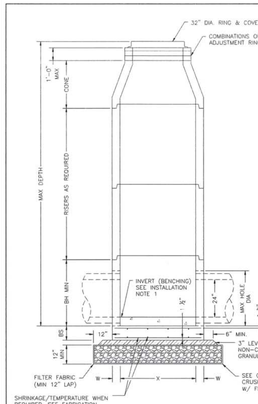
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

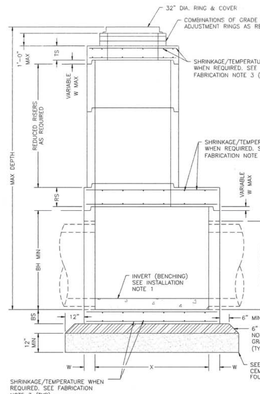
CROSSWALK DETAILS

WBS NO.	R–01000–0036–3
DRAWING SCALE	NTS
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	**109** OF 183

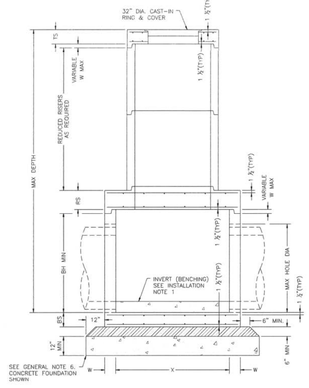
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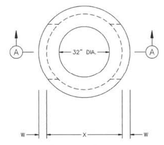
ELEVATION A–A
CONE TOP WITH SHIP LOOSE RING & COVER OPTION



ELEVATION B–B
FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION

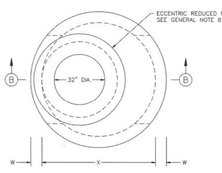


ELEVATION C–C
FLAT SLAB TOP WITH INVERTED RING & COVER OPTION



PLAN VIEW A
COVER NOT SHOWN

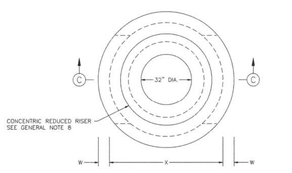
4–FT DIA MANHOLE



PLAN VIEW B
COVER NOT SHOWN

5–FT & 6–FT DIA MANHOLE

ECCENTRIC MANHOLE
(PREFERRED CONFIGURATION)



PLAN VIEW C
COVER NOT SHOWN

5–FT & 6–FT DIA MANHOLE

CONCENTRIC MANHOLE
(ALTERNATE CONFIGURATION)

TABLE 1

PRECAST ROUND MANHOLE (PRM) MINIMUM REQUIREMENTS FOR 24 IN. TO 42 IN. INTERNAL DIA STORM SEWER PIPES

	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.
		X	W	ID	RS	TS	MAX DEPTH	BH MIN	MAX HOLE DIA
		FT	IN.	IN.	IN.	IN.	FT.	IN.	IN.
PRM	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.

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 in^2/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 ¾".
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.

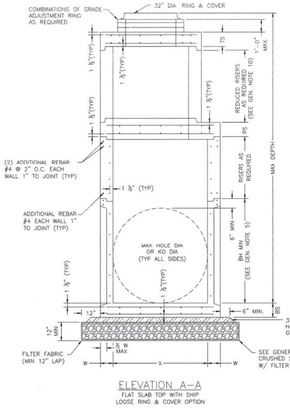
INSTALLATION NOTES:

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 ½ THE JOINT DEPTH, WHICHEVER IS GREATER.
3. DO NOT GROUT RUBBER GASKET JOINTS WITHOUT MANUFACTURER'S RECOMMENDATION.
4. INITIAL INSTALLATION OF GRADE ADJUSTMENT RINGS IS LIMITED TO 1'–0" MAX AS SHOWN.
5. 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.

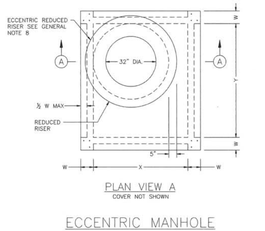
GENERAL NOTES:

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.

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



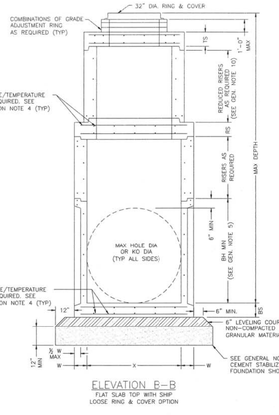
ELEVATION A–A
FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION



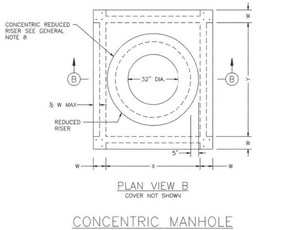
PLAN VIEW A
COVER NOT SHOWN

ECCENTRIC MANHOLE

(PREFERRED CONFIGURATION)



ELEVATION B–B
FLAT SLAB TOP WITH SHIP LOOSE RING & COVER OPTION



PLAN VIEW B
COVER NOT SHOWN

CONCENTRIC MANHOLE

(ALTERNATE CONFIGURATION)



PIPE CONNECTION DETAIL

CONNECT PIPES WITHIN 7° OF NORMAL TO PRECAST BASE WALL. IF NECESSARY, USE PIPE ELBOW OR CURVED APPROACH ALIGNMENT TO STAY WITHIN THIS LIMIT.

TABLE 1

PRECAST BOX MANHOLE (PBM) MINIMUM REQUIREMENTS FOR 24 IN. TO 78 IN. INTERNAL DIA STORM SEWER PIPES

	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 FAB. NOTE 11)	MAX KO DIA (SEE FAB. NOTE 11)
	X & Y	BS	W	ID	RS	TS	MAX DEPTH	BH MIN	MAX. HOLE DIA	KO DIA
	FT	IN.	IN.	FT.*	IN.	IN.	FT.	IN.	IN.	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
	8X8	9	10	48 IN.	12	9	25	8.50	96	96

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

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 RISER AND CONE IN ACCORDANCE WITH ASTM C478.
3. PROVIDE TYPICAL MINIMUM CONCRETE CLEAR COVER OF 1 ½" 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 in^2/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 SPIGOT DEPTH IS ¾".
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 6".
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 8" 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 ½ 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. MH 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: Suhail Kanwar CITY ENGINEER	APPROVED BY: Carl Hollidale DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL–01–2021	DWG NO: 02082–13

AMANI ENGINEERING, INC.
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HOUSTON, TEXAS 77024
TEL: (713) 270–5700
Texas Registered Engineering Firm No. F–4528
Texas Registered Surveying Firm No. 100282–00

SURVEYED BY: AMANI
FB NO.: P–6406

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MAHESH DUTTA 114252
NAME P.E. NO.

DATE 02/10/2026

TBPELS FIRM #F–4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

STORM SEWER DETAILS
(1 OF 2)

WBS NO.
R–01000–0036–3

DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

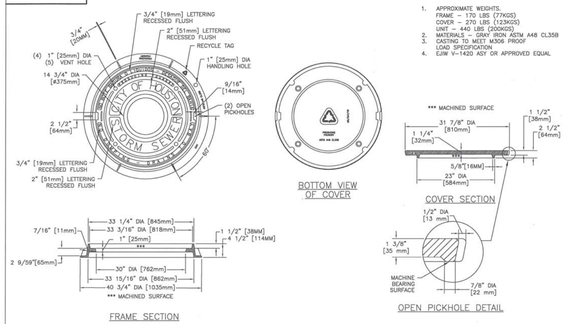
SHEET NO. **110** OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

P:\Cadd\2024\24014 – COH FY23 CRMP Area 6 & 12\CAD_DWG\STD Drawings\X–STD DETAILS.dwg Feb 10, 2026 3:22pm

02084-02

NOTES:
1. APPROXIMATE WEIGHTS.
   FRAME – 170 LBS (77KGS)
   COVER – 270 LBS (123KGS)
   UNIT – 440 LBS (200KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-1420 ASY OR APPROVED EQUAL



FRAME SECTION

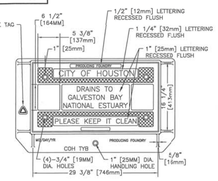
BOTTOM VIEW OF COVER

COVER SECTION

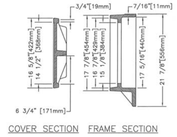
OPEN PICKHOLE DETAIL

STORM SEWER MANHOLE FRAME AND COVER
NTS

02084-03

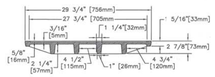


COVER SECTION

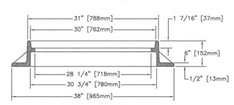


FRAME SECTION

NOTES:
1. APPROXIMATE WEIGHTS.
   FRAME – 125 LBS (57KGS)
   COVER – 130 LBS (59KGS)
   UNIT – 225 LBS (116KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-1420 ASY OR APPROVED EQUAL



COVER SECTION



FRAME SECTION

STORM SEWER TYPE "B" INLET ASSEMBLY
NTS

02084-04

COVER SECTION

FRAME SECTION

NOTES:
1. APPROXIMATE WEIGHTS.
   FRAME – 125 LBS (57KGS)
   COVER – 120 LBS (55KGS)
   I BEAM – 107 LBS (49KGS)
   UNIT – 597 LBS (271KGS)
2. MATERIALS – GRAY IRON ASTM A48 CL35B
3. CASTING TO MEET M306 PROOF LOAD SPECIFICATION
4. EJIW V-4243 ASY OR APPROVED EQUAL

COVER SECTION

COVER SECTION

FRAME SECTION

I BEAM DETAIL

STORM SEWER TYPE "BB" INLET DOUBLE ASSEMBLY
NTS

STORM SEWER TYPE "BB" INLET DOUBLE ASSEMBLY
NTS

FIRM INFORMATION | ENGINEER'S SEAL

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STORM SEWER
02084-02 THROUGH 04

APPROVED BY: CITY ENGINEER | APPROVED BY: DEPUTY DIRECTOR
APPROVED BY: DIRECTOR
EFFECTIVE DATE: JUL-01-2019
FOR CITY OF HOUSTON USE ONLY

SHEET NO.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-6406

PRELIMINARY

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MAHESH DUTTA — NAME
114252 — P.E. NO.
02/10/2026 — DATE
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

STORM SEWER DETAILS
(2 OF 2)

WBS NO.
R-01000-0036-3

DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

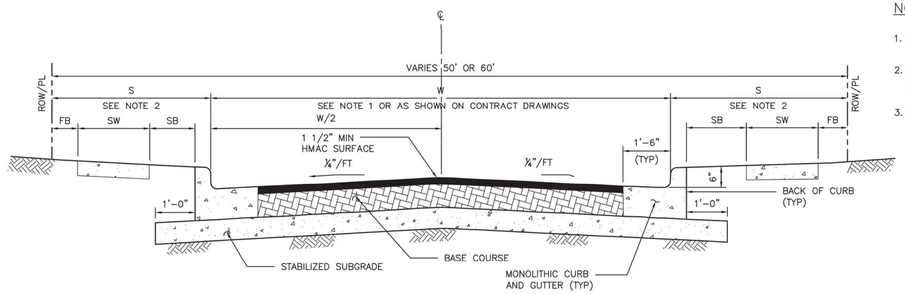
SHEET NO. **111** OF 183

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

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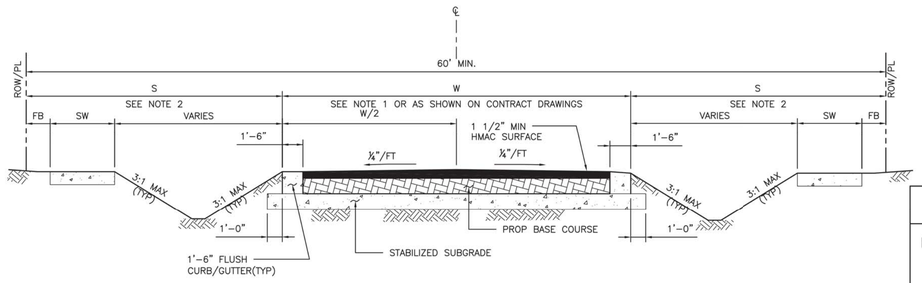
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HMAC PAVEMENT – CURB & GUTTER SECTION

(NOT APPLICABLE TO ETJ OF CITY OF HOUSTON)



HMAC PAVEMENT – DITCH SECTION

(NOT APPLICABLE TO ETJ OF CITY OF HOUSTON)

NOTES:

1. FOR TRAVEL WAY WIDTH (W) REFER TO IDM SECTION 10.3.03.A.
2. REFER TO CONTRACT DRAWINGS FOR "S" DIMENSION (S), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.
3. BASE COURSE SHALL BE:
   ALTERNATES:
   A) 6" (MIN) HOT MIX ASPHALTIC CONCRETE.
   B) 8" (MIN) CRUSHED CONCRETE.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

HOT MIX ASPHALTIC CONCRETE PAVEMENT DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Sukut Kunwar — CITY ENGINEER
DocuSigned by: Carl Haddock — DIRECTOR OF HPW
DocuSigned by: HAING NGUYEN — CITY TRAFFIC ENGINEER

EFF DATE: NOV-27-2023 | DWG NO: 02741-01

AMANI ENGINEERING, INC.
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SURVEYED BY: AMANI
FB NO.: P-6406

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MAHESH DUTTA (NAME) 114252 (P.E. NO.)
DATE 02/10/2026
TBPELS FIRM #F-4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

HOT MIX ASPHALTIC CONCRETE PAVEMENT DETAILS

WBS NO.
R-01000-0036-3

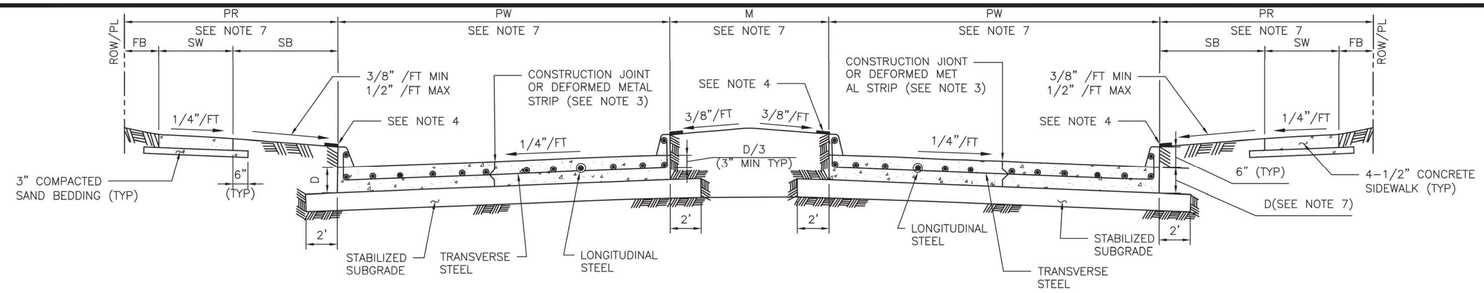
DRAWING SCALE
NTS

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

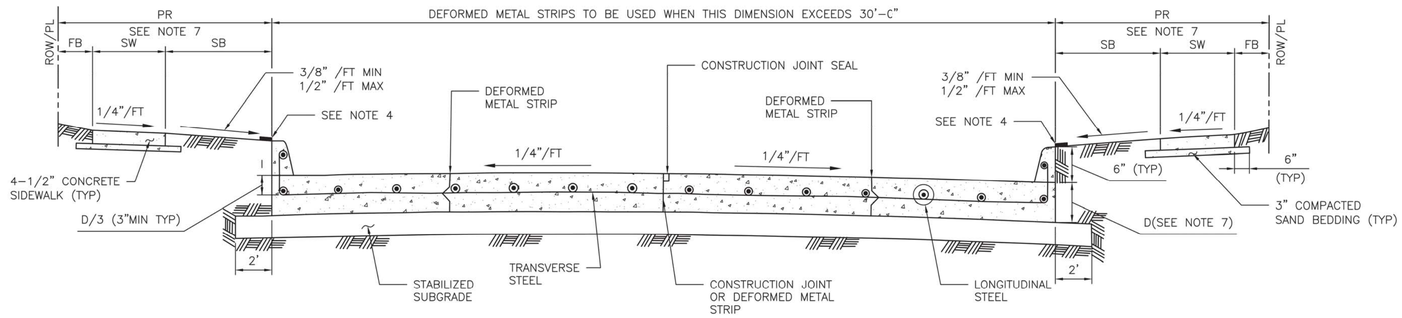
SHEET NO. **112** OF 183

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0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



TYPICAL DOUBLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS



TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS

TABLE 1

REINFORCING STEEL BAR SIZES AND SPACINGS FOR VARIOUS PAVEMENT THICKNESSES (D) WITH: MAXIMUM TRANSVERSE CONTROL JOINT SPACING = 20'–0"
MAXIMUM EXPANSION JOINT SPACING = 80'–0"
fc' = 4,000 PSI/28 DAYS AND FY = 60,000 PSI

PAVEMENT THICKNESS 'D' (IN)	PAVEMENT WIDTH 'PW' (FT)	LONGITUDINAL STEEL									TRAVERSE STEEL		
		#4 BARS			#5 BARS			#6 BARS			#4 BARS	#5 BARS	#6 BARS
		NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACING (IN)	END BAR SPACING (IN)	NUMBER OF BARS	SPACNG (IN)	END BAR SPACING (IN)	SPACING (IN)	SPACING (IN)	SPACING (IN)
6	28	17	20.50	4.00	–	–	–	–	–	–	36	–	–
7	25	17	18.25	4.00	–	–	–	–	–	–	36	–	–
7	35	24	18.00	3.00	–	–	–	–	–	–	36	–	–
7	36	25	17.75	3.00	–	–	–	–	–	–	36	–	–
7	37	25	18.25	3.00	–	–	–	–	–	–	36	–	–
7	41	28	18.00	3.00	–	–	–	–	–	–	36	–	–
7	45	31	17.75	3.75	–	–	–	–	–	–	36	–	–
8	25	20	15.50	2.75	13	24.50	3.0	–	–	–	36	36	–
8	34	27	15.50	2.50	17	25.00	4.0	–	–	–	36	36	–
8	35	27	16.00	2.00	18	24.25	4.0	–	–	–	36	36	–
8	36	28	15.75	3.25	18	25.00	3.0	–	–	–	30	36	–
8	44	24	15.75	4.00	22	24.75	4.0	–	–	–	30	36	–
8	45	35	15.75	2.25	23	24.25	3.0	–	–	–	30	36	–
9	25	22	14.00	3.00	14	22.50	4.0	–	–	–	36	36	–
9	34	31	13.50	2.00	19	22.25	3.5	–	–	–	30	36	–
9	35	31	13.75	3.75	20	21.75	3.5	–	–	–	30	36	–
9	36	32	13.75	3.00	21	21.25	3.5	–	–	–	30	36	–
9	44	39	13.75	2.75	25	21.75	3.0	–	–	–	24	36	–
9	45	39	14.00	4.00	26	21.25	4.5	–	–	–	24	36	–
10	25	24	12.75	3.50	17	18.25	4.0	–	–	–	36	36	36
10	34	33	12.50	4.00	21	20.00	4.0	–	–	–	30	36	36
10	35	34	12.50	3.75	23	18.75	4.0	–	–	–	30	36	36
10	36	35	12.50	3.50	24	18.50	3.0	–	–	–	30	36	36
10	44	44	12.00	4.00	29	18.50	4.5	–	–	–	24	36	36
10	45	44	12.50	3.00	29	19.00	3.0	–	–	–	24	36	36
11	25	27	11.25	3.00	17	18.25	4.0	12	26.75	3	36	36	36
11	34	36	11.50	2.75	24	17.50	2.5	17	25.00	4	24	36	36
11	35	37	11.50	3.00	24	18.00	3.0	17	25.75	4	24	36	36
11	36	40	11.00	2.00	25	17.75	3.0	17	26.50	4	24	36	36
11	44	48	11.125	2.50	30	18.00	3.0	21	26.00	4	24	36	36
11	45	49	11.125	3.00	31	17.75	4.0	22	25.50	3	24	36	36
12	25	–	–	–	19	16.25	4.0	13	24.50	3	36	36	36
12	34	–	–	–	26	16.00	4.0	18	23.50	4	24	36	36
12	35	–	–	–	26	16.50	4.0	19	23.00	3	24	36	36
12	36	–	–	–	27	16.25	4.5	20	22.25	4.5	24	36	36
12	44	–	–	–	33	16.25	4.0	24	22.50	5	24	30	36
12	45	–	–	–	35	15.75	3.0	25	22.25	3	24	30	36

MINIMUM LAP LENGTH (L):
A. # 4 BARS ; L = 22 INCHES
B. # 5 BARS ; L = 27 INCHES
C. # 6 BARS ; L = 32 INCHES

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

NOTES:

1. THE MAXIMUM WIDTH BETWEEN LONGITUDINAL JOINTS SHALL NOT EXCEED 15'–0".
2. ALL EARTHEN AREAS ARE TO BE HYDROMULCHED UNLESS SHOWN OTHERWISE ON DRAWINGS.
3. CONTRACTOR MAY SAW CUT IN LIEU OF DEFORMED METAL STRIP.
4. USE STRIP OF SOD GRASS TO PREVENT EROSION UNTIL STAND OF GRASS IS ESTABLISHED.
5. AN EQUAL OR LARGER AREA OF WELDED REINFORCEMENT BAR CONFORMING TO ASTM A497, MAY BE SUBSTITUTED FOR REBARS LISTED IN TABLE 1.
6. IF AVAILABLE ROW IS NOT SUFFICIENT TO ACCOMMODATE SIDEWALK WIDTH (SW) ACCORDING TO IDM REQUIREMENTS, ENGINEER SHALL OBTAIN A VARIANCE FROM THE CITY ENGINEER.
7. REFER TO CONTRACT DRAWINGS FOR PAVEMENT WIDTH (PW) AND PAVEMENT THICKNESS (D), MEDIAN (M), PEDESTRIAN REALM (PR), SIDEWALK (SW), FRONTAGE BUFFER (FB), AND SAFETY BUFFER (SB) WIDTHS.

APPROVED BY:
DocuSigned by: Sukait Kanwar
CITY ENGINEER

APPROVED BY:
DocuSigned by: KHANG NGUYEN
CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carol Haddock
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV–27–2023
DWG NO: 02751–01

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11011 RICHMOND AVENUE, SUITE 700
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SURVEYED BY: AMANI
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MAHESH DUTTA 114252
NAME P.E. NO.
DATE 02/10/2026
TBPELS FIRM #F–4528

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

CONCRETE PAVEMENT DETAILS

WBS NO.
R–01000–0036–3

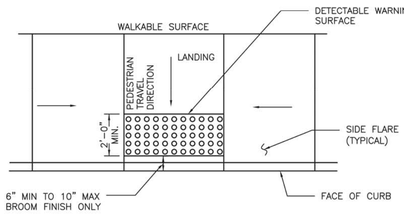
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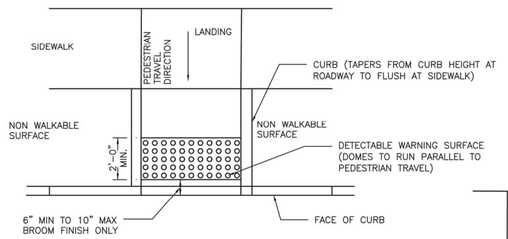
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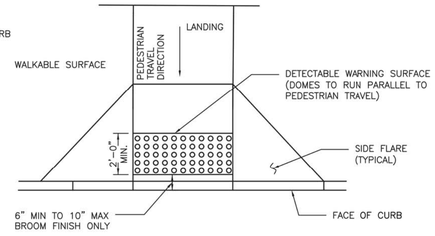
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TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE





TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN

GENERAL NOTES FOR DETECTABLE WARNINGS:

1. DETECTABLE WARNING SURFACES MUST BE FULLY ADA COMPLIANT.
2. ALL NEW CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES. THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACE, INCLUDING SIDE FLARES. FURNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
3. DETECTABLE WARNING SURFACES MUST MAINTAIN A SLIP RESISTANCE WITH FA–VALUE OF EQUAL TO OR GREATER THAN 0.8.
4. DETECTABLE WARNING SURFACES MUST MAINTAIN A WATER ABSORPTION RATE OF LESS THAN 1%, DETECTABLE WARNING SHALL NOT ALLOW WATER TO ACCUMULATE.
5. DETECTABLE WARNINGS INSTALLED INTO FRESH CONCRETE SHALL BE WITHOUT VOIDS AND UTILIZING AN ACCEPTABLE ANCHORING SYSTEM.
6. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
7. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
8. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6" MIN TO 10" MAX FROM THE DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
9. ALL RAMPS AND SIDEWALKS/WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOUSTON PUBLIC WORKS STANDARDS, TEXAS ACCESSIBILITY STANDARDS (TAS) AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. IF THERE IS A CONFLICT IN THE REQUIREMENTS, THE STRICTEST REQUIREMENTS SHALL GOVERN.
10. CURB RAMPS THAT ARE STEEPER THAN A 1:12 MAX SLOPE WILL NOT BE ACCEPTED BY THE CITY OF HOUSTON.

DISCLAIMER:
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

DETECTABLE WARNING CURB RAMP DETAILS

(SCALE: NOT TO SCALE)

APPROVED BY:

DocuSigned by: Suhail Kanwar — CITY ENGINEER

DocuSigned by: Hang Nguyen — CITY TRAFFIC ENGINEER

DocuSigned by: Carol Haddock — DIRECTOR OF HPW

EFF DATE: NOV–27–2023 | DWG NO: 02775–06

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DATE 02/10/2026
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

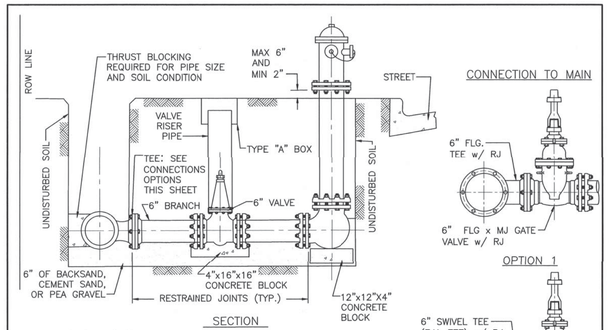
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
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DETECTABLE WARNING
CURB RAMP DETAILS

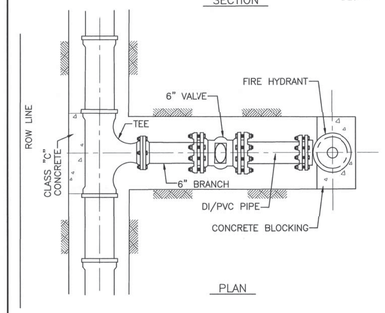
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DRAWING SCALE	NTS
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	**114** OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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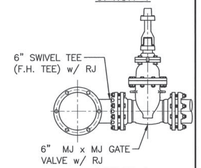
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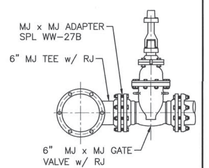
PLAN

CONNECTION TO MAIN

OPTION 1



OPTION 2



OPTION 3

NOTES:

1. LOCATE FIRE HYDRANTS AT POINT OF CURVATURE (PC) OR POINT OF TANGENCY (PT) OF THE INTERSECTION CURB RADIUS, 3 FEET BEHIND CURB OR PROJECTED FUTURE CURB.
2. ON OPEN-DITCH ROADWAYS, SET THE FIRE HYDRANTS WITH IN 5 FEET OF RIGHT-OF-WAY LINES.
3. FIRE HYDRANT STEAMER NOZZLE SHALL FACE THE STREET.
4. LOCATE HYDRANT VALVE IMMEDIATELY ADJACENT TO WATER LINE.
5. ALL PIPING TO BE RESTRAINED JOINTS.

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

STANDARD FIRE HYDRANT DETAIL

(NOT TO SCALE)

APPROVED BY:	APPROVED BY:
Suhail Kanuga, CITY ENGINEER	DIRECTOR OF HOUSTON PUBLIC WORKS
EFF DATE: JUL - 01 - 2021	DWG NO: 02520-01

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
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TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

Aurora Technical Services, LLC
engineering + construction management
TX FIRM NO. F-2059
2121 SAGE RD, SUITE 150
HOUSTON, TEXAS 77056
PHONE: 281-453-7700

SURVEYED BY: AMANI
FB NO.: P-

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WILLIAM M. WILSHIRE III, P.E.
Engineer
94193
Registration Number
1/16/2026
Date

Aurora Technical Services, LLC
Texas Registered Engineering Firm F-2059

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

STANDARD WATER LINE DETAILS
SHEET (1 OF 3)

WBS NO.
R-01000-0036-3

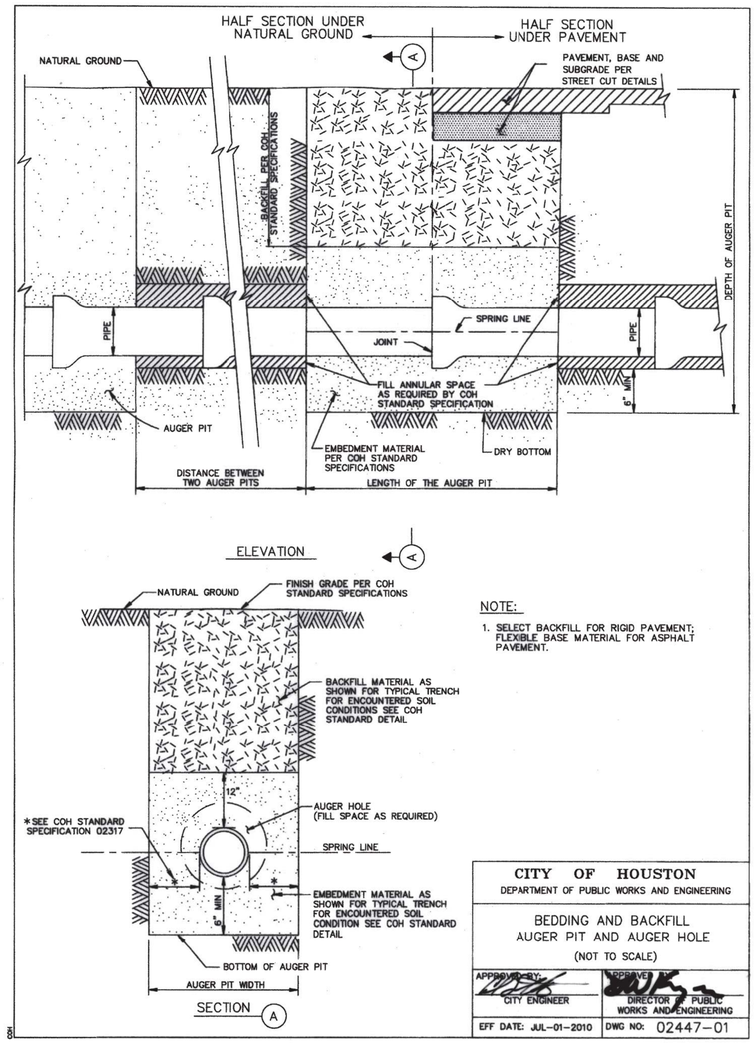
DRAWING SCALE
AS SHOWN

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 115 OF 183

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0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



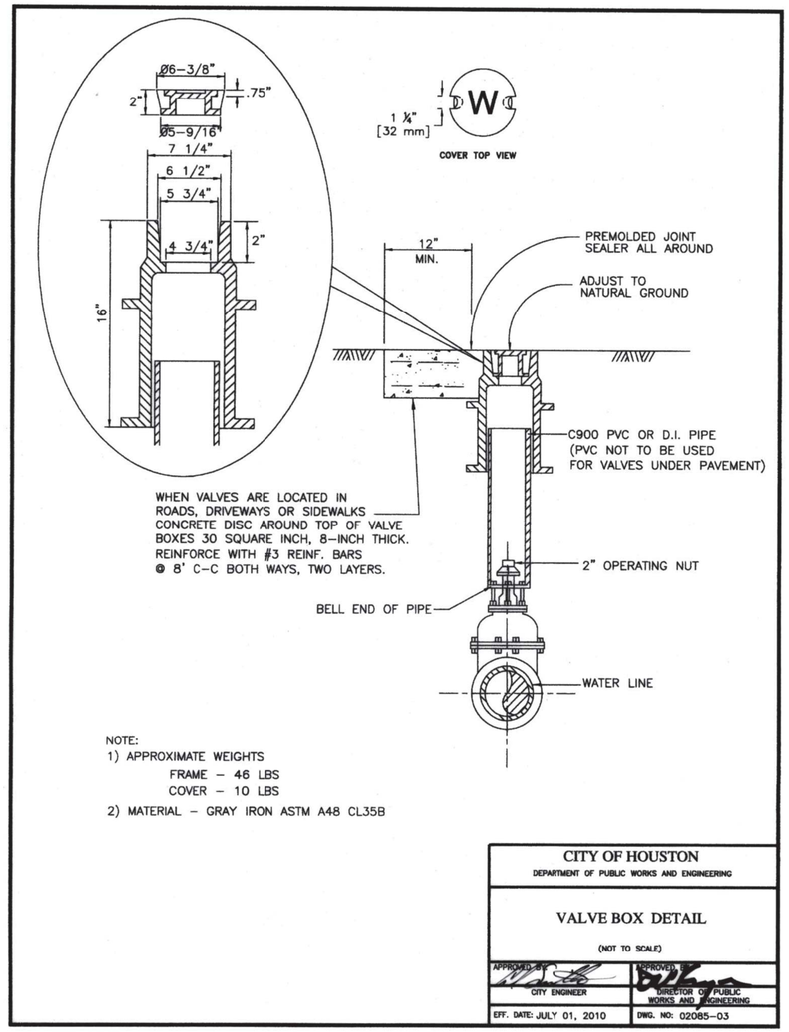
NOTE:

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

BEDDING AND BACKFILL
AUGER PIT AND AUGER HOLE
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2010	DWG NO: 02447-01



NOTE:
1) APPROXIMATE WEIGHTS
FRAME – 46 LBS
COVER – 10 LBS
2) MATERIAL – GRAY IRON ASTM A48 CL35B

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

VALVE BOX DETAIL
(NOT TO SCALE)

APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF. DATE: JULY 01, 2010	DWG. NO: 02085-03

AMANI ENGINEERING, INC.
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SURVEYED BY: AMANI
FB NO.: P-

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WILLIAM M. WILSHIRE III, P.E.
94191
Registered Number
1/16/2026
Date
Aurora Technical Services, LLC
Texas Registered Engineering Firm F-2059

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

STANDARD WATER LINE DETAILS
SHEET (2 OF 3)

WBS NO. R-01000-0036-3	
DRAWING SCALE	
AS SHOWN	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 116 OF 183	

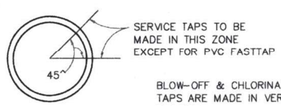
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0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

PIPE TAPPING SCHEDULE

WATER MAIN TYPE AND DIAMETER	SERVICE SIZE			
	3/4"	1"	1 1/2"	2"
4" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
4" ASBESTOS (EXISTING) CEMENT	WBSS	WBSS	DSS, WBSS	DSS, WBSS
4" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" ASBESTOS (EXISTING) CEMENT	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" AND 8" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" CAST IRON OR DUCTILE IRON	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" ASBESTOS (EXISTING) CEMENT	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
16" AND UP CAST IRON OR DUCTILE IRON	DWBSS	DWBSS	DWBSS	DWBSS
16" AND UP ASBESTOS (EXISTING) CEMENT	DWBSS	DWBSS	DWBSS	DWBSS
16" AND UP PVC (AWWA C900)	DWBSS	DWBSS	DWBSS	DWBSS

DSS – DUAL STRAP SADDLES
WBSS – WIDE BAND STRAP SADDLES
DWBSS – DUAL WIDE BAND STRAP SADDLES





WIDE BAND SINGLE SADDLE OR DUAL SADDLES

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DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

SERVICE TAPS

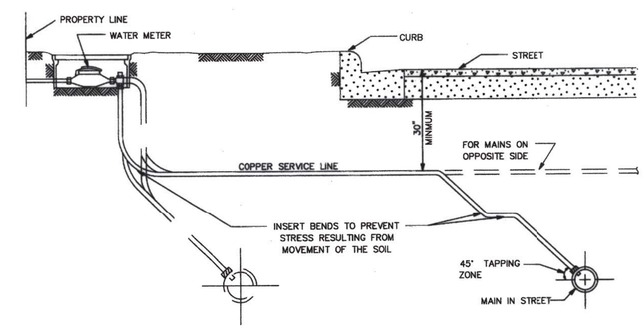
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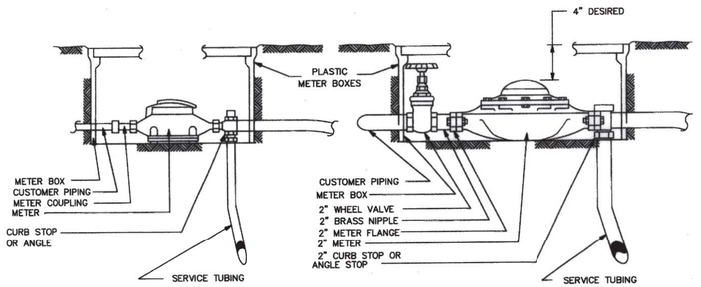
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NOTES:

1 1/2" METER SET IS SAME AS 2" EXCEPT WHEEL VALVE IS NOT REQUIRED.



TYPICAL SECTION SERVICE LINE



5/8", 3/4" AND 1" METER SET

2" METER SET

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

TYPICAL METER SETTINGS

(NOT TO SCALE)

APPROVED BY: CITY ENGINEER | APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010 | DWG NO: 02526-01

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engineering + construction management
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PHONE: 281-453-7700

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Registration Number
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Date

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Texas Registered Engineering Firm F-2059

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

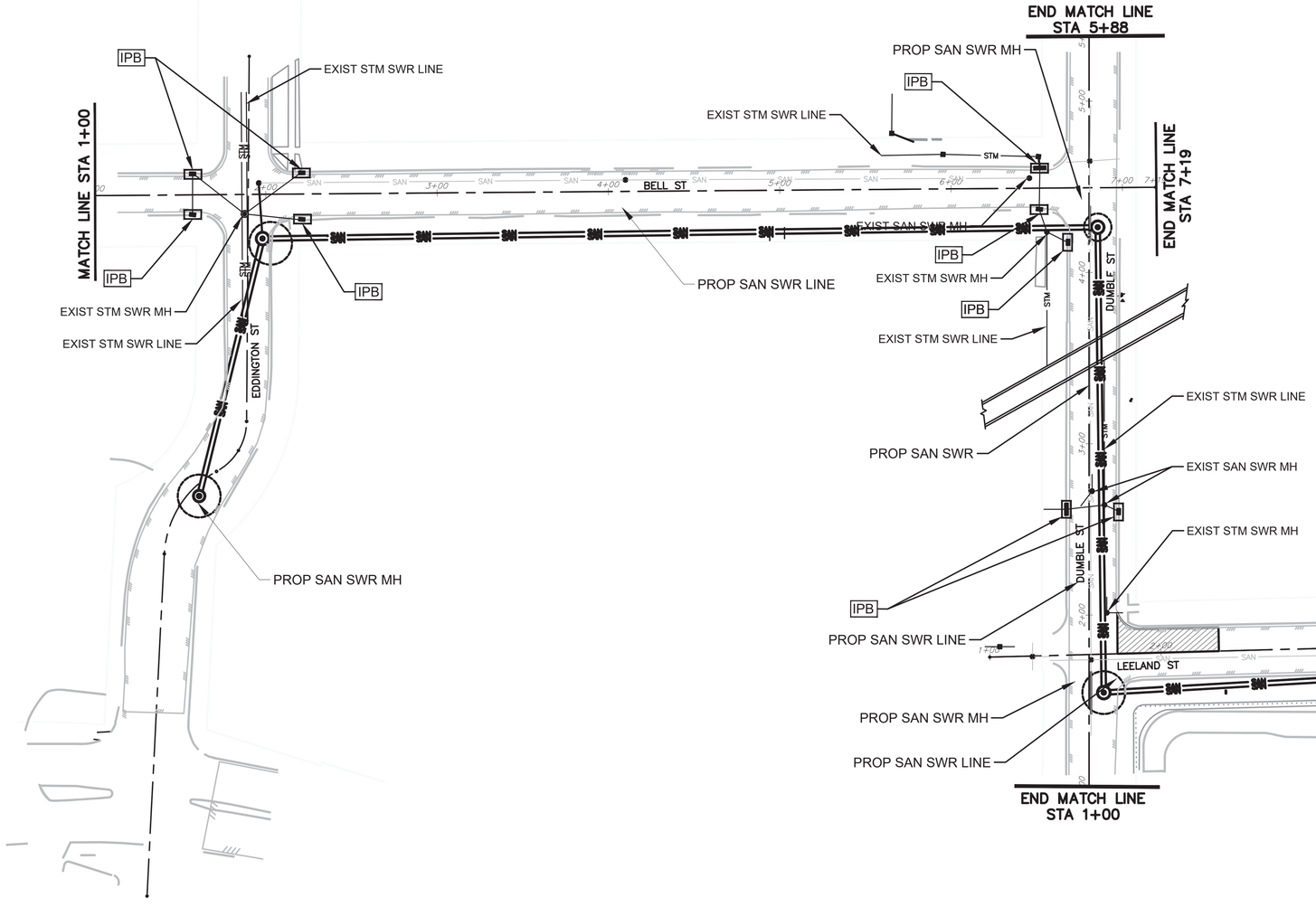
CRMP CIP PACKAGE 5
SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

STANDARD WATER LINE DETAILS
SHEET (3 OF 3)

WBS NO.	R-01000-0036-3
DRAWING SCALE	AS SHOWN
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	117 OF 183

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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NOTE:

1. SEE SHEET 9 OF 9 FOR STORM WATER POLLUTION PREVENTION PLAN NOTES AND DETAILS.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT, INCLUDING TRUCK WASHING AREA, VERIFIED IN THE FIELD AND AUTHORIZED BY ENGINEER.

LEGEND

IPB — INLET PROTECTION BARRER

0 40 80 Feet

AMANI ENGINEERING, INC.
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TEL: (713) 270-5700
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Texas Registered Surveying Firm No. 100282-00

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FB NO.: P-

FCM Engineers, P.C.
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F- 713-706-4410
Tx Firm No. F-13481

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ENGINEER: FRANK C. MBACHU
P.E. SERIAL No.: 108363
12/10/2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

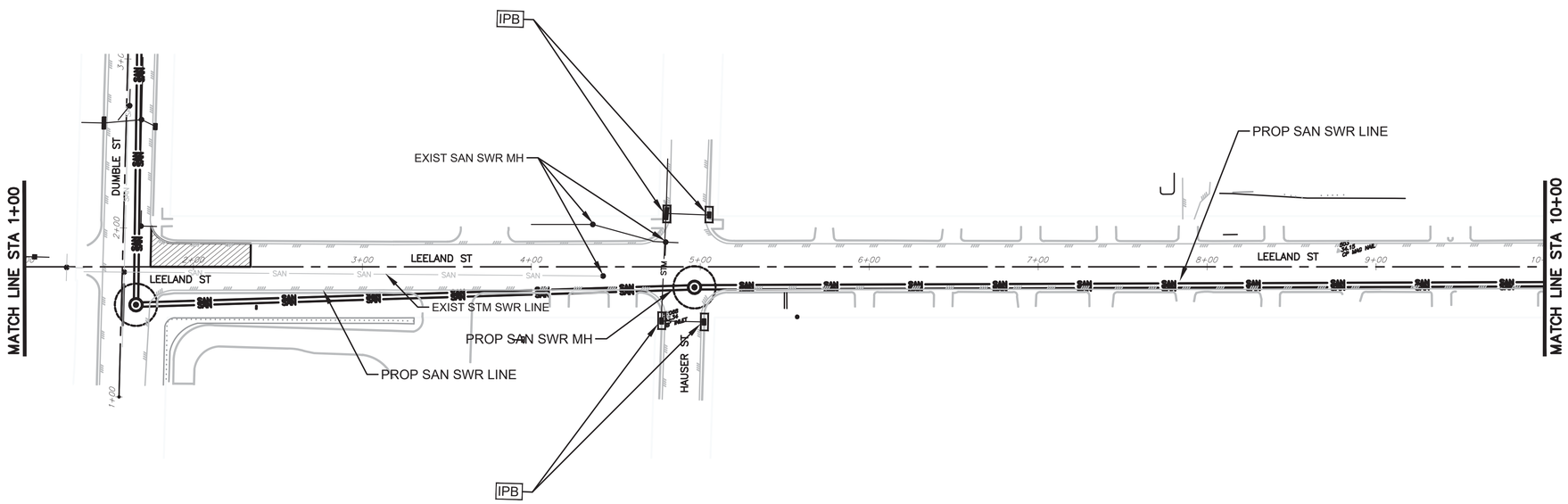
CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

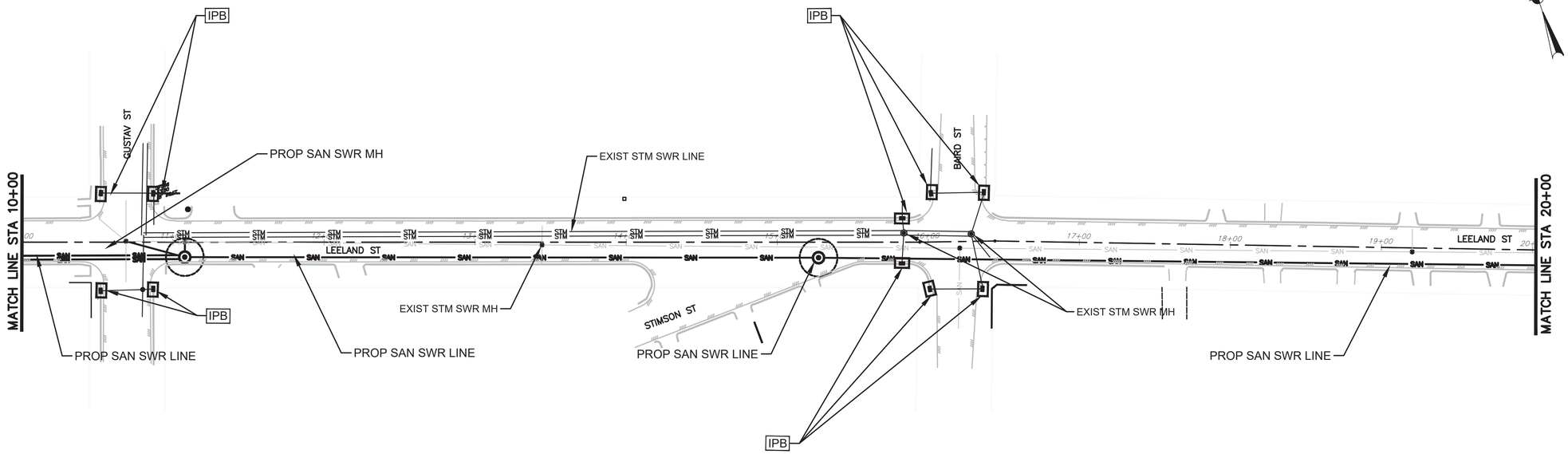
SWPPP
EDDINGTON, BELL, DUMBLE, LEELAND

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=40'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 118 OF 183	

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

NOTE:

1. SEE SHEET 9 OF 9 FOR STORM WATER POLLUTION PREVENTION PLAN NOTES AND DETAILS.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT, INCLUDING TRUCK WASHING AREA, VERIFIED IN THE FIELD AND AUTHORIZED BY ENGINEER.

LEGEND

IPB INLET PROTECTION BARRER

0 40 80 Feet

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ENGINEER: FRANK C. MBACHU
P.E. SERIAL No.: 108363
12/10/2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

SWPPP
GUSTAV, LEELAND, STIMSON, BAIRD, DUMBLE, HAUSER

WBS NO.
R-01000-0036-3

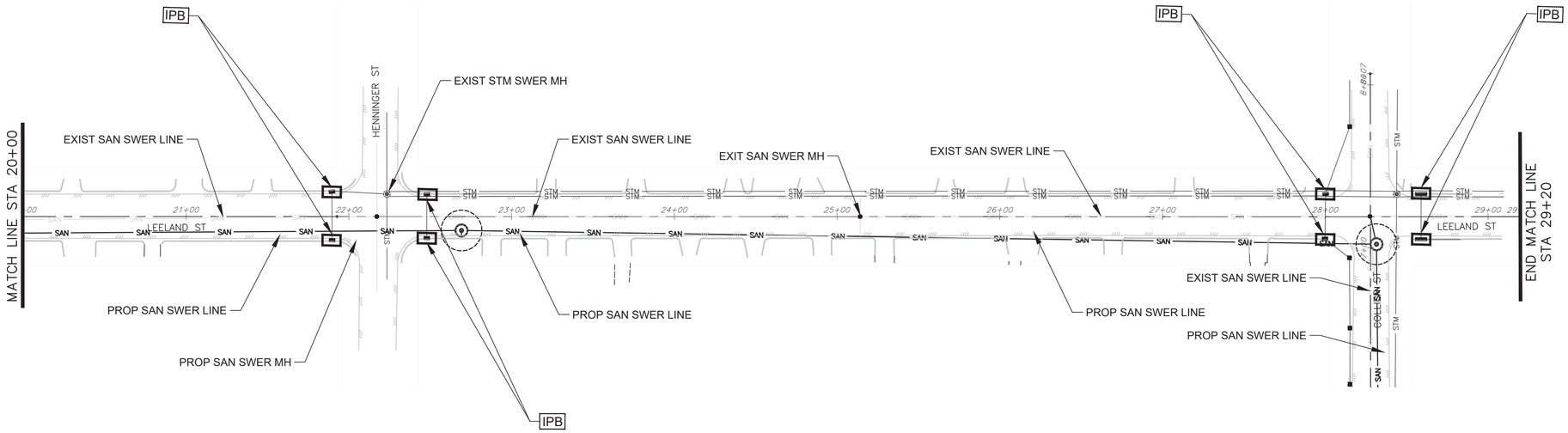
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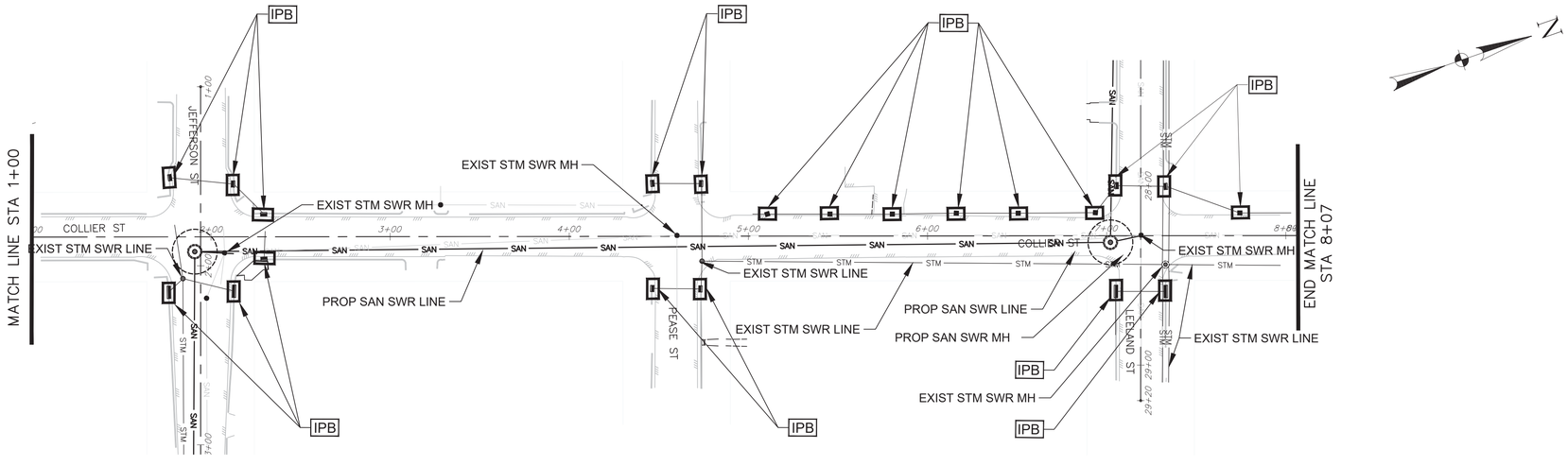
CITY OF HOUSTON, PM

SABEEN SHAIKH, P.E.

SHEET NO. 119 OF 183

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NOTE:

1. SEE SHEET 9 OF 9 FOR STORM WATER POLLUTION PREVENTION PLAN NOTES AND DETAILS.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT, INCLUDING TRUCK WASHING AREA, VERIFIED IN THE FIELD AND AUTHORIZED BY ENGINEER.

LEGEND

IPB — INLET PROTECTION BARRER

0 40 80 Feet

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
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ENGINEER: FRANK C. MBACHU
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12/10/2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

SWPPP
LEELAND, HENNINGER, COLLIER, PEASE

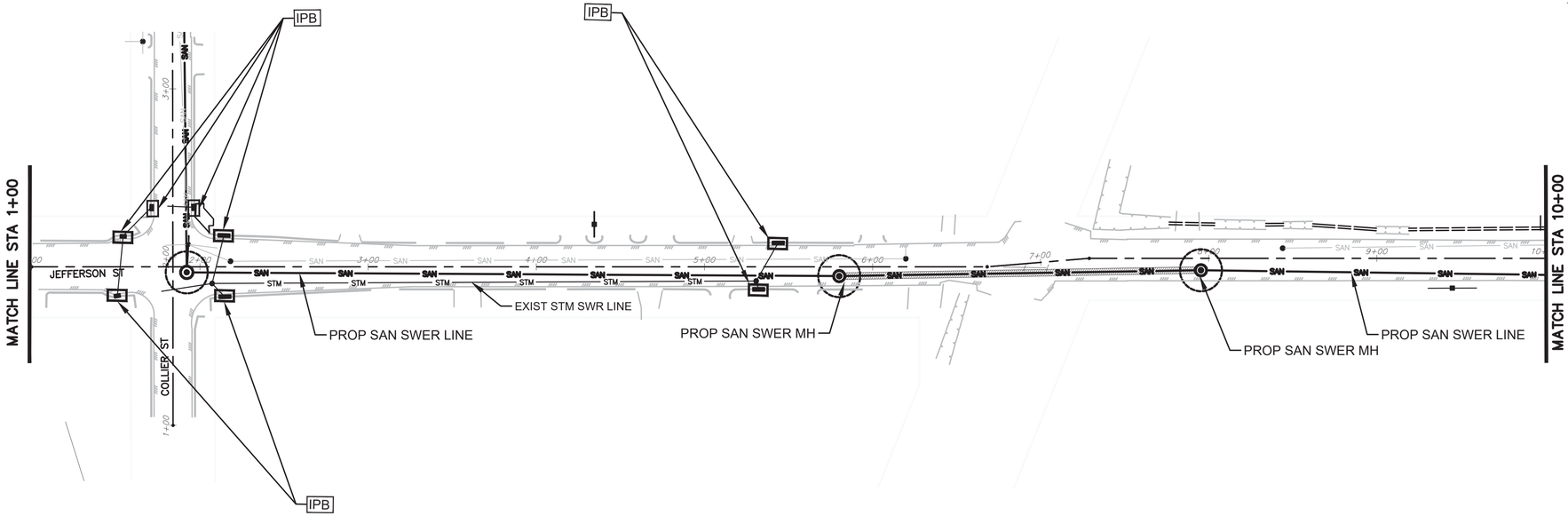
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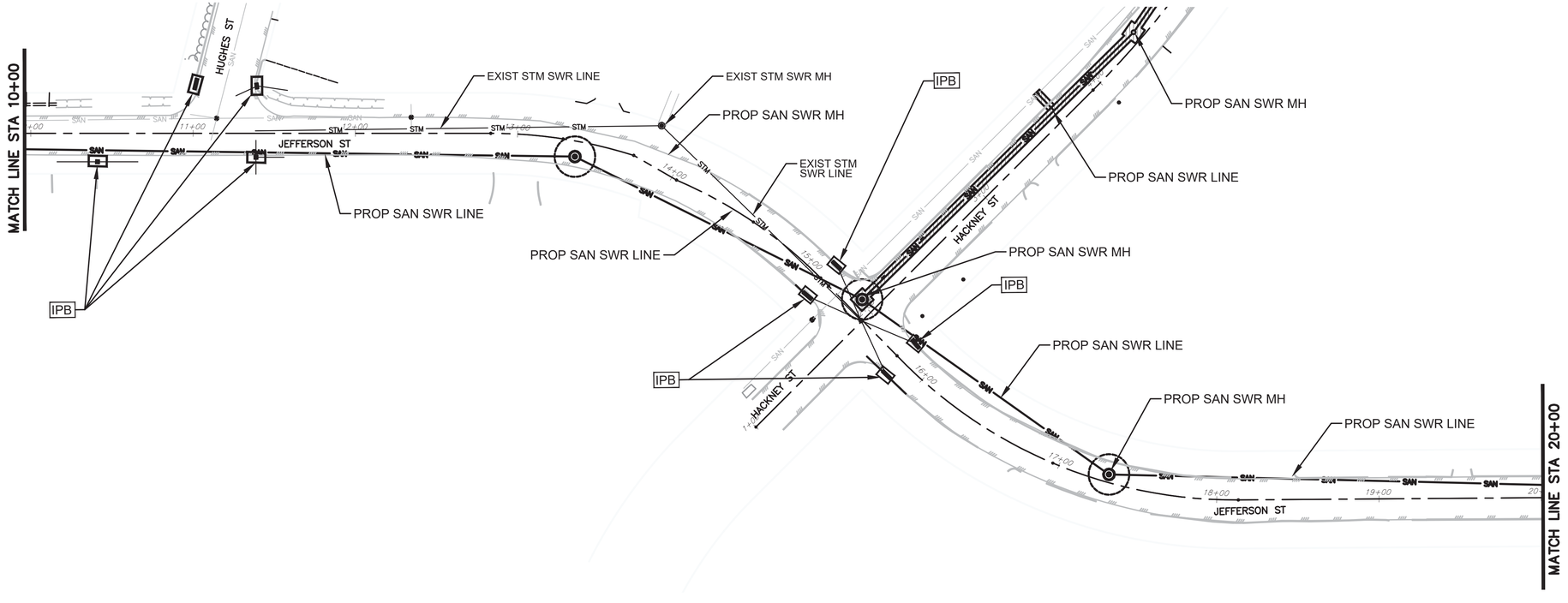
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CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 120 OF 183

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NOTE:

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2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT, INCLUDING TRUCK WASHING AREA, VERIFIED IN THE FIELD AND AUTHORIZED BY ENGINEER.

LEGEND

IPB — INLET PROTECTION BARRER

0 40 80 Feet

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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AMANI ENGINEERING, INC.
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Texas Registered Surveying Firm No. 100282-00

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ENGINEER: FRANK C. MBACHU
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12/10/2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

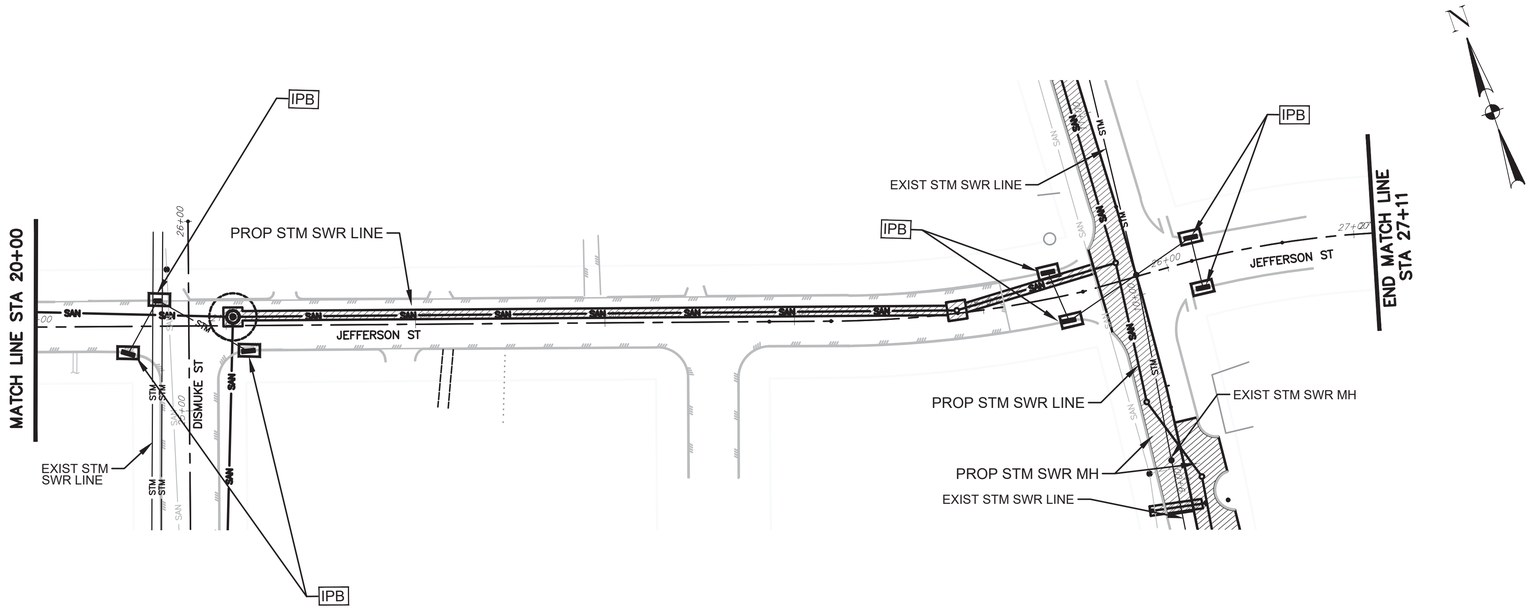
SWPPP
COLLIER, JEFFERSON, HACKNEY, HUGHES

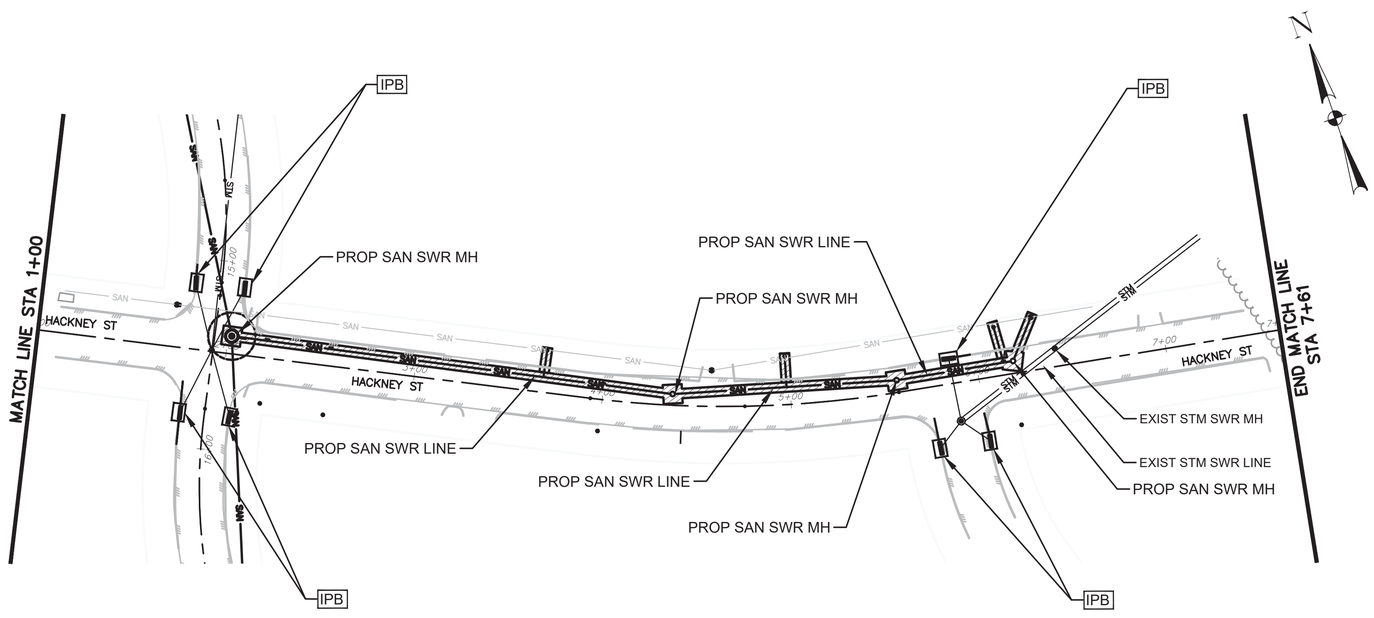
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=40'

CITY OF HOUSTON, PM
SABEEN SHAIKH, P.E.

SHEET NO. 121 OF 183





NOTE:

1. SEE SHEET 9 OF 9 FOR STORM WATER POLLUTION PREVENTION PLAN NOTES AND DETAILS.
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LEGEND

IPB — INLET PROTECTION BARRER

0 40 80 Feet

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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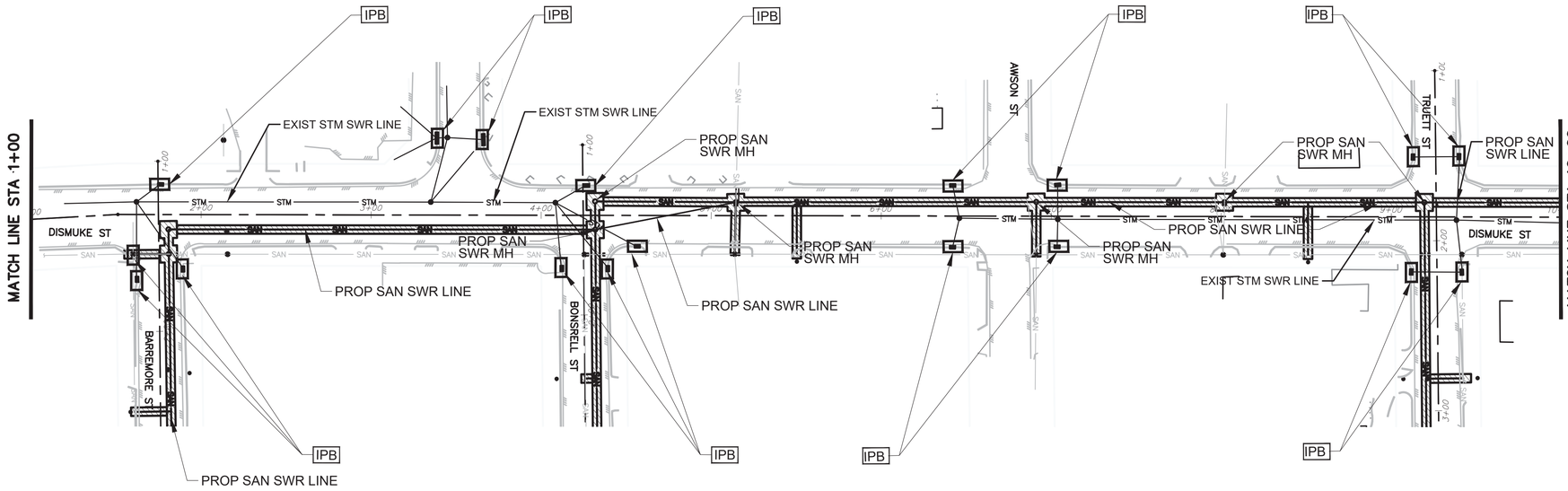
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

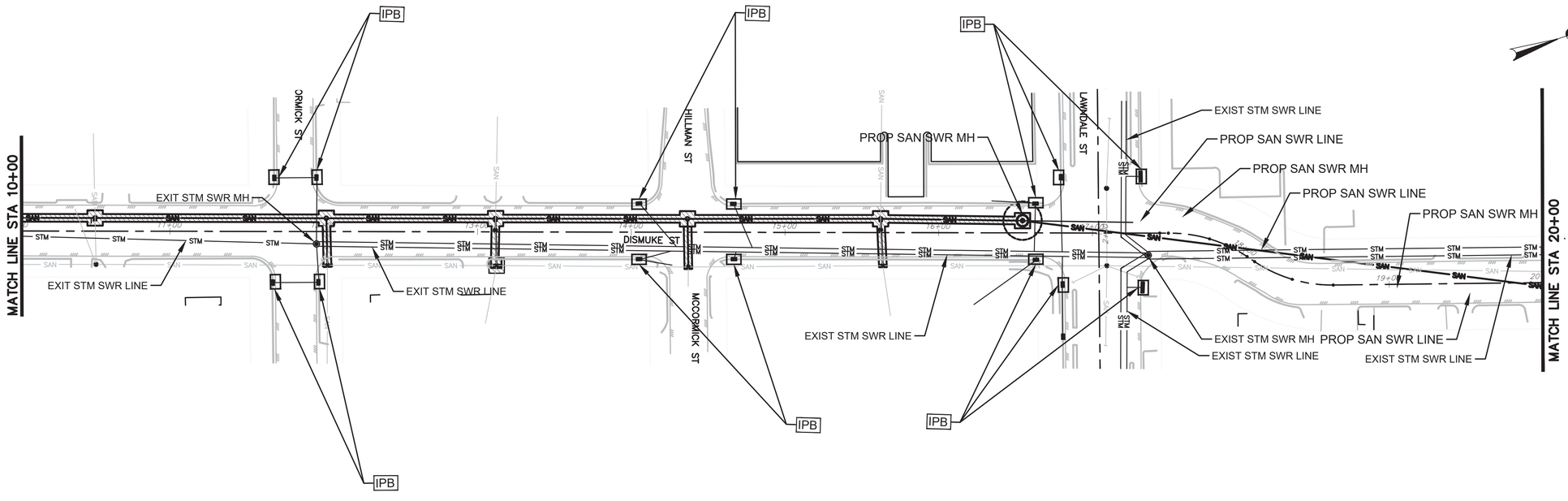
CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

SWPPP
DISMUKE, JEFFERSON, HACKNEY

WBS NO. R-01000-0036-3
DRAWING SCALE 1"=40'
CITY OF HOUSTON, PM SABEEN SHAIKH, P.E.
SHEET NO. 122 OF 183

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NOTE:

1. SEE SHEET 9 OF 9 FOR STORM WATER POLLUTION PREVENTION PLAN NOTES AND DETAILS.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT, INCLUDING TRUCK WASHING AREA, VERIFIED IN THE FIELD AND AUTHORIZED BY ENGINEER.

LEGEND

IPB — INLET PROTECTION BARRER

0 40 80 Feet

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

SWPPP
DISMUKE. BARREMORE, BONSRELL, LAWSON, TRUETT, MCCORMICK, HILLMAN, LAWNDALE

WBS NO.
R-01000-0036-3

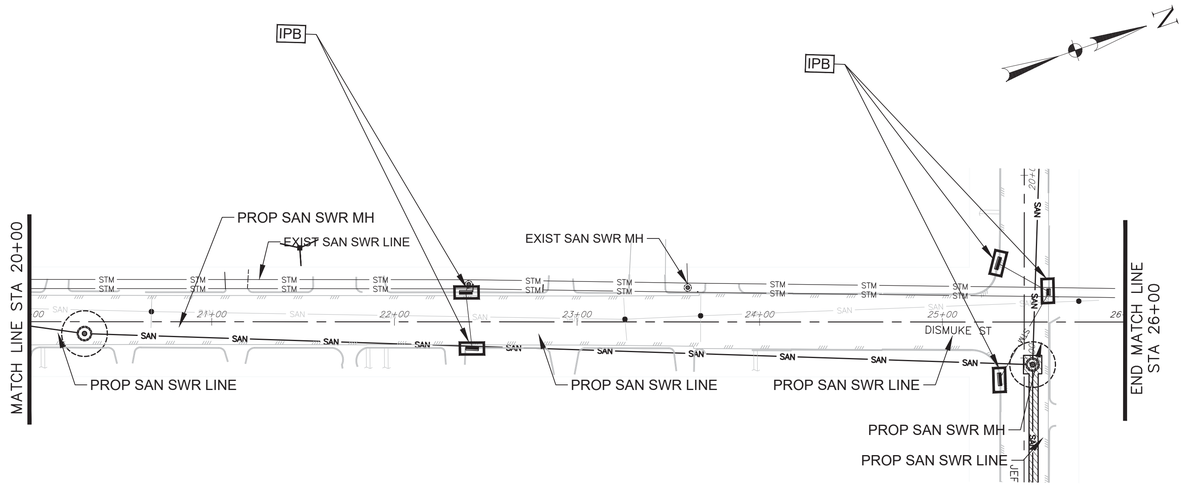
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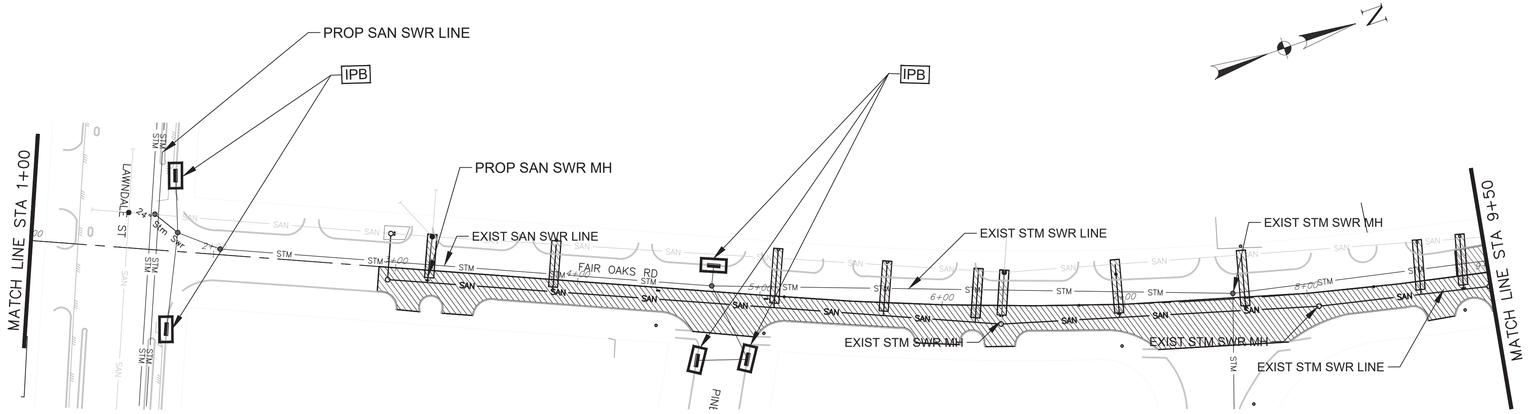
CITY OF HOUSTON, PM

SABEEN SHAIKH, P.E.

SHEET NO. 123 OF 183

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0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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NOTE:

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IPB — INLET PROTECTION BARRER

0 40 80 Feet

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TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-

FCM Engineers, P.C.
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Houston, Texas 77063
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Tx Firm No. F-13481

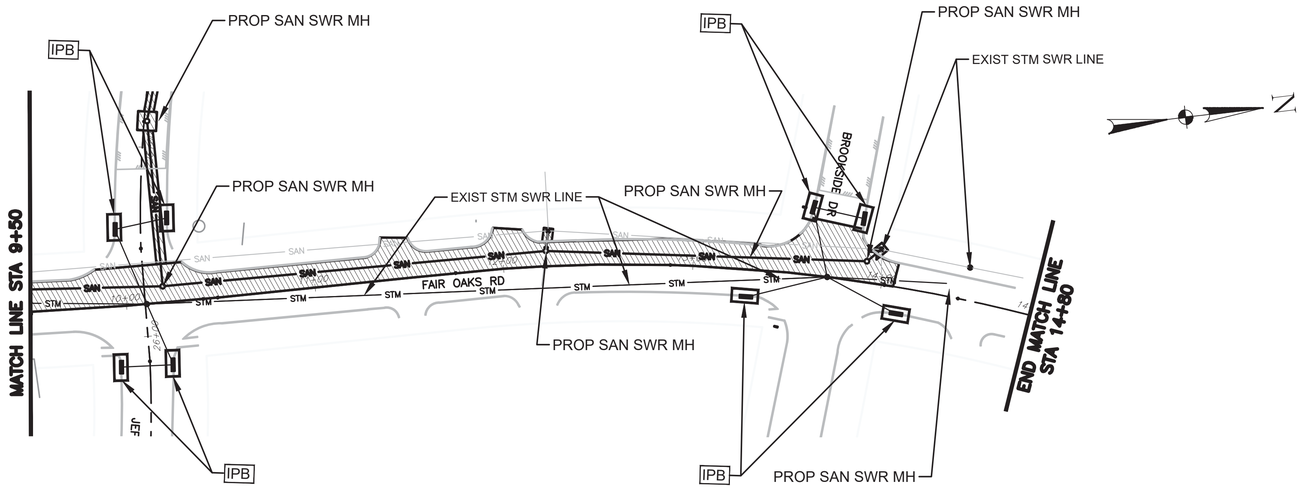
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ENGINEER: FRANK C. MBACHU
P.E. SERIAL No.: 108363
12/10/2025

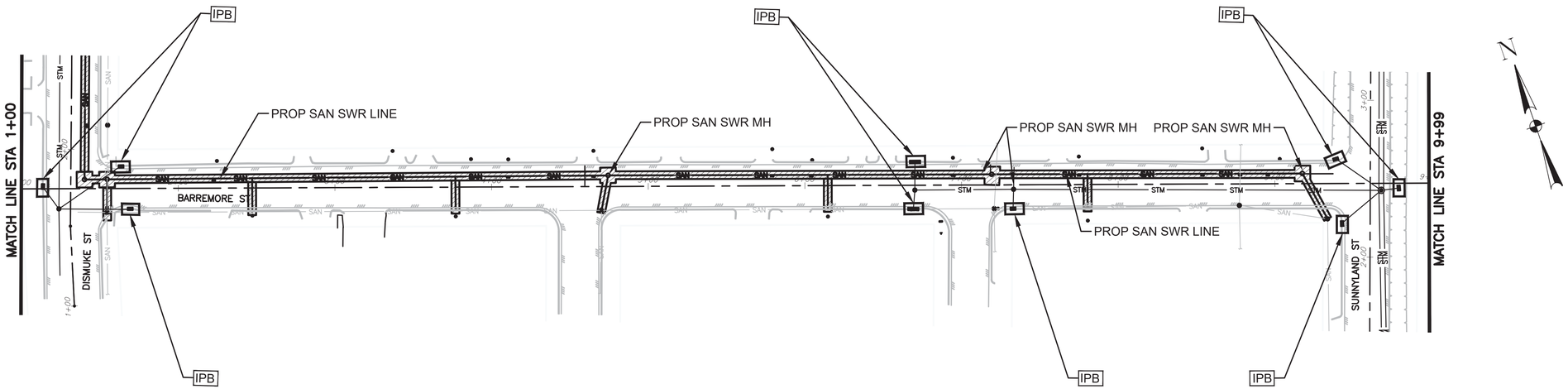
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

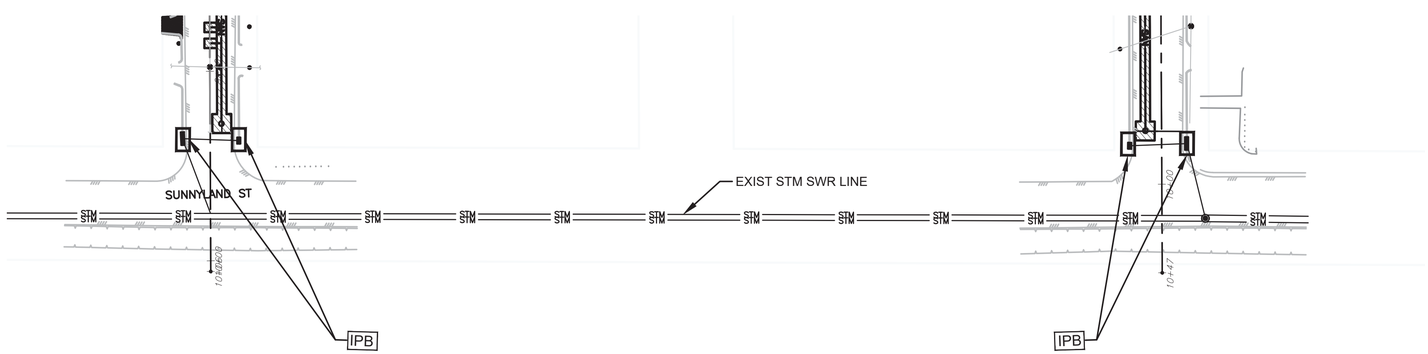
CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

SWPPP
DISMUKE, JEFFERSON, FAIR OAKS, LAWNDALE, PINEHURST

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=40'
CITY OF HOUSTON, PM	SABEEN SHAIKH, P.E.
SHEET NO.	124 OF 183







0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

NOTE:

1. SEE SHEET 9 OF 9 FOR STORM WATER POLLUTION PREVENTION PLAN NOTES AND DETAILS.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT, INCLUDING TRUCK WASHING AREA, VERIFIED IN THE FIELD AND AUTHORIZED BY ENGINEER.

LEGEND

IPB INLET PROTECTION BARRER

0 40 80 Feet

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-6700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

SURVEYED BY: AMANI
FB NO.: P-

FCM Engineers, P.C.
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ENGINEER: FRANK C. MBACHU
P.E. SERIAL No.: 108363
12/10/2025

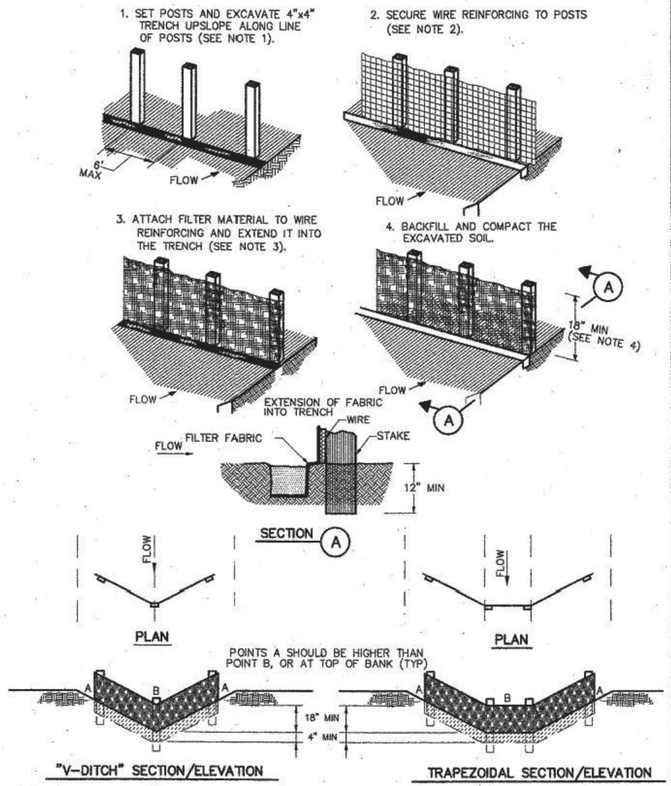
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

SWPPP
SUNNYLAND, DISMUKE, BARREMORE, FAIR OAKS, BROOKSIDE

WBS NO. R-01000-0036-3	
DRAWING SCALE	
1"=40'	
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO. 125 OF 183	

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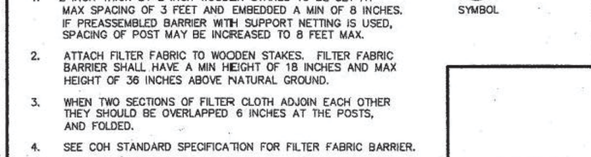


CONSTRUCTION NOTES:

1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE REINFORCING TO BE FASTENED SECURELY TO BARRIER POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCING, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
6. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

RFB SYMBOL

REINFORCED FILTER FABRIC BARRIER

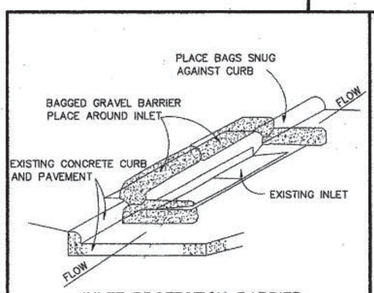


CONSTRUCTION NOTES:

1. 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED BARRIER WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC BARRIER SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
4. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

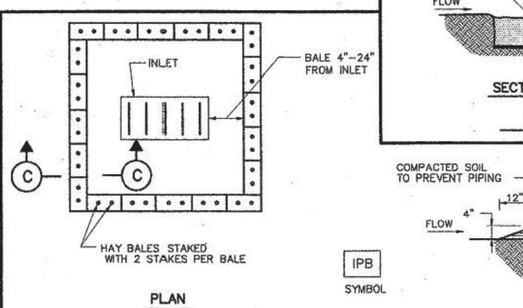
FF SYMBOL

FILTER FABRIC BARRIER

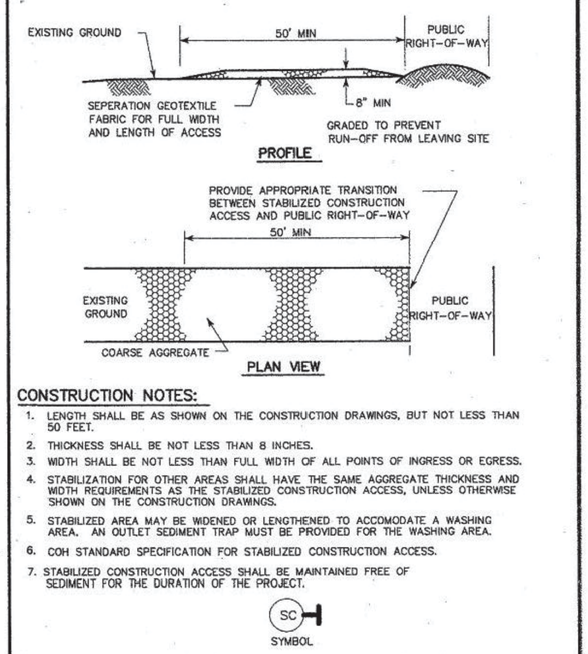


INLET PROTECTION BARRIER

(FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER



HAY BALE INLET PROTECTION BARRIER

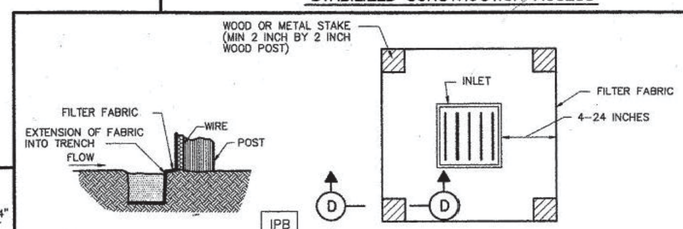


CONSTRUCTION NOTES:

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION ACCESS, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
6. COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION ACCESS.
7. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

SC SYMBOL

STABILIZED CONSTRUCTION ACCESS



SILT FENCE INLET PROTECTION BARRIER

CONSTRUCTION NOTE:

1. SEE CONSTRUCTION NOTES FOR RFB.

NOTE:

1. SEE SHEET 9 OF 9 FOR STORM WATER POLLUTION PREVENTION PLAN NOTES AND DETAILS.
2. CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION EXIT, INCLUDING TRUCK WASHING AREA, VERIFIED IN THE FIELD AND AUTHORIZED BY ENGINEER.

LEGEND

IPB — INLET PROTECTION BARRER

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS

(NOT TO SCALE)

APPROVED — CITY ENGINEER
APPROVED — DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010
DWG NO: 01571-01

AMANI ENGINEERING, INC.
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TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
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SURVEYED BY: AMANI
FB NO.: P-

FCM Engineers, P.C.
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ENGINEER: FRANK C. MBACHU
P.E. SERIAL No.: 108363
12/10/2025

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

STORM WATER POLLUTION PREVENTION DETAILS

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=40'
CITY OF HOUSTON, PM	
SABEEN SHAIKH, P.E.	
SHEET NO.	126 OF 183

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
0 1 2 3

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GENERAL NOTES

1. 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 WITIH REVISIONS DURING THE ENTIRE CONSTRUCTION PERIOD.
2. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM THE LATEST VERSION OF THE TMUTCD.
3. NO LANES SHALL BE CLOSED DURING THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM MONDAY THRU FRIDAY WITHOUT APPROVAL OF THE CITY TRAFFIC ENGINEER.
4. NO WORK SHALL BE PERFORMED IN RESIDENTIAL AREAS FROM 7:00 PM TO 7:00 AM.
5. CONTRACTOR SHALL MAINTAIN APPROVED NUMBER OF THROUGH 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 COMPLIANT PEDESTRIAN ACCESS TO BUS STOPS AND ADEQUATE BUS ACCESS TO ALL THE BUS STOPS.
6. CONTRACTOR SHALL MAINTAIN TRAFFIC LANES AND DETOURS ACCORDING TO TRAFFIC CONTROL PLANS DURING WORKING HOURS.
7. CONTRACTOR SHALL COVER OPEN PAVEMENT EXCAVATIONS FOR MINOR UTILITY WORK WITH ANCHORED STEEL PLATES DURING NON–WORKING HOURS, AND OPEN LANES FOR NORMAL TRAFFIC FLOW WHEN FEASIBLE.
8. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF TRAFFIC CONTROL PLANS TO THE CITY OF HOUSTON PROJECT MANAGER FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION. THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SHALL BE SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. OFFICE OF CITY ENGINEER, MOBILITY PERMITS SECTION REPRESENTATIVE APPROVAL IS REQUIRED TO ACCEPT THE PROPOSED CHANGES.
9. CONTRACTOR SHALL SECURE LANE/SIDEWALK/BICYCLE FACILITY CLOSURE PERMITS FROM OFFICE OF CITY ENGINEER (MOBILITY PERMIT SECTION AT https://geohub.houstontx.gov) BEFORE IMPLEMENTING THE TRAFFIC CONTROL PLAN. THE APPLICATION MUST BE SUBMITTED AT LEAST TEN 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.
10. CONTRACTOR SHALL HAVE APPROVED TRAFFIC CONTROL PLAN AND PERMIT AT THE JOB SITE FOR INSPECTION AT ALL TIMES.
11. DURING PAVEMENT SURFACE RESTORATION PROJECTS; THE CONTRACTOR SHALL NOT OPEN CLOSED LANES UNTIL THE PAVEMENT SURFACE HAS CURED ENOUGH TO ALLOW VEHICULAR TRAFFIC ACCORDING TO CITY OF HOUSTON STANDARD SPECIFICATIONS.
12. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING ALL CONSTRUCTION ACTIVITIES WITH STAKE HOLDERS IN THE VICINITY INCLUDING EMERGENCY RESPONSE AGENCIES SUCH AS HOUSTON POLICE DEPARTMENT, HOUSTON FIRE DEPARTMENT, AND METROPOLITAN TRANSIT AUTHORITY.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ISSUING ALL WORK DIRECTIVES TO ALL SUB–CONTRACTORS, UTILITY COMPANIES, AND ALL OTHER ENTITIES PERFORMING CONSTRUCTION WORK ASSOCIATED WITH THE PROJECT.
14. NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT; INCLUDING SAFETY OF ALL MODES OF TRANSPORTATION, PERSONS, AND PROPERTY, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
15. THE OFFICE OF CITY ENGINEER (MOBILITY PERMITS GROUP) PER THE DIRECTION OF THE CITY TRAFFIC ENGINEER HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS OF THESE PLANS AND NOTES, AS DEEMED NECESSARY TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC, INCLUDING PEDESTRIANS AND BICYCLES, THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE.
16. ALL EXISTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER. THE CONTRACTOR SHALL RESTORE OR REPLACE (AT THE DISCRETION OF THE CITY TRAFFIC ENGINEER) ANY PAVEMENT MARKING OR SIGNING DAMAGE DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS (RPMS).
17. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC WITH THE ASSISTANCE OF CONTRACTOR PROVIDED CERTIFIED FLAGGER/PEACE OFFICER.
18. 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 DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM CITY OF HOUSTON PROJECT MANAGER.
19. SPILLAGE RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
20. THE CONTRACTOR SHALL SUBMIT AN APPLICATION FOR TEMPORARY PARKING RESTRICTIONS IF THERE ARE PARKING METERS LOCATED AT THE PROPOSED LANE CLOSURES FROM PARKING MANAGEMENT DIVISION (832–393–8690) AT LEAST TEN BUSINESS DAYS BEFORE IMPLEMENTATION OF LANE CLOSURES. IN ADDITION, TEMPORARY NO PARKING SIGNS SHALL BE POSTED 24 HOURS PRIOR TO COMMENCEMENT OF WORK.
21. ADDITIONAL OFF DUTY OFFICERS/FLAGGERS MAY BE REQUESTED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED AT THE DISCRETION OF THE CITY PROJECT MANAGER EVEN IF THEY ARE NOT SPECIFICALLY IDENTIFIED ON THE PROJECT PLANS.
22. THE CONTRACTOR SHALL REPLACE WITHIN 72 HOURS, ALL TRAFFIC SIGNAL LOOP DETECTORS DAMAGED DURING CONSTRUCTION.
23. IN GENERAL, A SOLAR POWERED FLASHING ARROW BOARD SHALL BE REQUIRED ON ALL MAJOR THOROUGHFARE LANES CLOSURES. EXCEPTIONS TO FLASHING ARROW BOARDS AND/OR IMPLEMENTATION ON RESIDENTIAL LANE CLOSURES SHALL BE APPROVED BY CITY TRAFFIC ENGINEER.
24. APPROVED TRAFFIC CONTROL PLAN SHALL BE IN PLACE BEFORE STARTING ANY EXCAVATION.
25. WATER FILLED BARRIERS CAN BE USED AS INSTRUCTED BY THE ENGINEER AND APPROVED BY THE CITY FOR PROJECTS WHERE SPACE IS LIMITED AND HEAVY EQUIPMENT TO PLACE CONCRETE BARRIERS IS NOT FEASIBLE. WATER FILLED BARRIERS SHALL NOT BE USED ON ROADWAYS WITH A POSTED SPEED LIMIT MORE THAN 45 MPH.
26. WATER FILLED BARRIERS MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S REQUIREMENTS AND ROUTINELY INSPECTED FOR DEFECTS.
27. IF WATER FILLED BARRIER IS PROVIDED, USE ENVIRONMENTALLY SAFE ANTI–FREEZING AGENT IN THE WATER WHEN IT IS APPLICABLE PER MANUFACTURER SPECIFICATIONS AND RECOVER AGENT WHEN THE BARRIER IS DRAINED.
28. DISPOSE OF WATER AND AGENT PROPERLY. DO NOT DRAIN WATER FILLED BARRIER INTO OR ACROSS AN EXISTING TRAVEL LANE.
29. PROVIDE BARRIER UNITS THAT ARE CAPABLE OF BEING LIFTED AND MOVED WHEN FILLED IF DRAINING IS NOT POSSIBLE.
30. PROVIDE WATER FILLED BARRIER THAT ACTS AS ITS OWN FREE STANDING, NON–REDIRECTIVE END TREATMENT.
31. WHEN WATER FILLED BARRIERS ARE USED TO CHANNELIZE PEDESTRIANS, THEY MUST HAVE A CONTINUOUS DETECTABLE BOTTOM FOR USERS OF LONG CANES AND THE TOP OF THE UNIT SHALL NOT BE LESS THAN 32 INCHES IN HEIGHT.
32. ANY CLOSURE OF A PEDESTRIAN OR BICYCLE FACILITY SHALL REQUIRE THE SHORTEST DETOUR THAT MAINTAINS THE SAFETY OF PEDESTRIAN AND/OR BICYCLISTS.

SPACING FOR CHANNELIZING DEVICES

A. PLASTIC DRUMS ON MERGING TAPER @ 30' C – C WITH CHEVRON SIGN @ 60' C – C AND WARNING LIGHTS FOR OVERNIGHT CLOSURE.

B. PLASTIC DRUMS ON DOWNSTREAM TAPER @ 30' C – C (RETURN TAPER AND BARRICADE ARE OPTIONAL AND DIVIDED ROADWAY SECTION)

C. PLASTIC DRUMS ON RADII @ 35' C –C.

D. PLASTIC DRUMS ON TANGENT @ 35' C – C WITH VERTICAL PANEL AT 70' C – C AND APPROVED WARNING LIGHT @ 70' C – C (FOR OVERNIGHT CLOSURE).

E. PLASTIC DRUMS IN FRONT OF CONSTRUCTION ZONE @ 20' C – C WITH VERTICAL PANEL AT 40' C – C AND APPROVED WARNING LIGHT @ 40' C – C (FOR OVERNIGHT CLOSURE).

F. CONCRETE TRAFFIC BARRIER (CTB) OR LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCTB) WITH APPROVED REFLECTORS @ 10' C – C IF PAVEMENT DROP IS GREATER THAN 1 FOOT.

G. PLASTIC DRUMS W/GUARD RAIL MOUNTED.

H. SELF– RIGHTING VERTICAL PANEL SPACING.
– 4 LANES TO 2 LANES UNDIVIDED ROADWAY SECTION @ 20' C – C.
– 4 LANES DIVIDED ROADWAY TO ONE SIDE TWO WAY ROADWAY @ 20' C – C.
– LEFT LANE AND RIGHT LANE STORAGE BAYS @ 15' C – C.

I. SPACING SHOWN ON TRAFFIC CONTROL SHALL SUPERSEDE THE ABOVE SPACING.

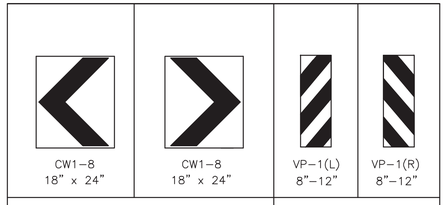
J. SPACING MAY BE ADJUSTED TO PROVIDE DRIVEWAYS, INTERSECTIONS AND /OR MEDIAN OPENINGS.

TABLE C3 – TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES

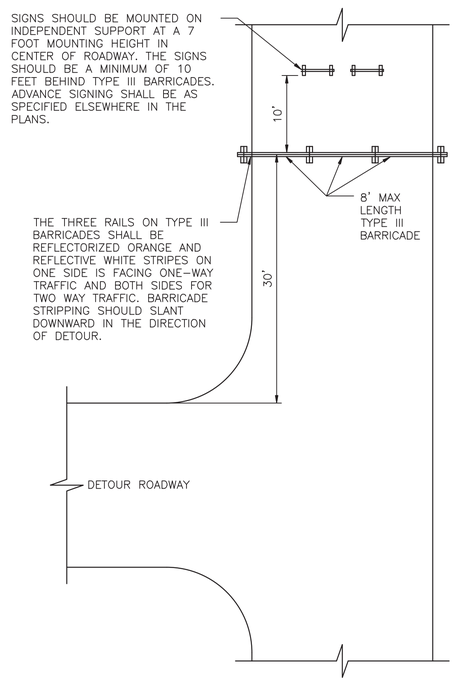
POSTED SPEED (MPH)	SIGN SPACING "X" (FEET)	MIN. DESIRABLE TAPER LENGTH "L"			SUGGESTED MAXIMUM SPACING OF DEVICE	
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT
30	120'	150'	165'	180'	30'	60'–75'
35	160'	205'	225'	245'	35'	70'–90'
40	240'	265'	295'	320'	40'	80'–100'
45	320'	450'	495'	540'	45'	90'–110'
50	400'	500'	550'	600'	50'	100'–125'
55	500'	550'	605'	660'	55'	110'–140'

TABLE C4 – STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

POSTED SPEED (MPH)	DISTANCE "D" (FEET)
30	200
35	250
40	305
45	360
50	425
55	495



CHANNELIZATION AND BARRICADES



PLAN VIEW
TYPE III BARRICADE (POST AND SKID)
TYPICAL APPLICATION

LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

APPROVED BY:	APPROVED BY:
DocuSigned by: Sukul Kanwar 9FFF8905841F427...	DocuSigned by: KHANG NGUYEN 95A25EF3A7564CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carl Haddock A3EC41DB72B2451...
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV–27–2023 | DWG NO: 01555–01

Amani Engineering, Inc.
• Engineers • Surveyors • Construction Managers
11011 RICHMOND AVE. SUITE 700 HOUSTON, TX. 77042
Tel (713) 270-5700 Fax (713) 271-3487
TBPE Firm Reg. No.: F–4528
TBPLS Firm Reg. No.: 100282–00

TRANSCEND engineers + planners
Transcend Engineers & Planners, LLC
TPBE Reg. No. F–19299
23410 Grand Reserve Dr., Suite 101
Houston, Texas 77494

SURVEYED BY: AMANI
FB NO.: P–

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RESPONSIBLE ENGINEER:
TRANSCEND ENGINEERS & PLANNERS, LLC.
RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/28/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP NOTES CHANNELIZING DEVICES AND BARRICADES

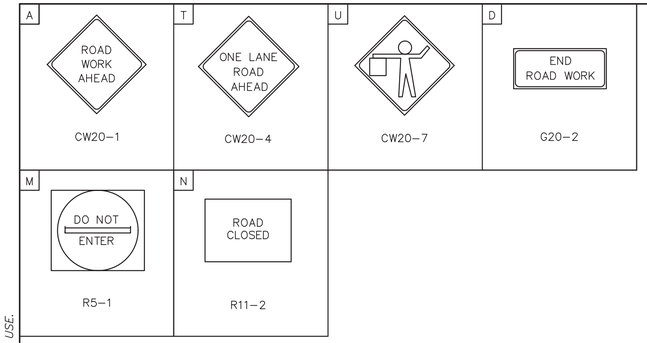
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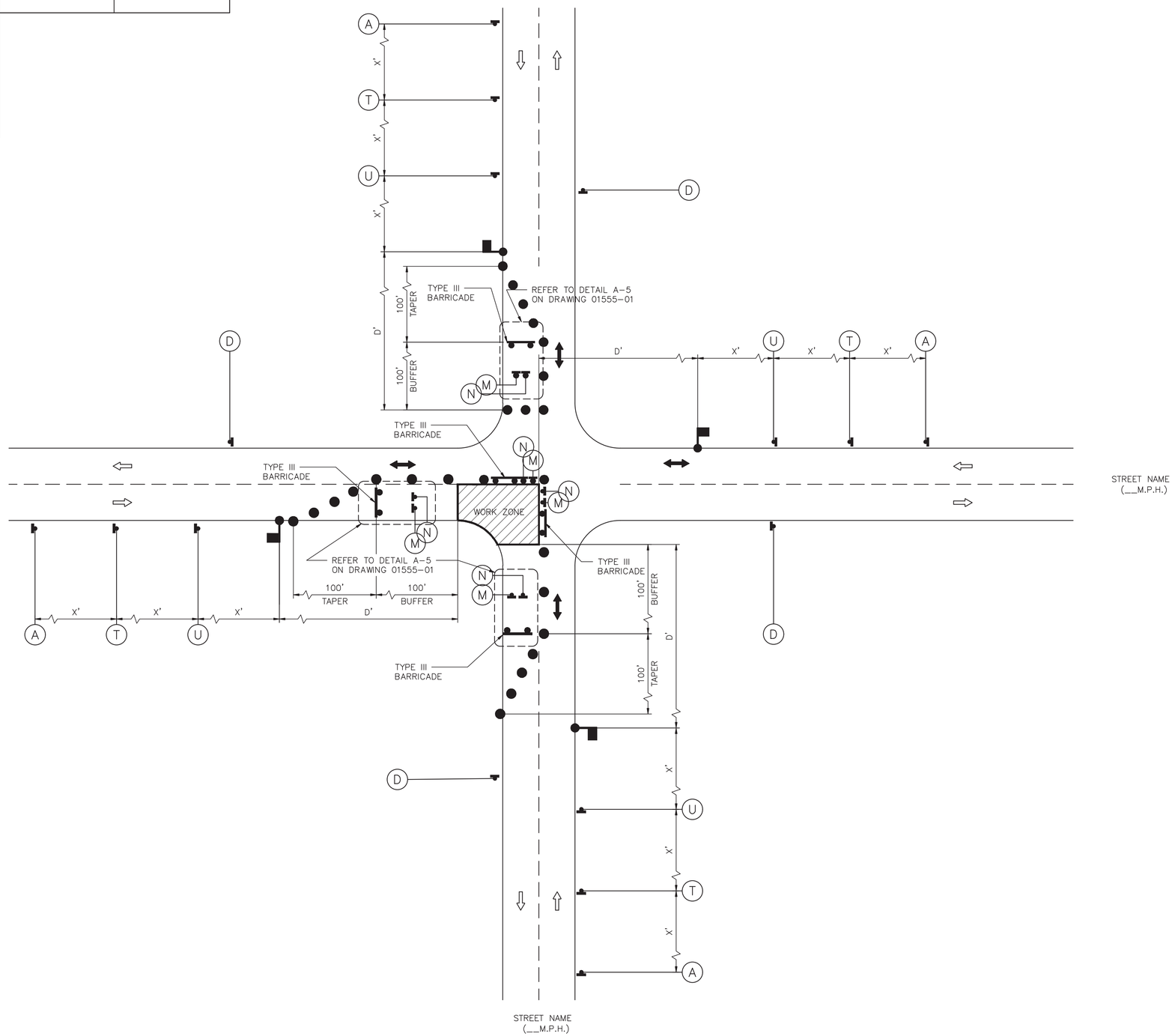
DRAWING SCALE
NOT TO SCALE

SHEET NO. 127 OF 183

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LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

1. MINOR WORK AND DAYTIME OPERATIONS ONLY.
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4. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.
5. MAX. 100' WORK ZONE AT A TIME.

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CITY ENGINEER	CITY TRAFFIC ENGINEER

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DocuSigned by: Carol Haddock A93C4105572R3453...
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1/28/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP TYPICAL CONSTRUCTION ZONE AT
A 4-WAY INTERSECTION
(LOW VOLUME TRAFFIC)
PHASE 1 OF 4

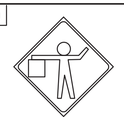
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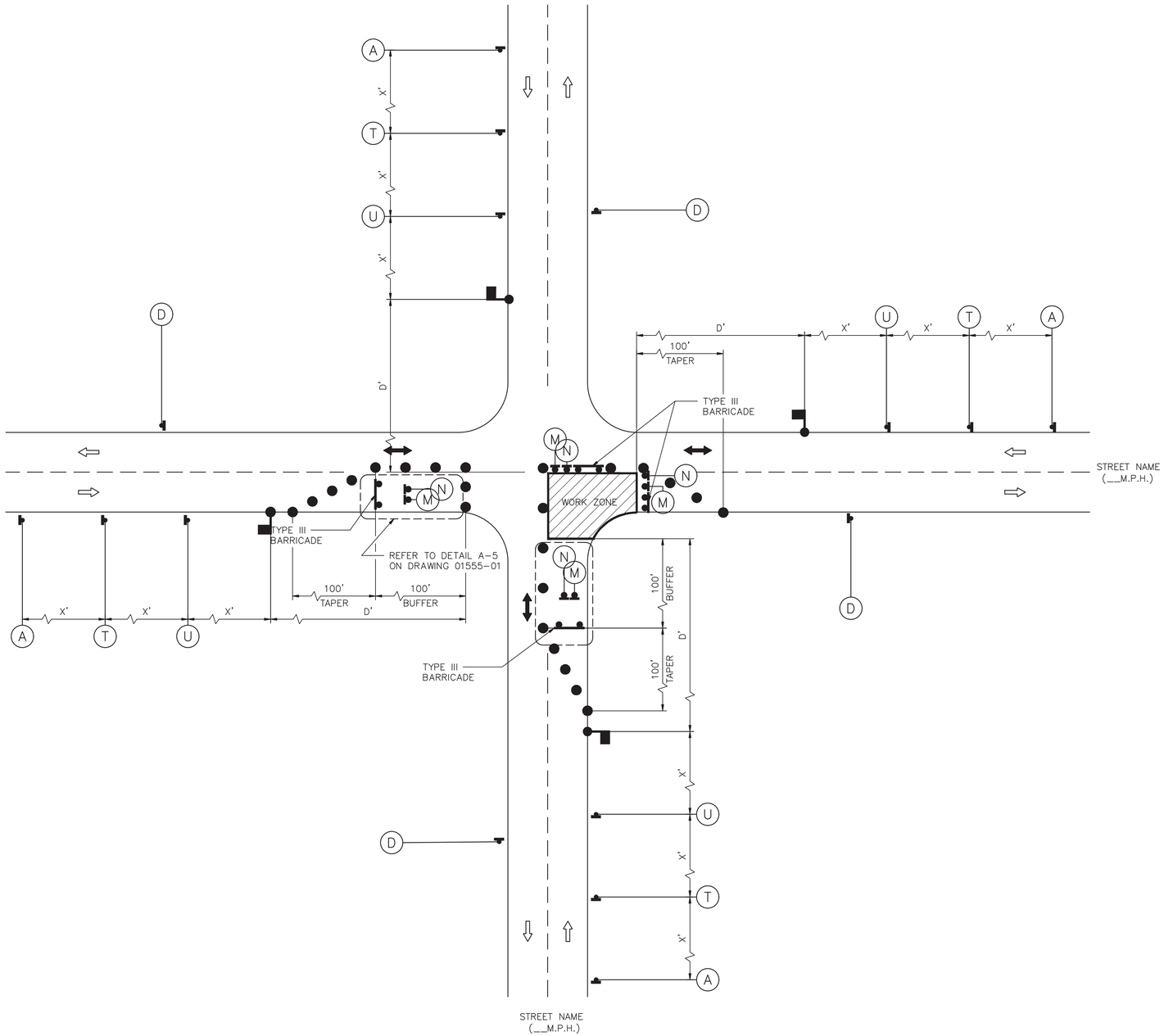
SHEET NO. 128 OF 183

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 CW20-1	 CW20-4	 CW20-7	 G20-2

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R5-1	R11-2



LEGEND:

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TEXAS REGISTRATION NO. 112149

1/28/2026

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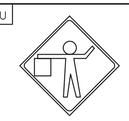
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP TYPICAL CONSTRUCTION ZONE AT
A 4-WAY INTERSECTION
(LOW VOLUME TRAFFIC)
PHASE 2 OF 4

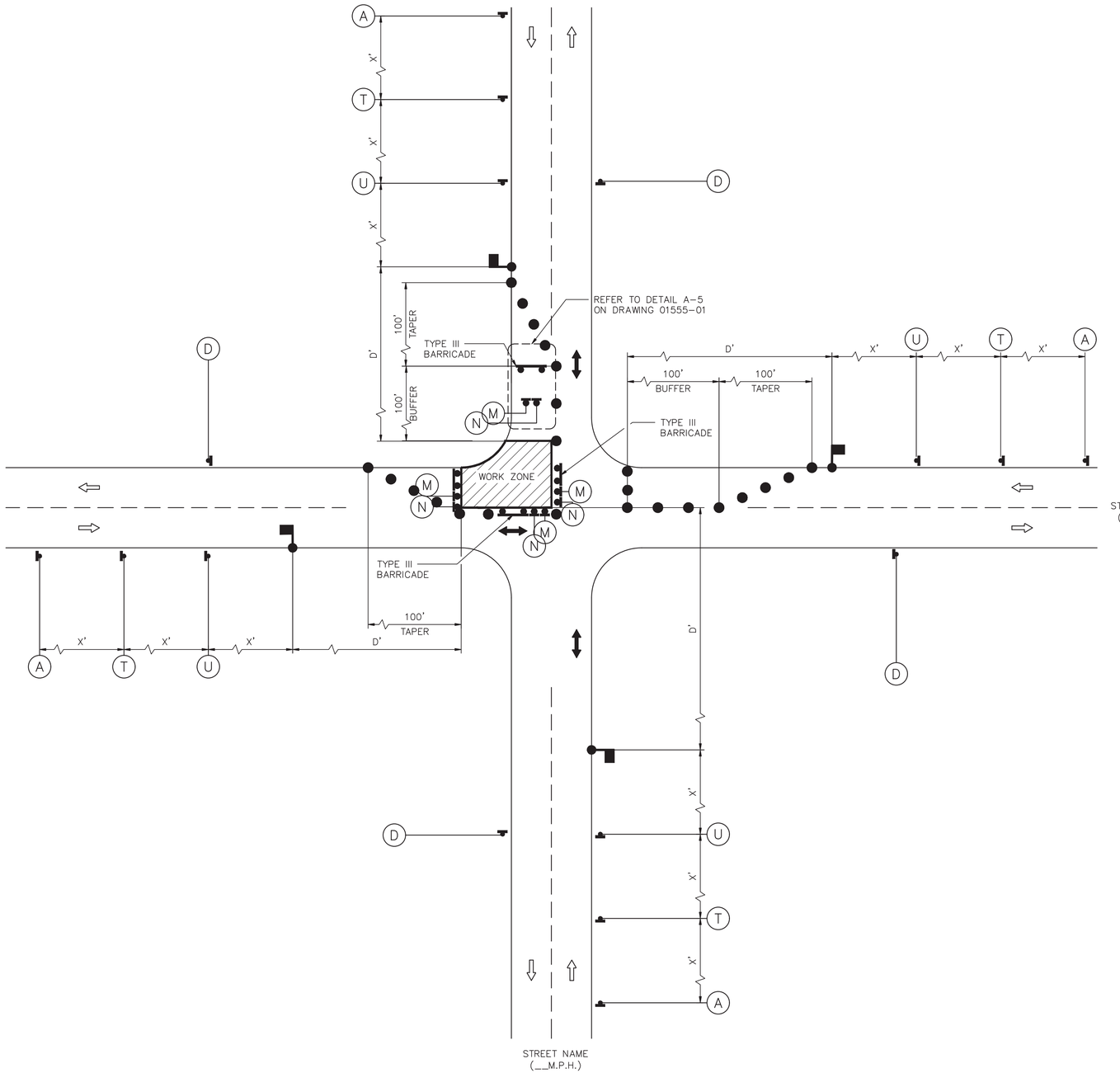
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R5-1	R11-2



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TEXAS REGISTRATION NO. 112149

1/28/2026

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP TYPICAL CONSTRUCTION ZONE AT
A 4-WAY INTERSECTION
(LOW VOLUME TRAFFIC)
PHASE 3 OF 4

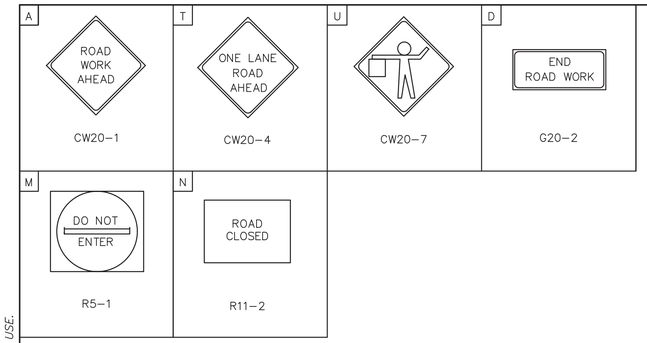
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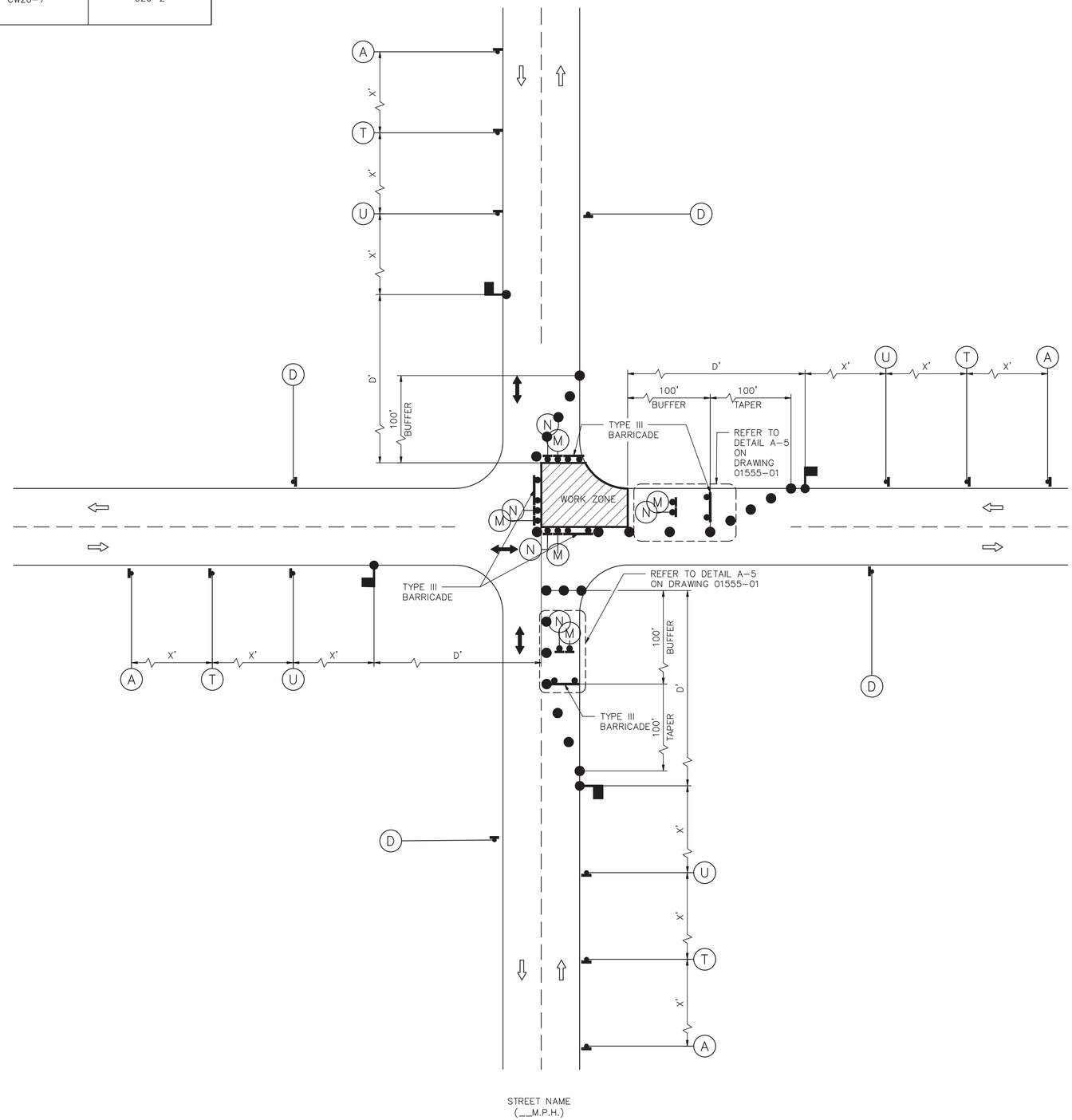
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TEXAS REGISTRATION NO. 112149

1/28/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP TYPICAL CONSTRUCTION ZONE AT
A 4-WAY INTERSECTION
(LOW VOLUME TRAFFIC)
PHASE 4 OF 4

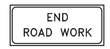
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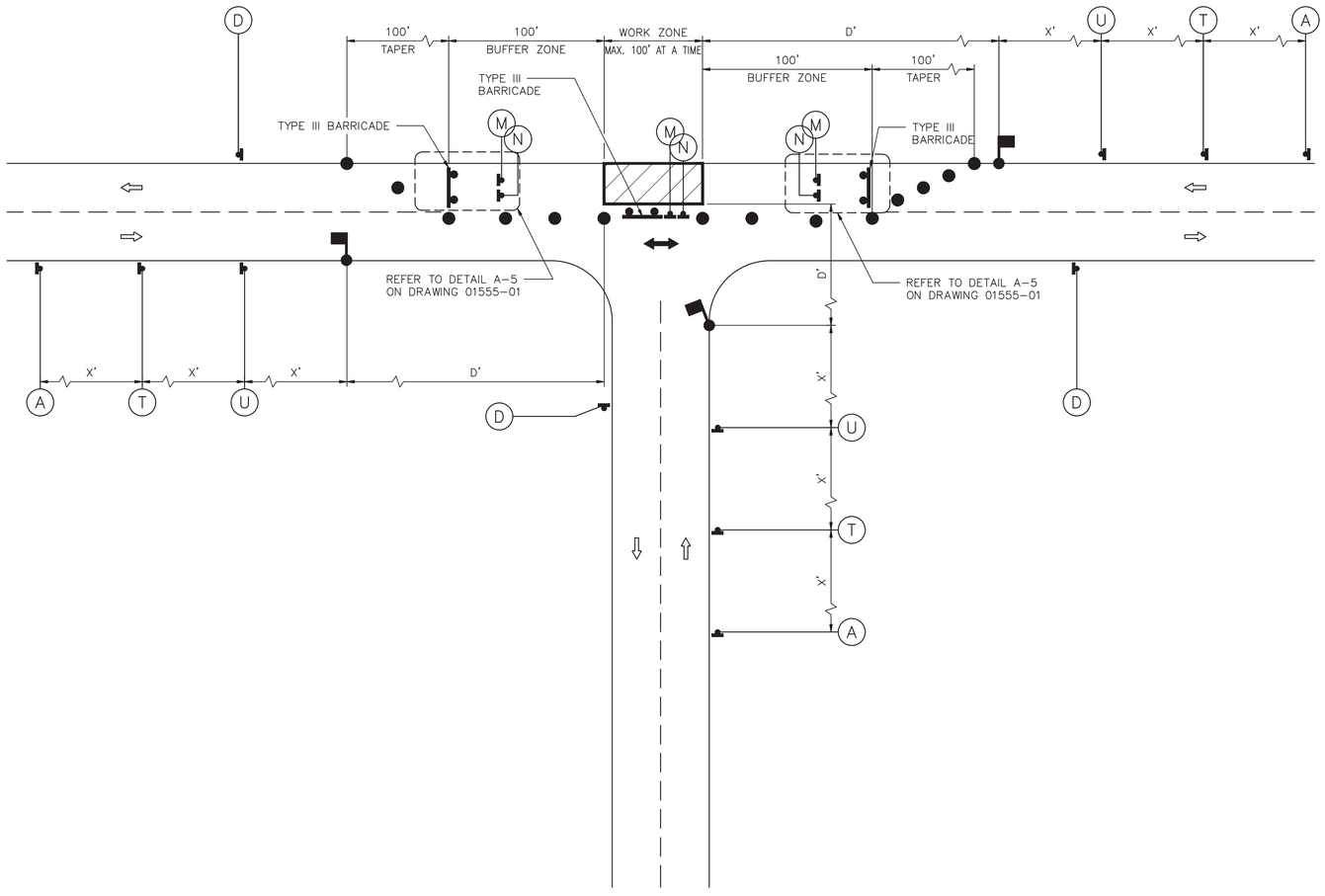
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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP TYPICAL CONSTRUCTION
ZONE AT A T–INTERSECTION
PHASE 1 OF 3

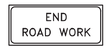
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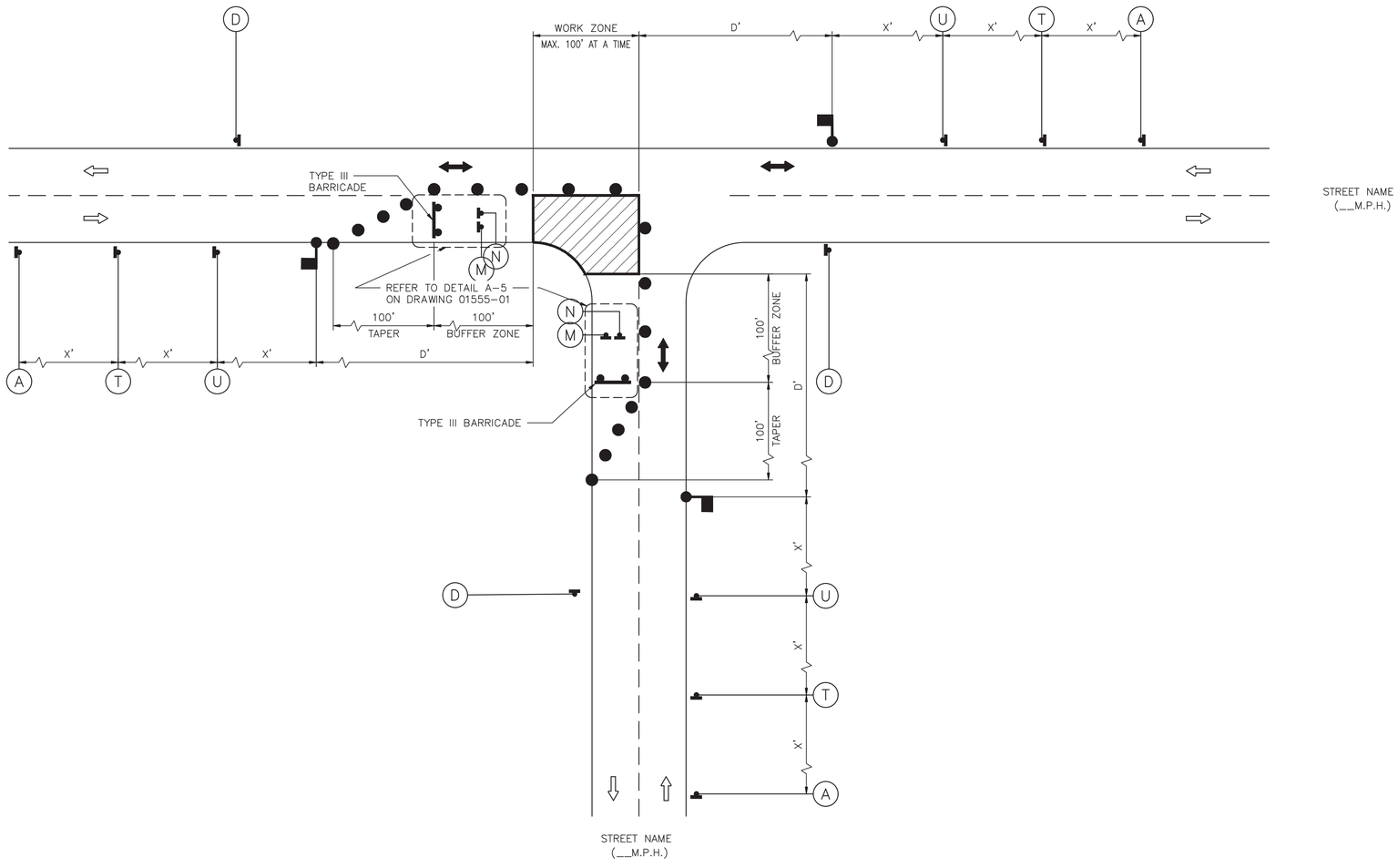
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CITY ENGINEER	CITY TRAFFIC ENGINEER

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TEXAS REGISTRATION NO. 112149

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CRMP CIP PACKAGE 5
SANITARY SEWER
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PHASE 2 OF 3

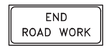
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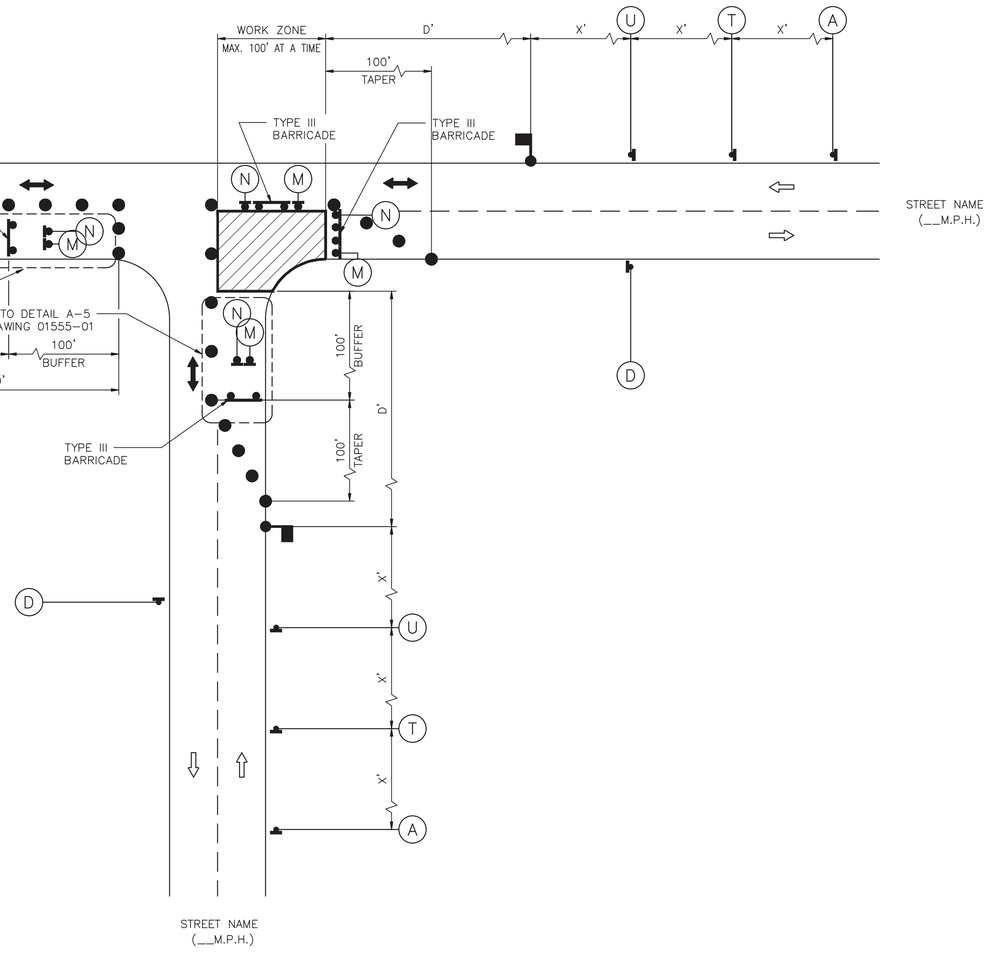
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DIRECTOR OF HOUSTON PUBLIC WORKS

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Houston, Texas 77494

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RESPONSIBLE ENGINEER:
TRANSCEND ENGINEERS & PLANNERS, LLC.
RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/28/2026

SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP TYPICAL CONSTRUCTION
ZONE AT A T-INTERSECTION
PHASE 3 OF 3

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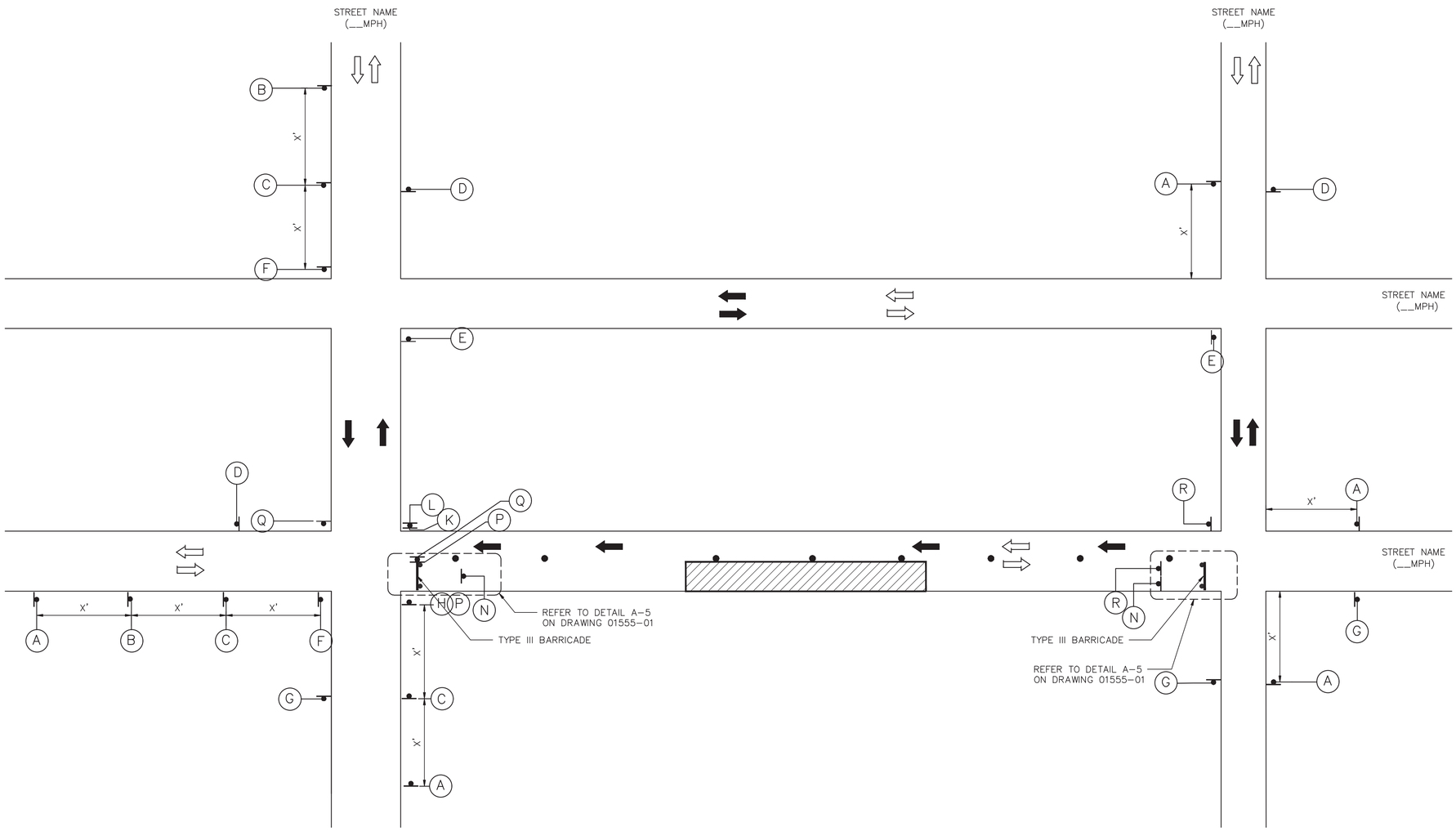
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A	B	C	D	E	F	G	H	I	J
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	STREET NAME DETOUR →	STREET NAME DETOUR ←	END DETOUR	STREET NAME DETOUR ↑	RIGHT LANE CLOSED AHEAD	LEFT LANE CLOSED AHEAD
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9T	CW20-5(2) CW16-3	CW20-5(1) CW16-3

K	L	M	N	O	P	Q	R	
ONE WAY ←	ONE WAY →	DO NOT ENTER	ROAD CLOSED	DETOUR			BEGIN ONE WAY	
R6-2(L)	R6-2(R)	R5-1	R11-2	M4-10(L)	R3-1	R3-2	R6-6	



LEGEND:

- SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- BARRICADE
- FLASHING ARROW PANEL
- AREA UNDER CONSTRUCTION
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

1. A 10' MINIMUM LANE WIDTH FOR EMERGENCY SHALL BE MADE AVAILABLE AND MAINTAINED BY THE CONTRACTOR AT ALL TIMES.
2. FOR DIMENSIONS REFER TO SHEET 01555-01.
3. INSTALL FLASHERS ON DRUMS WHERE REQUIRED AND APPROVED BY CITY TRAFFIC ENGINEER.

APPROVED BY:	APPROVED BY:
DocuSigned by: Suhail Kanwar 9EF880C5641F5478...	DocuSigned by: KHANG NGUYEN 95A29EFDA7584CD...
CITY ENGINEER	CITY TRAFFIC ENGINEER

APPROVED BY:
DocuSigned by: Carol Haddock A93C4105572B3453...
DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV-27-2023 | DWG NO: 01555-05

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CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP TYPICAL DETOUR ROUTING
WITH ONE LANE CLOSURE
(ONE BLOCK)

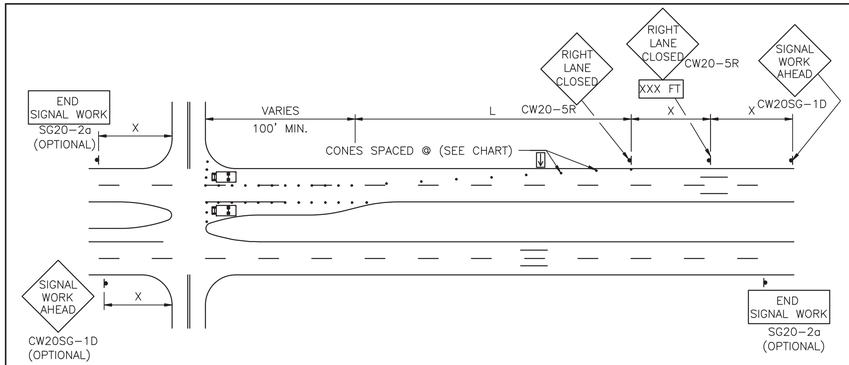
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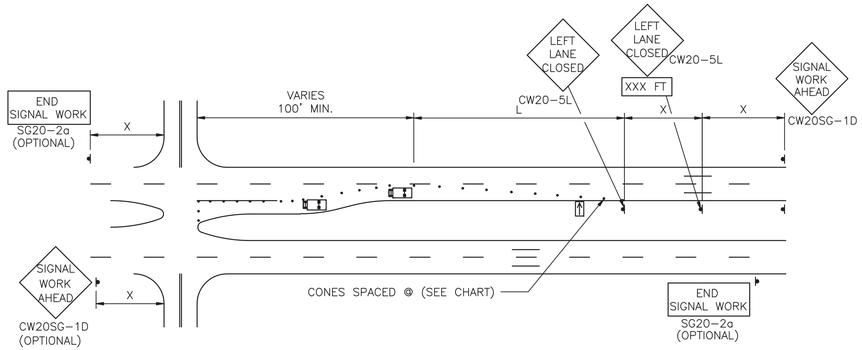
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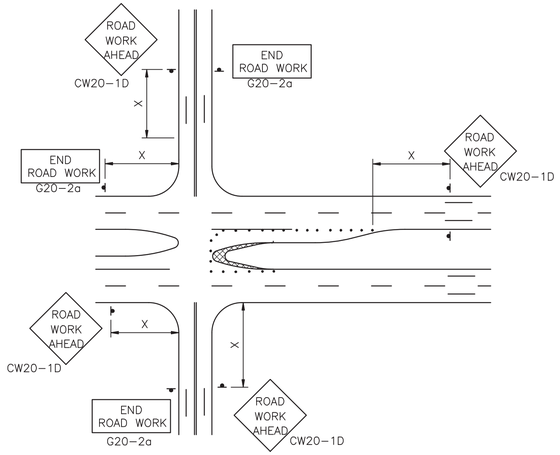
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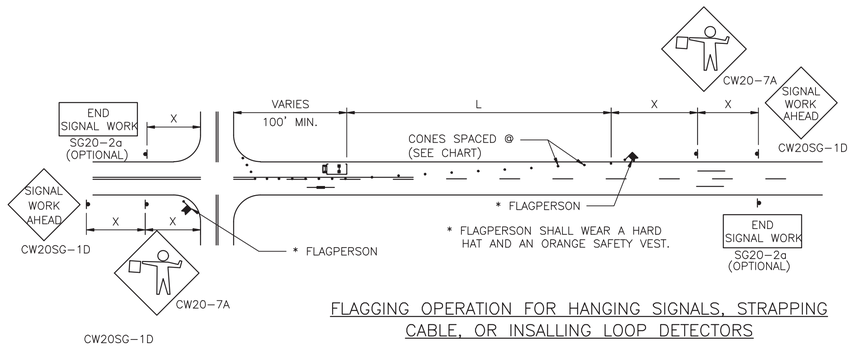
ONE LANE CLOSURE W/ RIGHT LANE AND/OR LEFT TURN LANE CLOSED



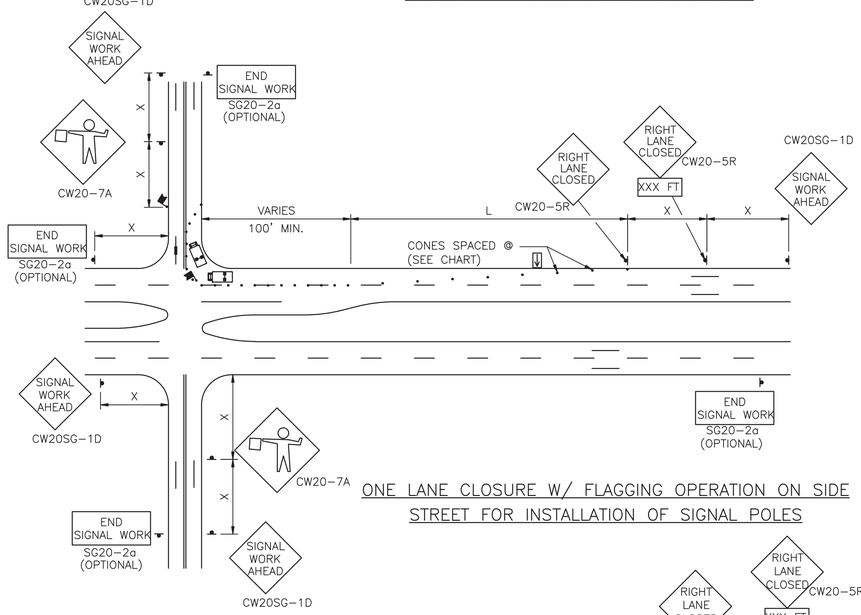
ONE LANE CLOSURE W/ LEFT LANE AND/OR LEFT TURN LANE CLOSED



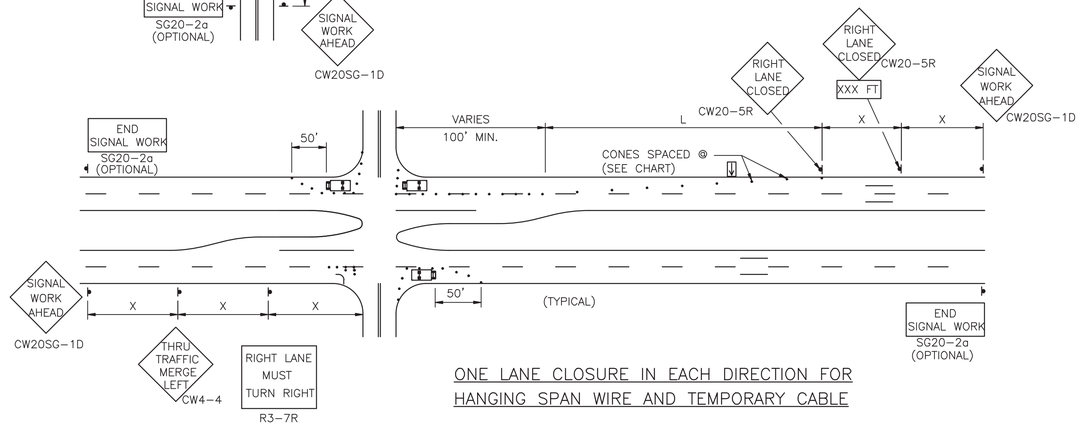
MEDIAN NOSE MODIFICATION



FLAGGING OPERATION FOR HANGING SIGNALS, STRAPPING CABLE, OR INSALLING LOOP DETECTORS



ONE LANE CLOSURE W/ FLAGGING OPERATION ON SIDE STREET FOR INSTALLATION OF SIGNAL POLES



ONE LANE CLOSURE IN EACH DIRECTION FOR HANGING SPAN WIRE AND TEMPORARY CABLE

TYPICAL TRANSITION LENGTHS

SUGGESTED MAXIMUM SPACING OF DEVICES

POSTED SPEED	FORMULA	MINIMUM DESIRABLE TAPER LENGTHS **			SUGGESTED MAXIMUM SPACING OF DEVICE		MINIMUM SIGN SPACING X DISTANCE
		10' OFFSET	11' OFFSET	12' OFFSET	ON A TAPER	ON A TANGENT	
30	$L=WS^2/60$	150'	165'	180'	30'	60'–75'	120'
35		205'	225'	245'	35'	70'–90'	160'
40		265'	295'	320'	40'	80'100'	240'
45	L=WS	450'	495'	540'	45'	90'–110'	320'
50		500'	550'	600'	50'	100'–125'	400'
55		550'	605'	660'	55'	100'–140'	500'
60		600'	660'	720'	60'	120'–150'	600'

** TAPER LENGTHS HAVE BEEN ROUNDED OFF
L=LENGTH OF TAPER (FT.)
W=WIDTH OF OFFSET (FT.)
S=POSTED SPEED(MPH)

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.
2. THE MINIMUM LANE WIDTH ALLOWED IS 10 FEET. THE MINIMUM BUFFER ZONE BETWEEN THE WORK ZONE AND ADJACENT TRAFFIC IS 2 FEET.
3. FLORESCENT ORANGE SHALL BE THE BACKGROUND COLOR ON ALL WORK ZONE SIGNS.
4. THE CONTRACTOR SHALL REMOVE ADVANCE SIGNS WHEN NO CONSTRUCTION OPERATIONS ARE UNDERWAY.
5. OBSTRUCTIONS OR HAZARDS AT THE WORK AREA SHALL BE CLEARLY MARKED AND DELINEATED AT ALL TIMES.
6. ALL HOLES, TRENCHES OR OTHER HAZARDOUS AREAS SHALL BE ADEQUATELY PROTECTED BY LIGHTS OR OTHER PROTECTIVE DEVICES.
7. TRENCHES SHALL BE COVERED OR SURROUNDED WITH ORANGE PLASTIC CONSTRUCTION FENCE AS DIRECTED BY THE ENGINEER.
8. FLAGGER AND FCW20-7a SIGN MAY BE REQUIRED ACCORDING TO FIELD CONDITIONS.
9. VEHICLES PARKED IN ROADWAY SHALL BE EQUIPPED WITH TWO STROBES.

LEGEND:

HEAVY WORK VEHICLE

FLASHING ARROW PANEL

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CITY ENGINEER	CITY TRAFFIC ENGINEER

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DIRECTOR OF HOUSTON PUBLIC WORKS

EFF DATE: NOV–27–2023 | DWG NO: 01555–13

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TRAFFIC CONTROL PLAN FOR SIGNAL CONSTRUCTION

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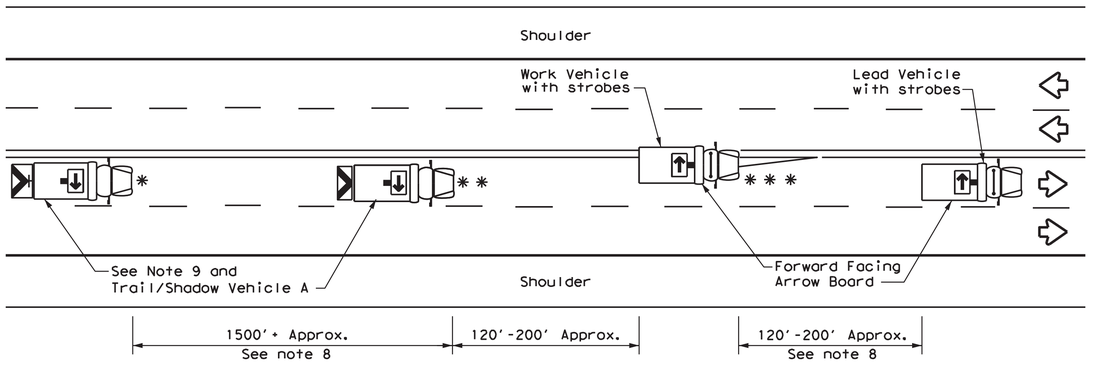
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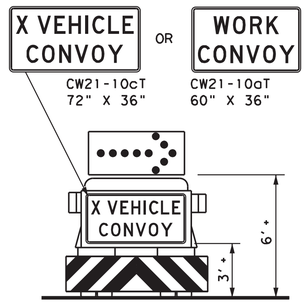
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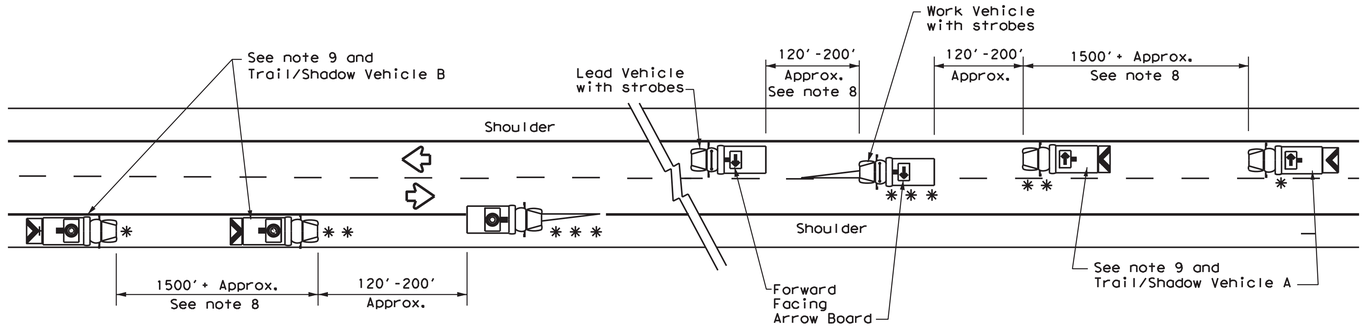
TCP (3-1a)

UNDIVIDED MULTILANE ROADWAY



TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

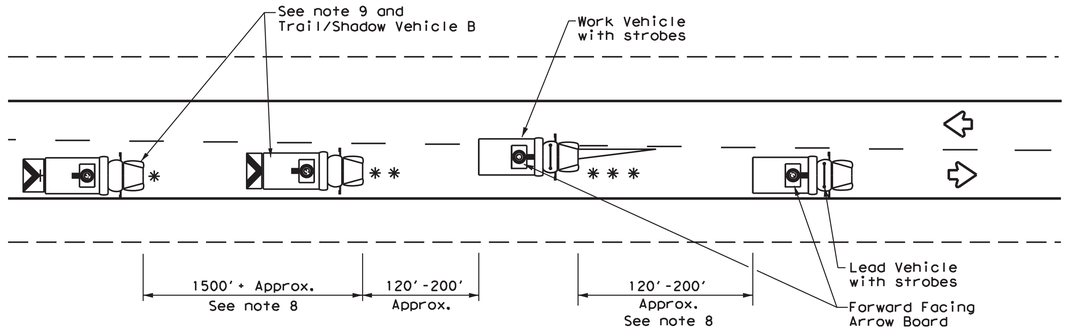


WORK ON SHOULDER

WORK ON TRAVEL LANE

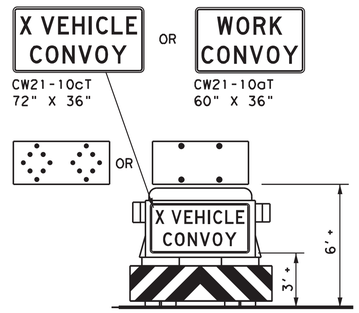
TCP (3-1b)

TWO-WAY ROADWAY WITH PAVED SHOULDERS



TCP (3-1c)

TWO-WAY ROADWAY WITHOUT PAVED SHOULDERS



TRAIL/SHADOW VEHICLE B

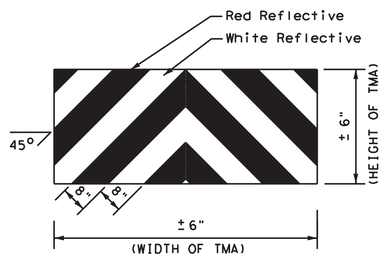
with Flashing Arrow Board in CAUTION display

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
* *	Shadow Vehicle		
* * *	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

1. TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used the WORK vehicle must be equipped with an arrow board. The Engineer will determine if the LEAD VEHICLE and/or TRAIL VEHICLE are required based on prevailing roadway conditions, traffic volume, and sight distance restrictions.
2. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
3. The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE and TRAIL VEHICLE are required.
4. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DEPARTMENTAL MATERIAL SPECIFICATION DMS 8300, Type A.
5. Flashing arrow boards shall be Type B or Type C as per the Barricade and Construction (BC) standards. The board shall be controlled from inside the vehicle.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the work convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE and vehicle spacing between WORK VEHICLE and LEAD VEHICLE may vary according to terrain, work activity and other factors.
9. "X VEHICLE CONVOY" (CW21-10cT) or "WORK CONVOY" (CW21-10aT) signs shall be used on TRAIL VEHICLES and SHADOW VEHICLES as shown. As an option 48" X 48" diamond shaped "WORK CONVOY"(CW21-10T) or "X VEHICLE CONVOY" (CW21-10bT) signs may be used where adequate mounting space exists. When used, the X VEHICLE CONVOY sign shall have the number of the convoy vehicles displayed on the sign in the number designation "X" location. The "X VEHICLE CONVOY" sign shall not be used on the SHADOW VEHICLE if a TRAIL VEHICLE is used.
10. On two-lane two-way roadways, the work and protection vehicles should pull over periodically to allow motor vehicle traffic to pass. If motorists are not allowed to pass the work convoy, a "DO NOT PASS" (R4-1) sign should be placed on the back of the rearmost protection vehicle.



STRIPING FOR TMA

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS UNDIVIDED HIGHWAYS

TCP(3-1)-13

FILE: tcp3-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	DIST	COUNTY		SHEET NO. 137 OF 183



CONSTRUCTION SANITARY SEWER, MANHOLES AND SERVICE LINE

N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE 1-A
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

A	B	C	D	E	F	G	H
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	BARREMORE ST DETOUR →	BARREMORE ST DETOUR ←	END DETOUR	BARREMORE ST DETOUR ↑
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S
I	J	K	L	M	N	O	P	Q
ONE WAY ←	ONE WAY →	ROAD CLOSED TO THRU TRAFFIC	ROAD CLOSED	DETOUR ←				DO NOT ENTER
R6-2L	R6-2R	R11-4	R11-2	M4-10L	R3-1	R3-2	CW1-7	R5-1

NOTES:

1. CONTRACTOR SHALL NOTIFY POLICE AND FIRE DEPARTMENT, AND LOCAL SCHOOL DISTRICT(S) (FOR BUS ROUTES) AND U.S. POSTAL SERVICE OF LANE CLOSURES, A MINIMUM OF (5) DAYS BEFORE HAND.
2. CONTRACTOR SHALL PROVIDE UNOBSTRUCTED ACCESS FOR RESIDENTS, EMERGENCY VEHICLES, AND AUTHORIZED PERSONNEL AT ALL TIMES.
3. CONTRACTOR SHALL PROVIDE ACCESS TO PRIVATE DRIVEWAYS, WALKWAYS, AND ANY OTHER ENTRANCES AT ALL TIMES.
4. CONTRACTOR SHALL NOT WORK ON MORE THAN ONE BLOCK OF ONE STREET AT A TIME. EACH STREET SHALL BE COMPLETED AND OPEN TO TRAFFIC PRIOR TO CLOSING ANOTHER STREET.
5. REFER TO COH STANDARD DETAILS 01555-03 AND 01555-05 FOR APPLICABLE DETOUR ROUTING AND ONE-LANE CLOURE TCP.
6. BARREMORE ST INTERSECTION WORK ZONES SHALL BE ACTIVE DURING WEEKENDS. REFER TO COH STANDARD DETAILS 01555-06 TO 01555-12.

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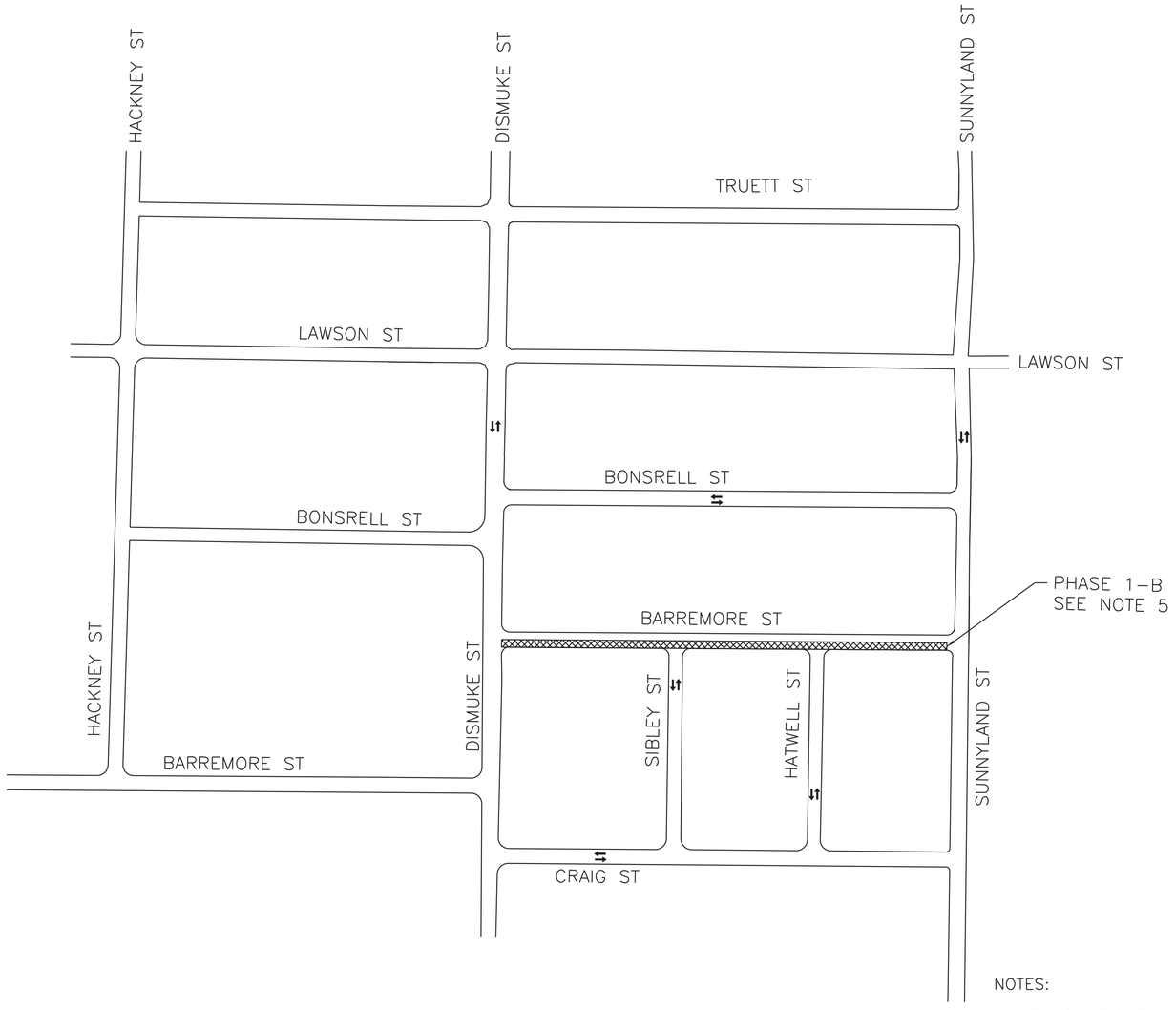
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR BARREMORE STREET PHASE 1-A

WBS NO. R-01000-0036-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON, PM	
SABEEN SHAIK, P.E.	
SHEET NO. 138 OF 183	

1/30/2026
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CONSTRUCT LONG SIDE SERVICES AND PAVEMENT MILL/OVERLAY

N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE 1-B
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

A	B	C	D	E	F	G	H
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	BARREMORE ST DETOUR →	BARREMORE ST DETOUR ←	END DETOUR	BARREMORE ST DETOUR ↑
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S
I	J	K	L	M	N	O	P	Q
ONE WAY ←	ONE WAY →	ROAD CLOSED TO THRU TRAFFIC	ROAD CLOSED	DETOUR ←				DO NOT ENTER
R6-2L	R6-2R	R11-4	R11-2	M4-10L	R3-1	R3-2	CW1-7	R5-1

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RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR BARREMORE STREET PHASE 1-B

WBS NO. R-01000-0036-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON, PM	
SABEEN SHAIK, P.E.	
SHEET NO. 139 OF 183	

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CONSTRUCTION SANITARY SEWER, MANHOLES AND SERVICE LINE

CONSTRUCT LONG SIDE SERVICES AND PAVEMENT MILL/OVERLAY

N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE 2
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

A	B	C	D	E	F	G	H
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	DISMUKE ST DETOUR →	DISMUKE ST DETOUR ←	END DETOUR	DISMUKE ST DETOUR ↑
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S
I	J	K	L	M	N	O	P	Q
ONE WAY ←	ONE WAY →	ROAD CLOSED TO THRU TRAFFIC	ROAD CLOSED	DETOUR ←				DO NOT ENTER
R6-2L	R6-2R	R11-4	R11-2	M4-10L	R3-1	R3-2	CW1-7	R5-1

NOTES:

1. CONTRACTOR SHALL NOTIFY POLICE AND FIRE DEPARTMENT, AND LOCAL SCHOOL DISTRICT(S) (FOR BUS ROUTES) AND U.S. POSTAL SERVICE OF LANE CLOSURES, A MINIMUM OF (5) DAYS BEFORE HAND.
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5. REFER TO COH STANDARD DETAILS 01555-03 AND 01555-05 FOR APPLICABLE DETOUR ROUTING AND ONE-LANE CLOURE TCP.
6. DISMUKE ST INTERSECTION WORK ZONE SHALL BE ACTIVE DURING WEEKENDS, REFER TO COH STANDARD DETAILS 01555-06 TO 01555-12.

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Amani Engineering, Inc.
• Engineers • Surveyors • Construction Managers
11011 RICHMOND AVE. SUITE 700 HOUSTON, TX. 77042
Tel (713) 270-5700 Fax (713) 271-3487
TBPE Firm Reg. No.: F-4520
TBPLS Firm Reg. No.: 100282-00

TRANSCEND engineers + planners
Transcend Engineers & Planners, LLC
TPBE Reg. No. F-19299
23410 Grand Reserve Dr., Suite 101
Houston, Texas 77494

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TCP FOR DISMUKE STREET PHASE 2

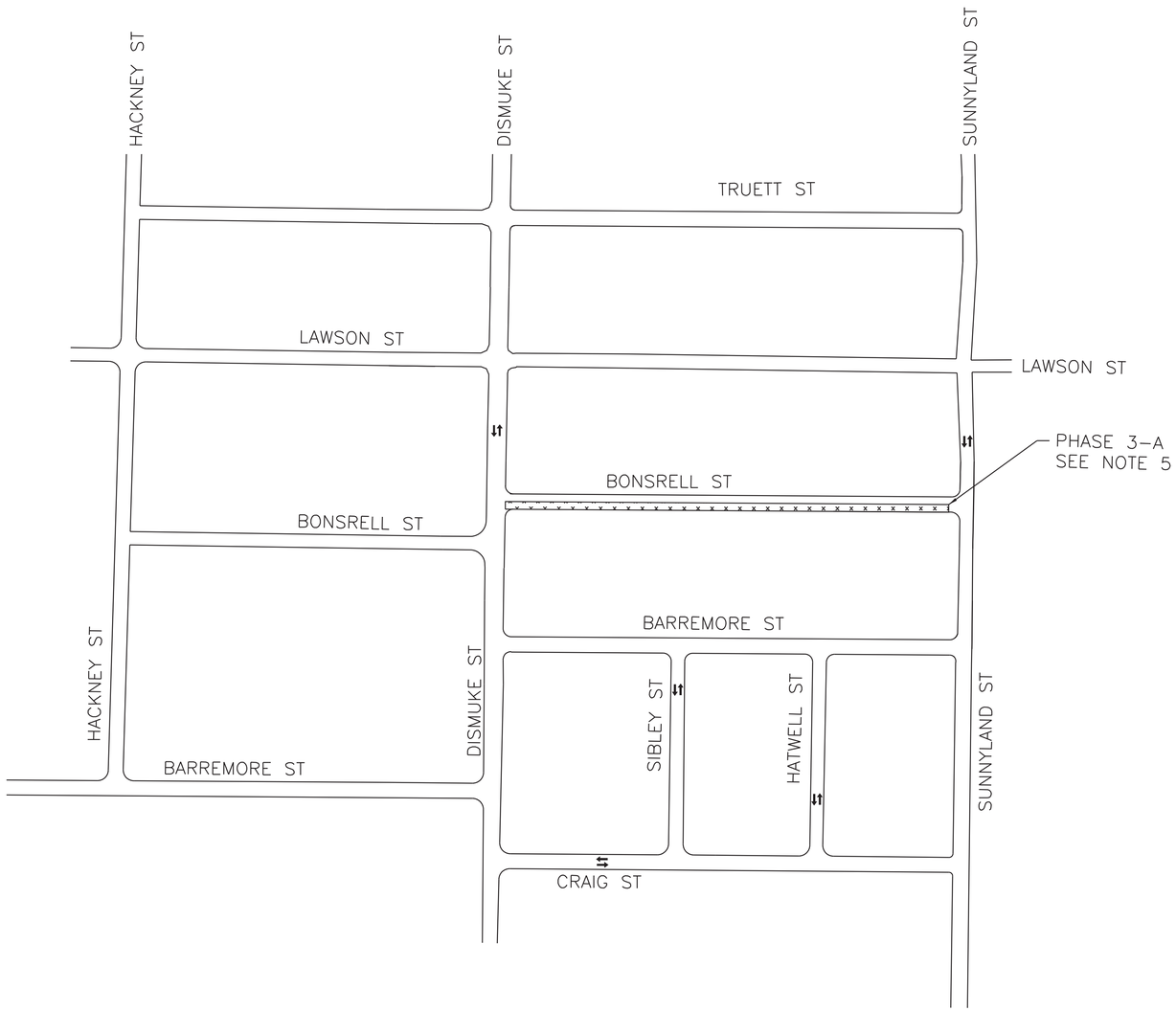
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CONSTRUCTION SANITARY SEWER, MANHOLES AND SERVICE LINE

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LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE 3-A
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

A	B	C	D	E	F	G	H
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	BONSRELL ST DETOUR →	BONSRELL ST DETOUR ←	END DETOUR	BONSRELL ST DETOUR ↑
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S
I	J	K	L	M	N	O	P	Q
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R6-2L	R6-2R	R11-4	R11-2	M4-10L	R3-1	R3-2	CW1-7	R5-1

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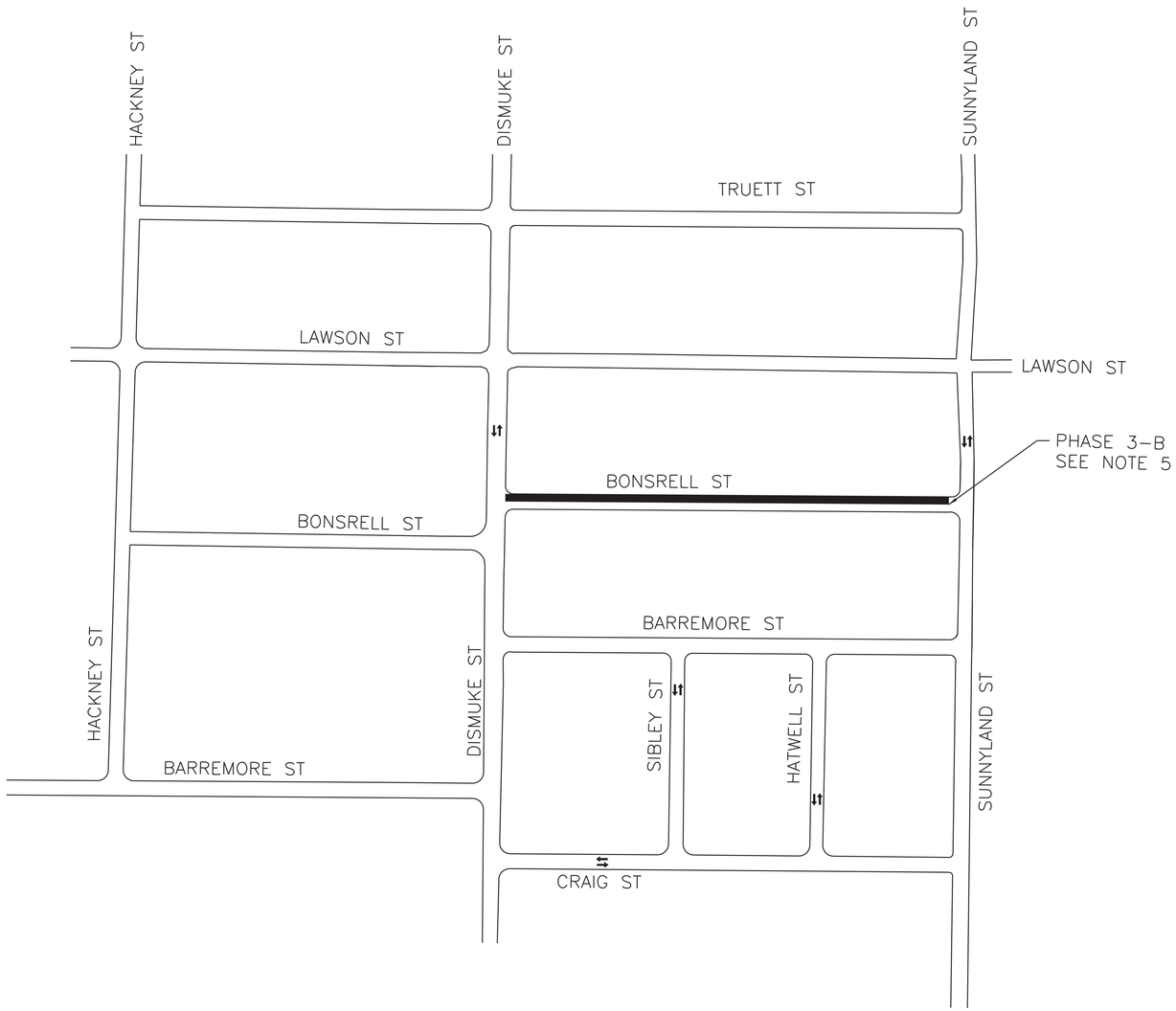
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

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SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
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TCP FOR BONSRELL STREET PHASE 3-A

WBS NO. R-01000-0036-3	
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SABEEN SHAIK, P.E.	
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CONSTRUCT LONG SIDE SERVICES AND PAVEMENT MILL/OVERLAY

N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE 3-B
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

A	B	C	D	E	F	G	H
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	BONSRELL ST DETOUR →	BONSRELL ST DETOUR ←	END DETOUR	BONSRELL ST DETOUR ↑
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S
I	J	K	L	M	N	O	P	Q
ONE WAY ←	ONE WAY →	ROAD CLOSED TO THRU TRAFFIC	ROAD CLOSED	DETOUR ←				DO NOT ENTER
R6-2L	R6-2R	R11-4	R11-2	M4-10L	R3-1	R3-2	CW1-7	R5-1

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TCP FOR BONSRELL STREET PHASE 3-B

WBS NO.
R-01000-0036-3

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N.T.S.

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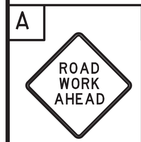
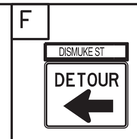
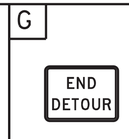
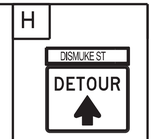
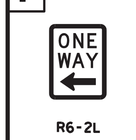
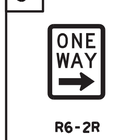
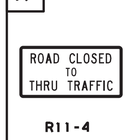
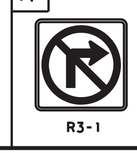
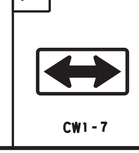
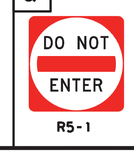


CONSTRUCTION SANITARY SEWER, MANHOLES AND SERVICE LINE

N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE 4-A
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

A	B	C	D	E	F	G	H
							
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	DISMUKE ST DETOUR	DISMUKE ST DETOUR	END DETOUR	DISMUKE ST DETOUR
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S
I	J	K	L	M	N	O	P	Q
								
ONE WAY	ONE WAY	ROAD CLOSED TO THRU TRAFFIC	ROAD CLOSED	DETOUR				DO NOT ENTER
R6-2L	R6-2R	R11-4	R11-2	M4-10L	R3-1	R3-2	CW1-7	R5-1

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TCP FOR DISMUKE STREET PHASE 4-A

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SABEEN SHAIK, P.E.	
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CONSTRUCT LONG SIDE SERVICES AND PAVEMENT MILL/OVERLAY

N

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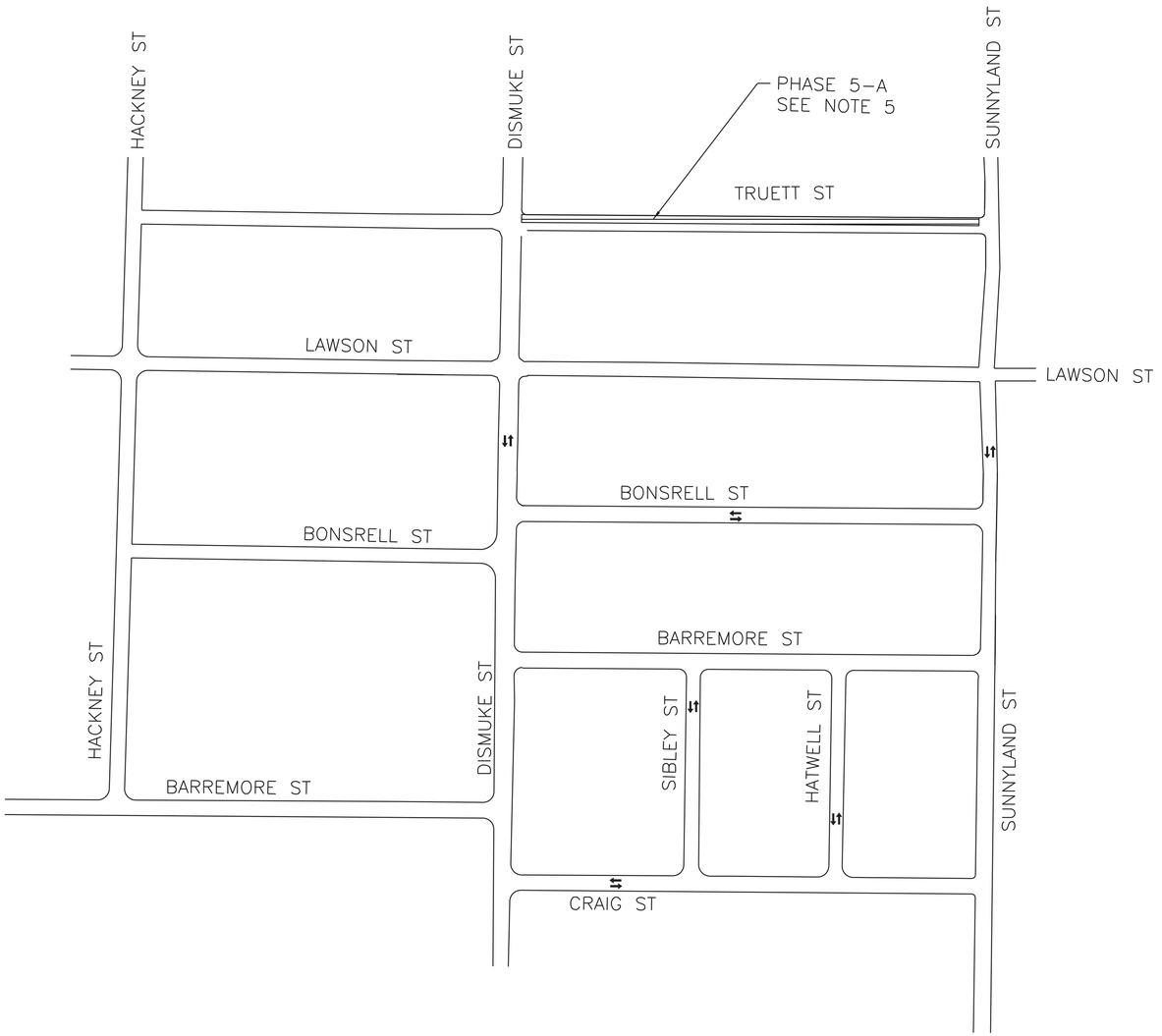
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TBPLS Firm Reg. No.: 100262-00

TRANSCEND engineers + planners
Transcend Engineers & Planners, LLC
TPBE Reg. No. F-19299
23410 Grand Reserve Dr., Suite 101
Houston, Texas 77494

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

RESPONSIBLE ENGINEER:
TRANSCEND ENGINEERS & PLANNERS, LLC.
RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

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FB NO.: P-

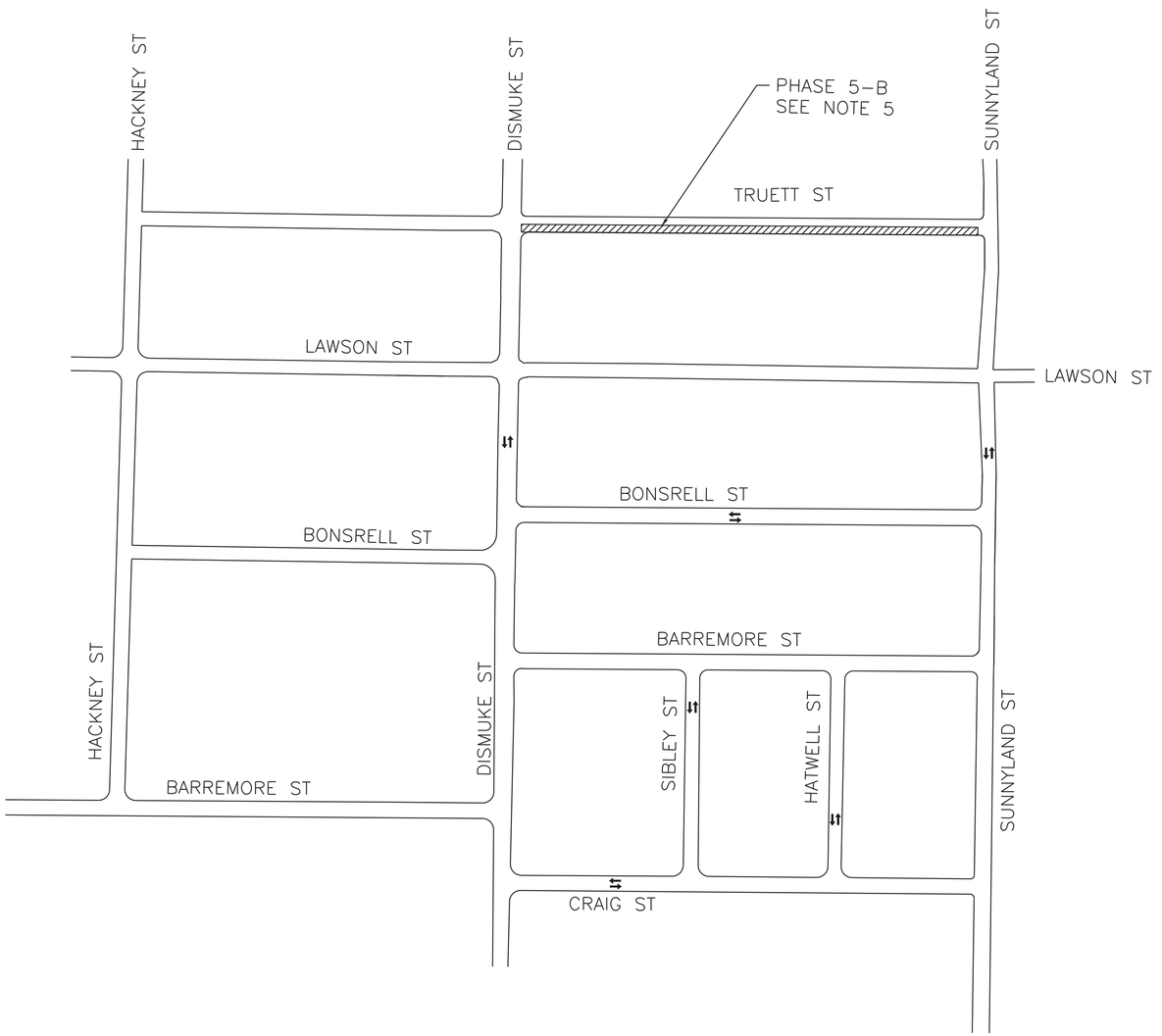
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR TRUETT STREET PHASE 5-A

WBS NO.	R-01000-0036-3
DRAWING SCALE	N.T.S.
CITY OF HOUSTON, PM	SABEEN SHAIK, P.E.
SHEET NO.	145 OF 183

1/30/2026
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CONSTRUCT LONG SIDE SERVICES AND PAVEMENT MILL/OVERLAY

N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE 5-B
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

A	B	C	D	E	F	G	H
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	BARREMORE ST DETOUR →	BARREMORE ST DETOUR ←	END DETOUR	BARREMORE ST DETOUR ↑
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S
I	J	K	L	M	N	O	P	Q
ONE WAY ←	ONE WAY →	ROAD CLOSED TO THRU TRAFFIC	ROAD CLOSED	DETOUR				DO NOT ENTER
R6-2L	R6-2R	R11-4	R11-2	M4-10L	R3-1	R3-2	CW1-7	R5-1

NOTES:

1. CONTRACTOR SHALL NOTIFY POLICE AND FIRE DEPARTMENT, AND LOCAL SCHOOL DISTRICT(S) (FOR BUS ROUTES) AND U.S. POSTAL SERVICE OF LANE CLOSURES, A MINIMUM OF (5) DAYS BEFORE HAND.
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4. CONTRACTOR SHALL NOT WORK ON MORE THAN ONE BLOCK OF ONE STREET AT A TIME. EACH STREET SHALL BE COMPLETED AND OPEN TO TRAFFIC PRIOR TO CLOSING ANOTHER STREET.
5. REFER TO COH STANDARD DETAILS 01555-03 AND 01555-05 FOR APPLICABLE DETOUR ROUTING AND ONE-LANE CLOURE TCP.

DRAFT
60% PRELIMINARY

Amani Engineering, Inc.
• Engineers • Surveyors • Construction Managers
11011 RICHMOND AVE. SUITE 700 HOUSTON, TX. 77042
Tel (713) 270-5700 Fax (713) 271-3487
TBPE Firm Reg. No.: F-4520
TBPLS Firm Reg. No.: 100282-00

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Houston, Texas 77494

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1/30/2026

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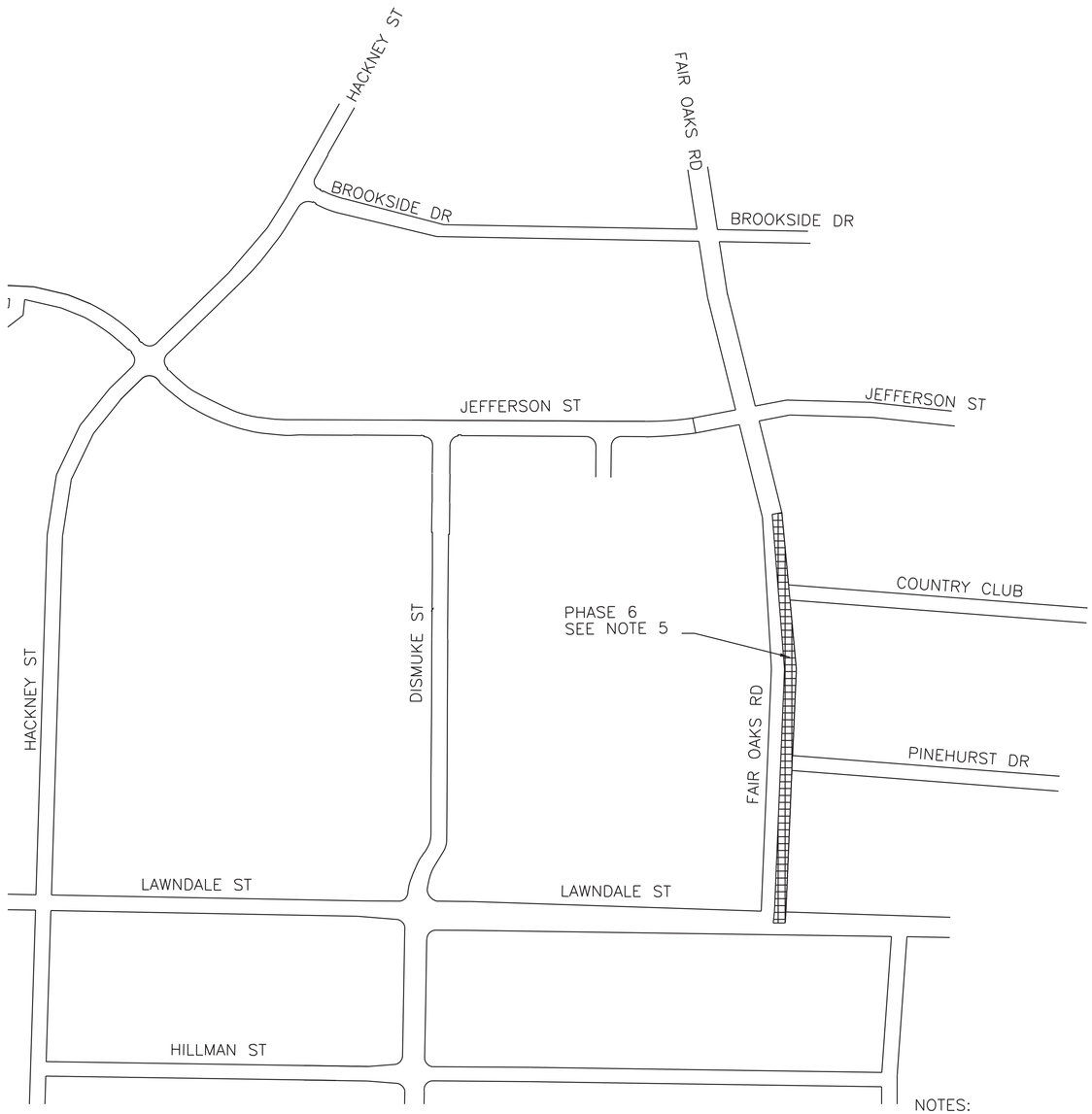
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR TRUETT STREET PHASE 5-B

WBS NO.	R-01000-0036-3
DRAWING SCALE	N.T.S.
CITY OF HOUSTON, PM	SABEEN SHAIK, P.E.
SHEET NO.	146 OF 183

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CONSTRUCT LONG SIDE SERVICES AND PAVEMENT MILL/OVERLAY

CONSTRUCTION SANITARY SEWER, MANHOLES AND SERVICE LINE

N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE 6
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

A	B	C	D	E	F	G	H
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	BARREMORE ST DETOUR →	BARREMORE ST DETOUR ←	END DETOUR	BARREMORE ST DETOUR ↑
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S
I	J	K	L	M	N	O	P	Q
ONE WAY ←	ONE WAY →	ROAD CLOSED TO THRU TRAFFIC	ROAD CLOSED	DETOUR ←				DO NOT ENTER
R6-2L	R6-2R	R11-4	R11-2	M4-10L	R3-1	R3-2	CW1-7	R5-1

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DRAFT
60% PRELIMINARY

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TBPLS Firm Reg. No.: 100282-00

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1/30/2026

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FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR FAIR OAKS STREET PHASE 6

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=250'
CITY OF HOUSTON, PM	
SABEEN SHAIK, P.E.	
SHEET NO.	147 OF 183

1/30/2026
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CONSTRUCT LONG SIDE SERVICES AND PAVEMENT MILL/OVERLAY

CONSTRUCTION SANITARY SEWER, MANHOLES AND SERVICE LINE

N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE 7
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

A	B	C	D	E	F	G	H
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	BARREMORE ST DETOUR →	BARREMORE ST DETOUR ←	END DETOUR	BARREMORE ST DETOUR ↑
CW20-1	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S
I	J	K	L	M	N	O	P	Q
ONE WAY ←	ONE WAY →	ROAD CLOSED TO THRU TRAFFIC	ROAD CLOSED	DETOUR ←				DO NOT ENTER
R6-2L	R6-2R	R11-4	R11-2	M4-10L	R3-1	R3-2	CW1-7	R5-1

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DRAFT
60% PRELIMINARY

Amani Engineering, Inc.
• Engineers • Surveyors • Construction Managers
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TBPLS Firm Reg. No.: 100282-00

TRANSCEND engineers + planners
Transcend Engineers & Planners, LLC
TPBE Reg. No. F-19299
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Houston, Texas 77494

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RESPONSIBLE ENGINEER:
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RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

SURVEYED BY: AMANI
FB NO.: P-

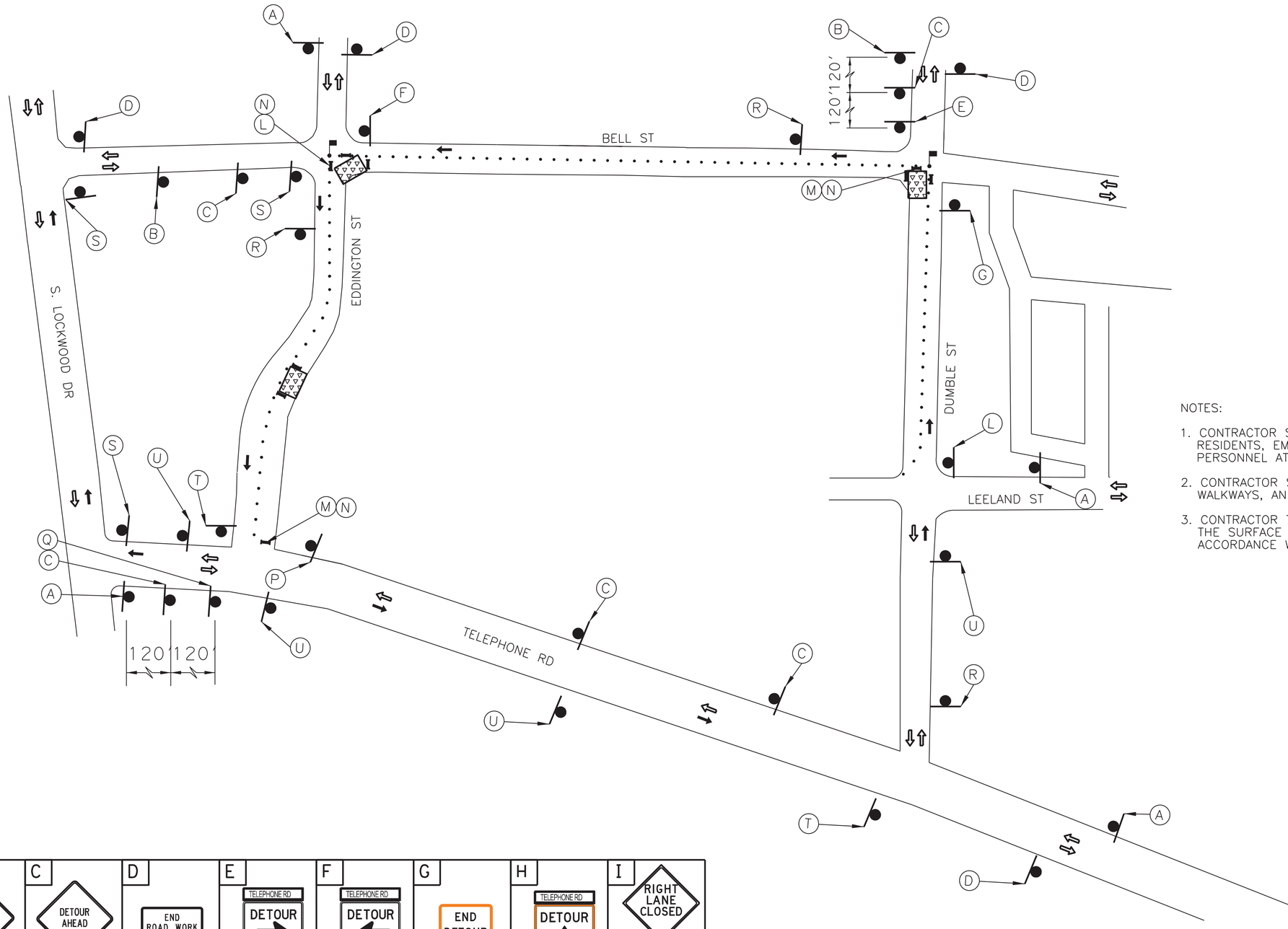
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

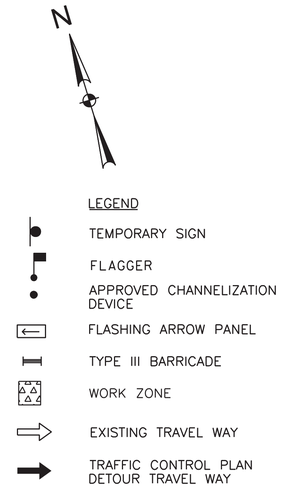
CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR FAIR OAKS STREET PHASE 7

WBS NO. R-01000-0036-3	
DRAWING SCALE	
N.T.S.	
CITY OF HOUSTON, PM	
SABEEN SHAIK, P.E.	
SHEET NO. 148 OF 183	

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NOTES:

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A ROAD WORK AHEAD CW20-1D	B ROAD CLOSED AHEAD CW20-3	C DETOUR AHEAD CW20-2	D END ROAD WORK G20-2	E TELEPHONE RD DETOUR M4-9R	F TELEPHONE RD DETOUR M4-9L	G END DETOUR M4-8a	H TELEPHONE RD DETOUR M4-9S	I RIGHT LANE CLOSED AHEAD CW20-5(2) CW16-3
J LEFT LANE CLOSED AHEAD CW20-5(1) CW16-3	K ONE WAY R6-2L	L ONE WAY R6-2R	M DO NOT ENTER R5-1	N ROAD CLOSED R11-2	O DETOUR M4-10L	P R3-1	Q R3-2	R BEGIN ONE WAY R6-6

S BELL ST DETOUR M4-9R	T BELL ST DETOUR M4-9L	U BELL ST DETOUR M4-9S

Amani Engineering, Inc.
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11011 RICHMOND AVE. SUITE 700 HOUSTON, TX. 77042
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TBPE Firm Reg. No.: F-4528
TBPLS Firm Reg. No.: 100282-00

TRANSCEND engineers + planners
Transcend Engineers & Planners, LLC
TPBE Reg. No. F-19299
23410 Grand Reserve Dr., Suite 101
Houston, Texas 77494

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RESPONSIBLE ENGINEER:
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RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR EDDINGTON AND BELL STREET (TRENCHLESS CONSTRUCTION)

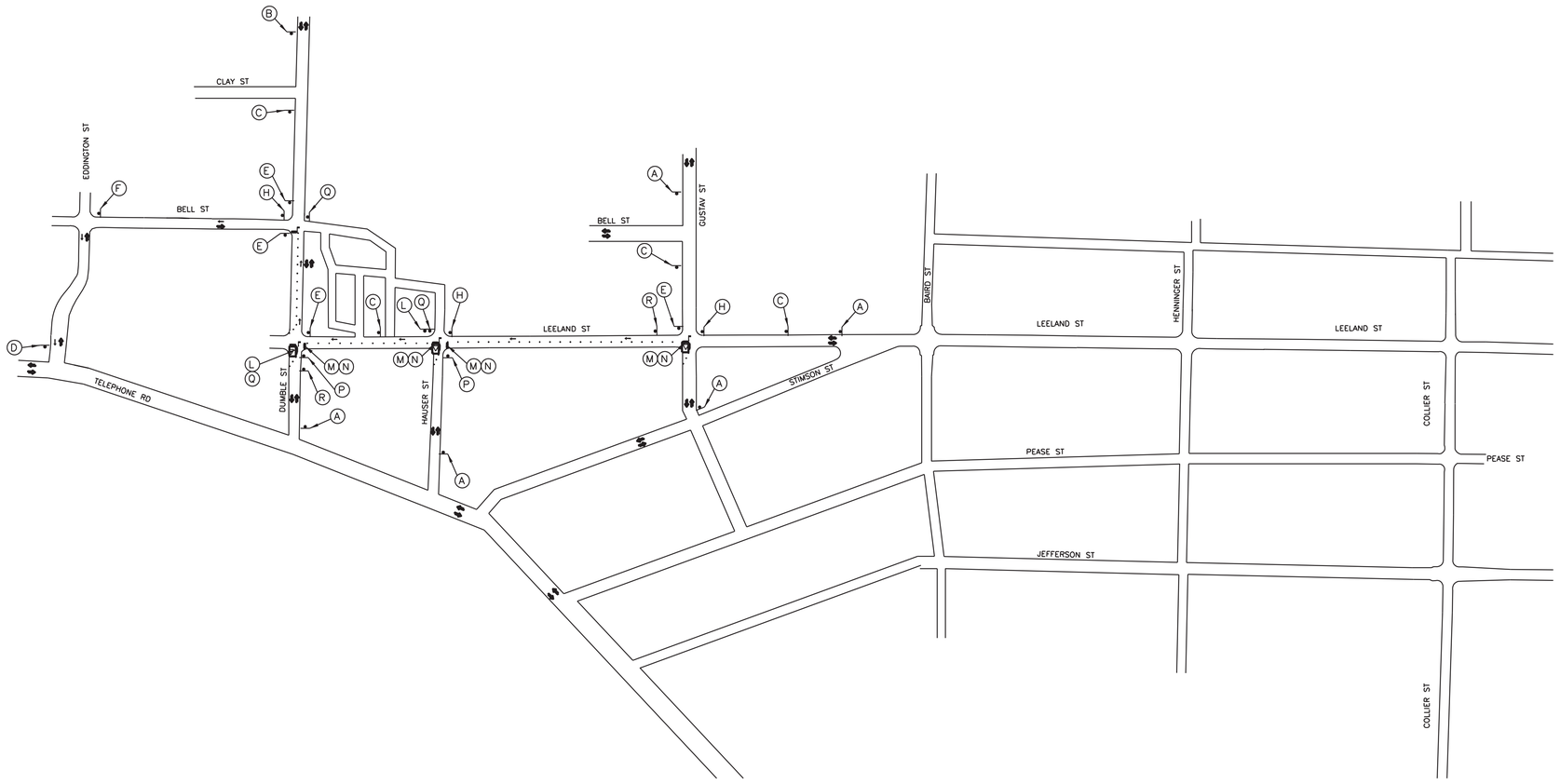
WBS NO.
R-01000-0036-3

DRAWING SCALE
N.T.S.

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 149 OF 183

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N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

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A ROAD WORK AHEAD CW20-1D	B ROAD CLOSED AHEAD CW20-3	C DETOUR AHEAD CW20-2	D END ROAD WORK G20-2	E TELEPHONE RD DETOUR M4-9R	F TELEPHONE RD DETOUR M4-9L	G END DETOUR M4-8a	H TELEPHONE RD DETOUR M4-9S	I RIGHT LANE CLOSED AHEAD CW20-5(2) CW16-3
J LEFT LANE CLOSED AHEAD CW20-5(1) CW16-3	K ONE WAY R6-2L	L ONE WAY R6-2R	M DO NOT ENTER R5-1	N ROAD CLOSED R11-2	O DETOUR M4-10L	P R3-1	Q R3-2	R BEGIN ONE WAY R6-6
S BELL ST DETOUR M4-9R	T BELL ST DETOUR M4-9L	U BELL ST DETOUR M4-9S						

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TBPE Firm Reg. No.: F-4526
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RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR LEELAND STREET
(SHEET 1 OF 2)
(TRENCHLESS CONSTRUCTION)

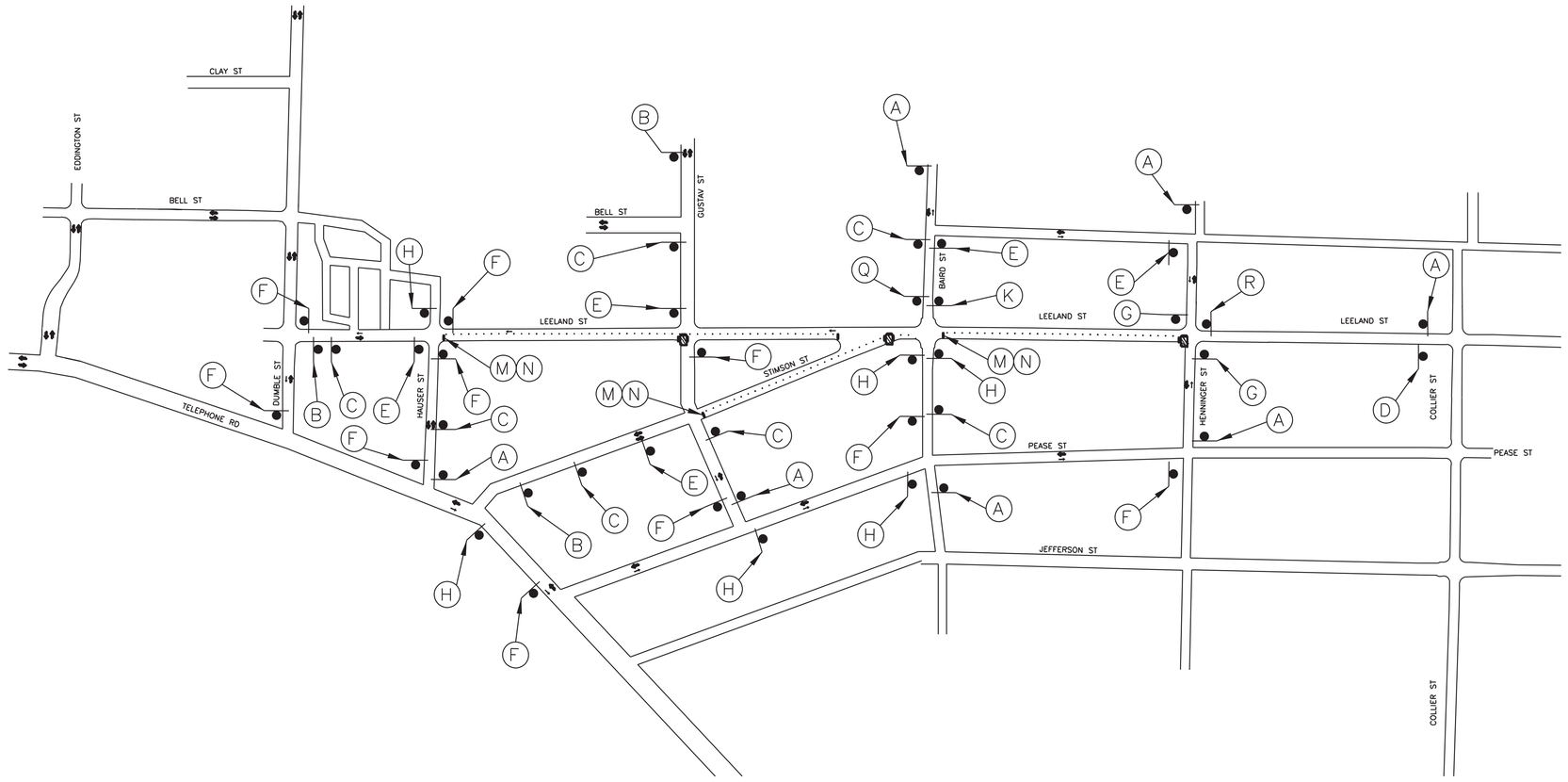
WBS NO.
R-01000-0036-3

DRAWING SCALE
N.T.S.

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 150 OF 183

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LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
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- TYPE III BARRICADE
- WORK ZONE
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A ROAD WORK AHEAD CW20-1D	B ROAD CLOSED AHEAD CW20-3	C DETOUR AHEAD CW20-2	D END ROAD WORK G20-2	E LEELAND ST DETOUR M4-9R	F LEELAND ST DETOUR M4-9L	G END DETOUR M4-8a	H LEELAND ST DETOUR M4-9S	I RIGHT LANE CLOSED AHEAD CW20-5(2) CW16-3
J LEFT LANE CLOSED AHEAD CW20-5(1) CW16-3	K ONE WAY R6-2L	L ONE WAY R6-2R	M DO NOT ENTER R5-1	N ROAD CLOSED R11-2	O DETOUR M4-10L	P R3-1	Q R3-2	R BEGIN ONE WAY R6-6

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RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR LEELAND STREET
(SHEET 2 OF 2)
(TRENCHLESS CONSTRUCTION)

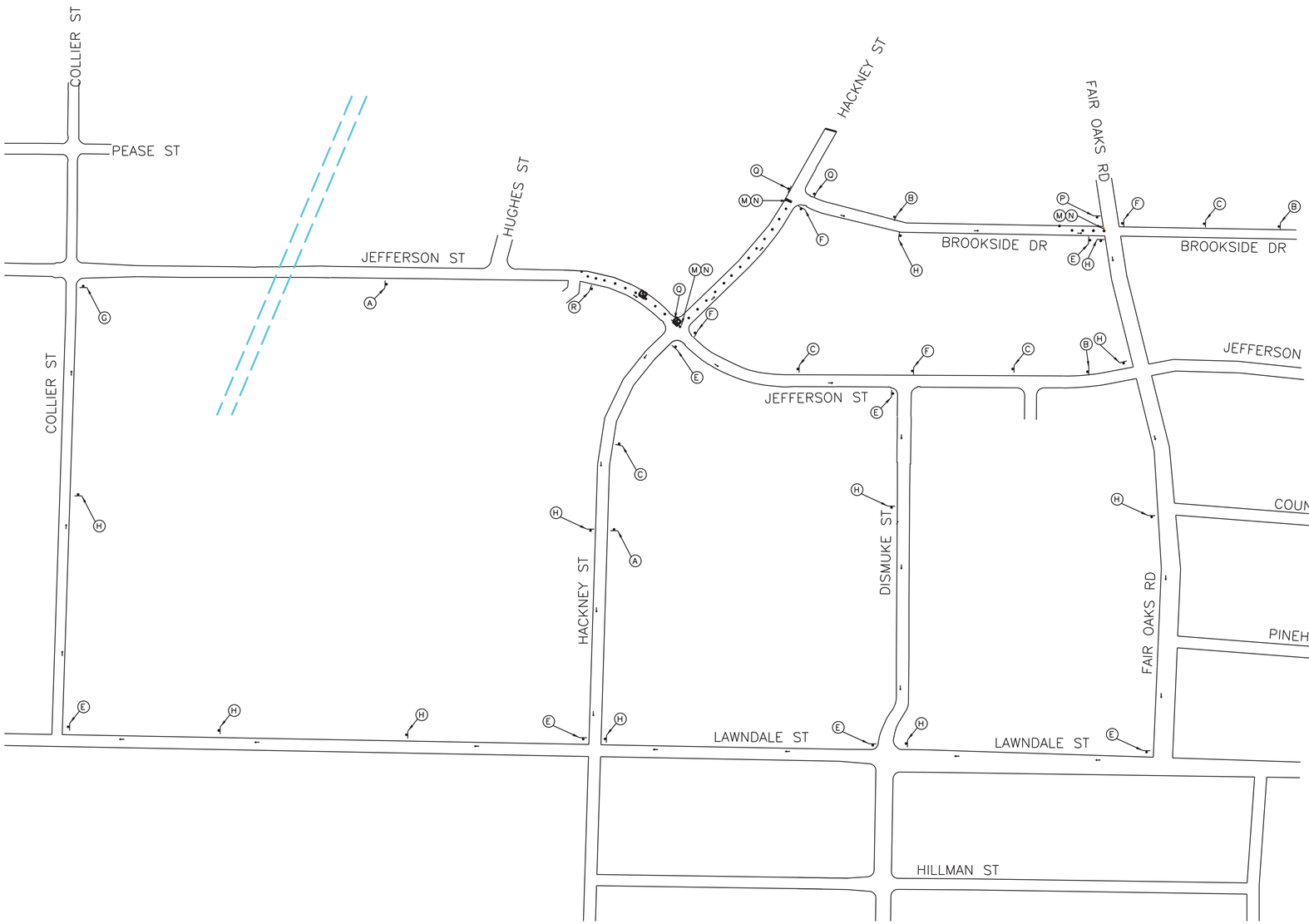
WBS NO.
R-01000-0036-3

DRAWING SCALE
N.T.S.

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 151 OF 183

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N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE
- EXISTING TRAVEL WAY
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A	B	C	D	E	F	G	H	I
ROAD WORK AHEAD	ROAD CLOSED AHEAD	DETOUR AHEAD	END ROAD WORK	JEFFERSON ST DETOUR →	JEFFERSON ST DETOUR ←	END DETOUR	JEFFERSON ST DETOUR ↑	RIGHT LANE CLOSED AHEAD
CW20-1D	CW20-3	CW20-2	G20-2	M4-9R	M4-9L	M4-8a	M4-9S	CW20-5(2) CW16-3

J	K	L	M	N	O	P	Q	R	S	T	U
LEFT LANE CLOSED AHEAD	ONE WAY ←	ONE WAY →	DO NOT ENTER	ROAD CLOSED	DETOUR ←			BEGIN ONE WAY	BELL ST DETOUR →	BELL ST DETOUR ←	BELL ST DETOUR ↑
CW20-5(1) CW16-3	R6-2L	R6-2R	R5-1	R11-2	M4-10L	R3-1	R3-2	R6-6	M4-9R	M4-9L	M4-9S

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SURVEYED BY: AMANI
FB NO.: P–

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR JEFFERSON STREET
(SHEET 1 OF 3)
(TRENCHLESS CONSTRUCTION)

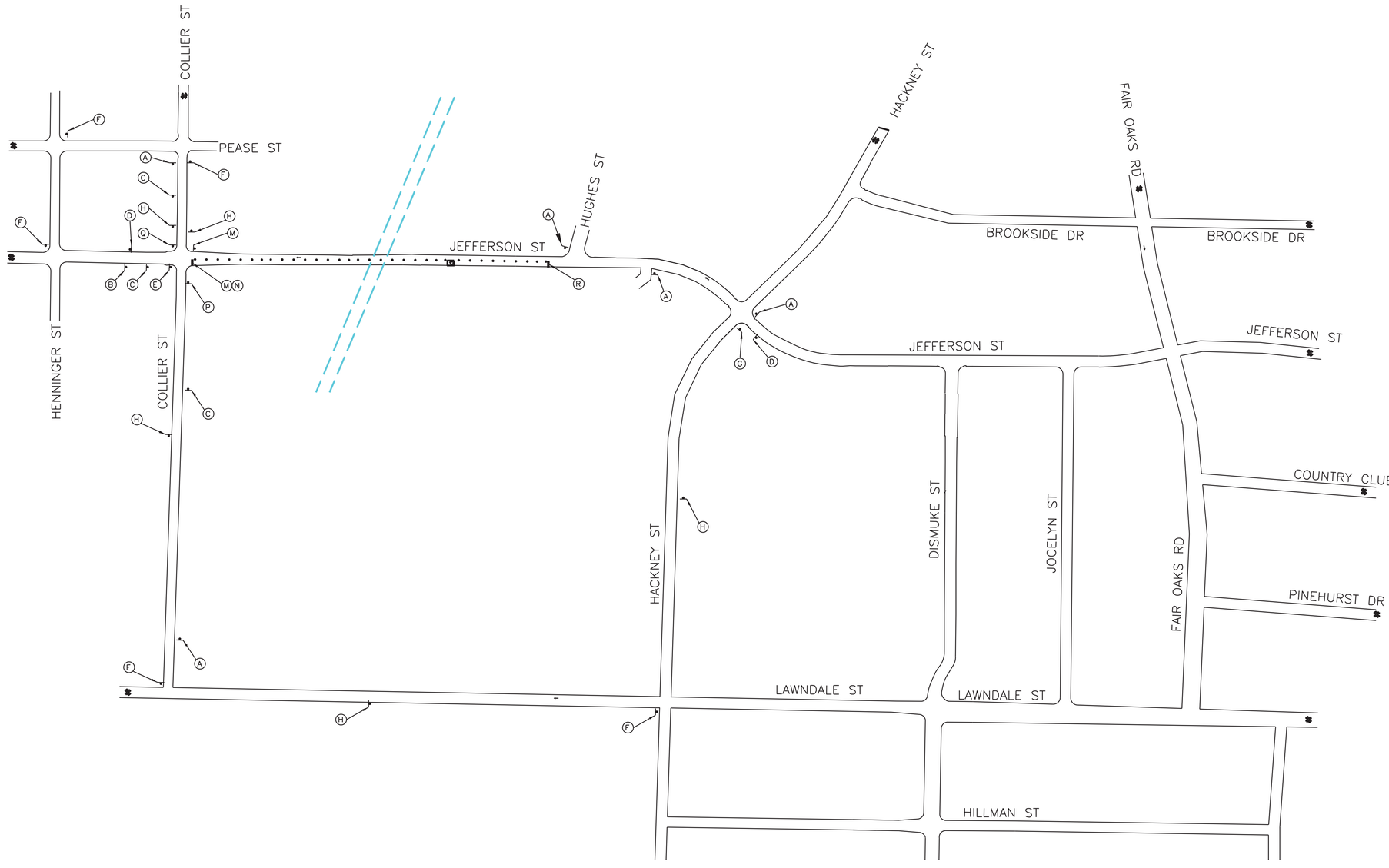
WBS NO.
R-01000-0036-3

DRAWING SCALE
N.T.S.

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 152 OF 183

1/30/2026
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N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE
- EXISTING TRAVEL WAY
- TRAFFIC CONTROL PLAN DETOUR TRAVEL WAY

NOTES:

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A ROAD WORK AHEAD CW20-1D	B ROAD CLOSED AHEAD CW20-3	C DETOUR AHEAD CW20-2	D END ROAD WORK G20-2	E JEFFERSON ST DETOUR M4-9R	F JEFFERSON ST DETOUR M4-9L	G END DETOUR M4-8a	H JEFFERSON ST DETOUR M4-9S	I RIGHT LANE CLOSED AHEAD CW20-5(2) CW16-3
J LEFT LANE CLOSED AHEAD CW20-5(1) CW16-3	K ONE WAY R6-2L	L ONE WAY R6-2R	M DO NOT ENTER R5-1	N ROAD CLOSED R11-2	O DETOUR M4-10L	P R3-1	Q R3-2	R BEGIN ONE WAY R6-6

Amani Engineering, Inc.
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Tel (713) 270-5700 Fax (713) 271-3487
TBPE Firm Reg. No.: F-4520
TBPLS Firm Reg. No.: 100282-00

TRANSCEND engineers + planners
Transcend Engineers & Planners, LLC
TPBE Reg. No. F-19299
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RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR JEFFERSON STREET
(SHEET 2 OF 3)
(TRENCHLESS CONSTRUCTION)

WBS NO.
R-01000-0036-3

DRAWING SCALE
N.T.S.

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 153 OF 183

1/30/2026
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N

LEGEND

- TEMPORARY SIGN
- FLAGGER
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J LEFT LANE CLOSED AHEAD CW20-5(1) CW16-3	K ONE WAY R6-2L	L ONE WAY R6-2R	M DO NOT ENTER R5-1	N ROAD CLOSED R11-2	O DETOUR M4-10L	P R3-1	Q R3-2	R BEGIN ONE WAY R6-6	S BELL ST DETOUR M4-9R
T BELL ST DETOUR M4-9L	U BELL ST DETOUR M4-9S								

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RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR JEFFERSON STREET
(SHEET 3 OF 3)
(TRENCHLESS CONSTRUCTION)

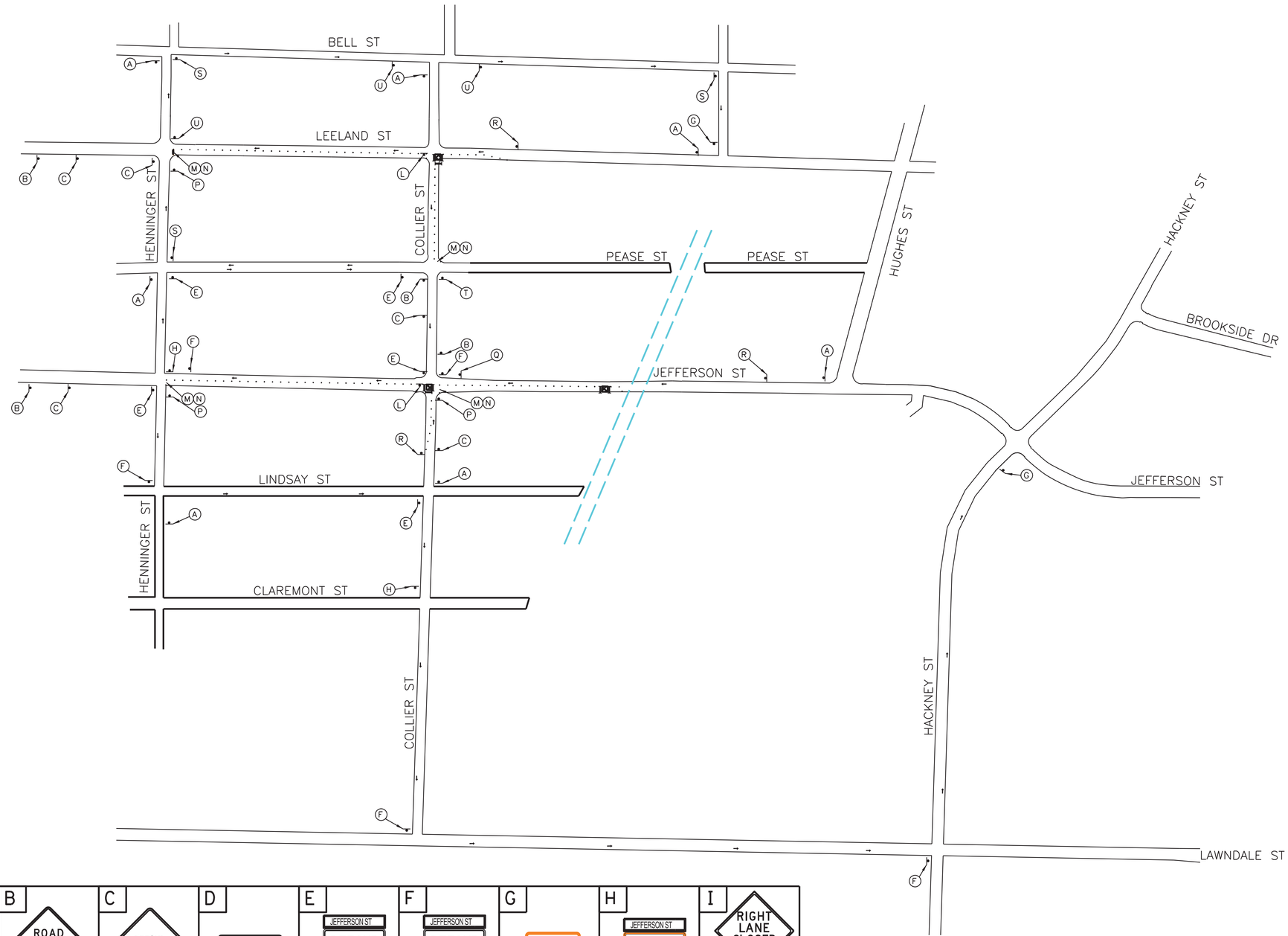
WBS NO.
R-01000-0036-3

DRAWING SCALE
N.T.S.

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 154 OF 183

1/30/2026
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N

LEGEND

- TEMPORARY SIGN
- FLAGGER
- APPROVED CHANNELIZATION DEVICE
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK ZONE
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S LEELAND ST DETOUR M4-9R	T LEELAND ST DETOUR M4-9L	U LEELAND ST DETOUR M4-9S						

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TEXAS REGISTRATION NO. 112149

1/30/2026

SURVEYED BY: AMANI
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CITY OF HOUSTON

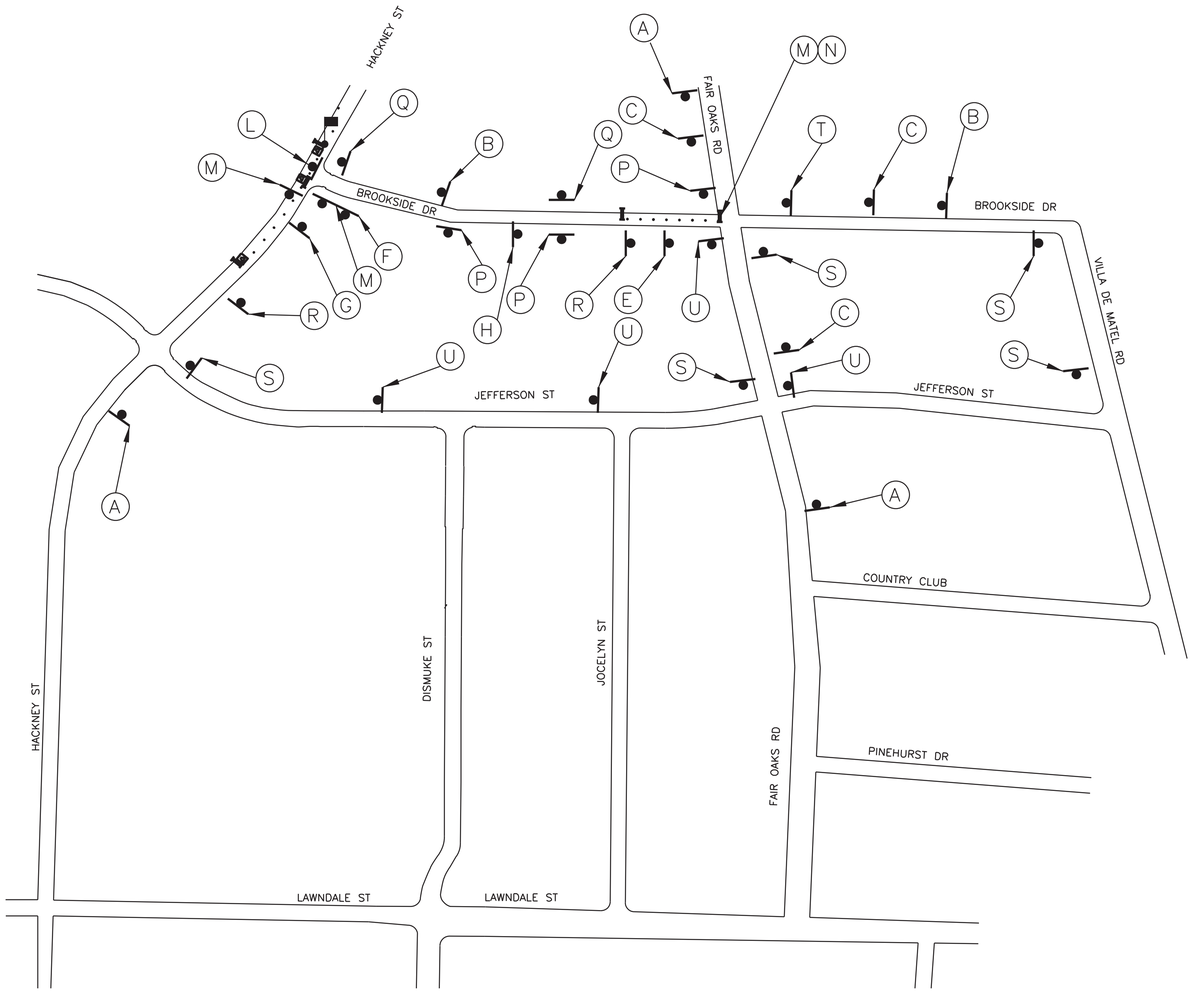
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR LEELAND AND JEFFERSON STREET (TRENCHLESS CONSTRUCTION)

WBS NO.	R-01000-0036-3
DRAWING SCALE	N.T.S.
CITY OF HOUSTON, PM	SABEEN SHAIK, P.E.
SHEET NO.	155 OF 183

1/30/2026
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LEGEND

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TBPLS Firm Reg. No.: 100282-00

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TPBE Reg. No. F-19299
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RESPONSIBLE ENGINEER:
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RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

SURVEYED BY: AMANI
FB NO.: P–

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR HACKNEY STREET (TRENCHLESS CONSTRUCTION)

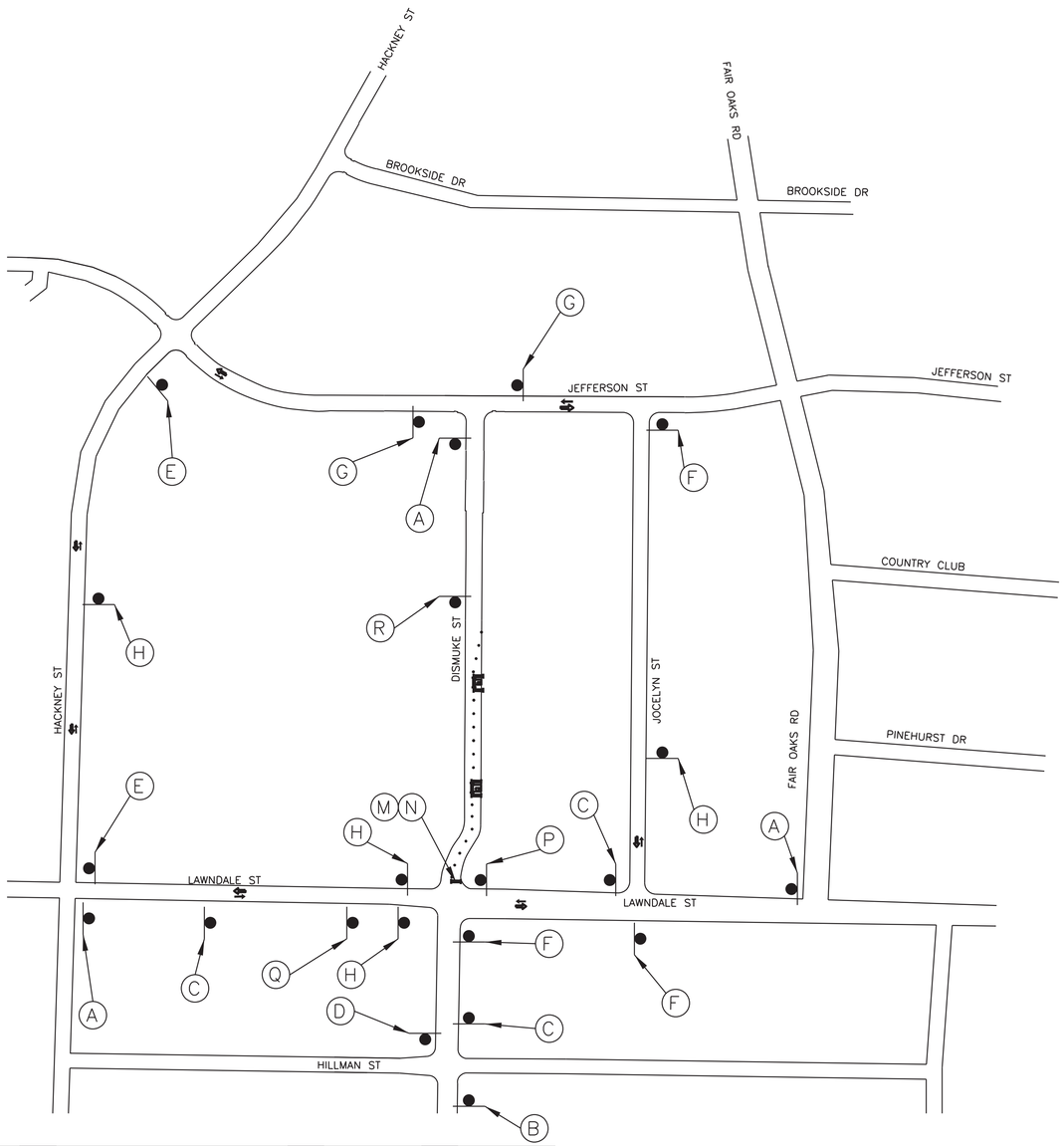
WBS NO.
R-01000-0036-3

DRAWING SCALE
N.T.S.

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 156 OF 183

1/30/2026
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LEGEND

- TEMPORARY SIGN
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RAJASEKHAR BASAVARAJU
TEXAS REGISTRATION NO. 112149

1/30/2026

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR DISMUKE STREET
(SHEET 1 OF 2)
(TRENCHLESS CONSTRUCTION)

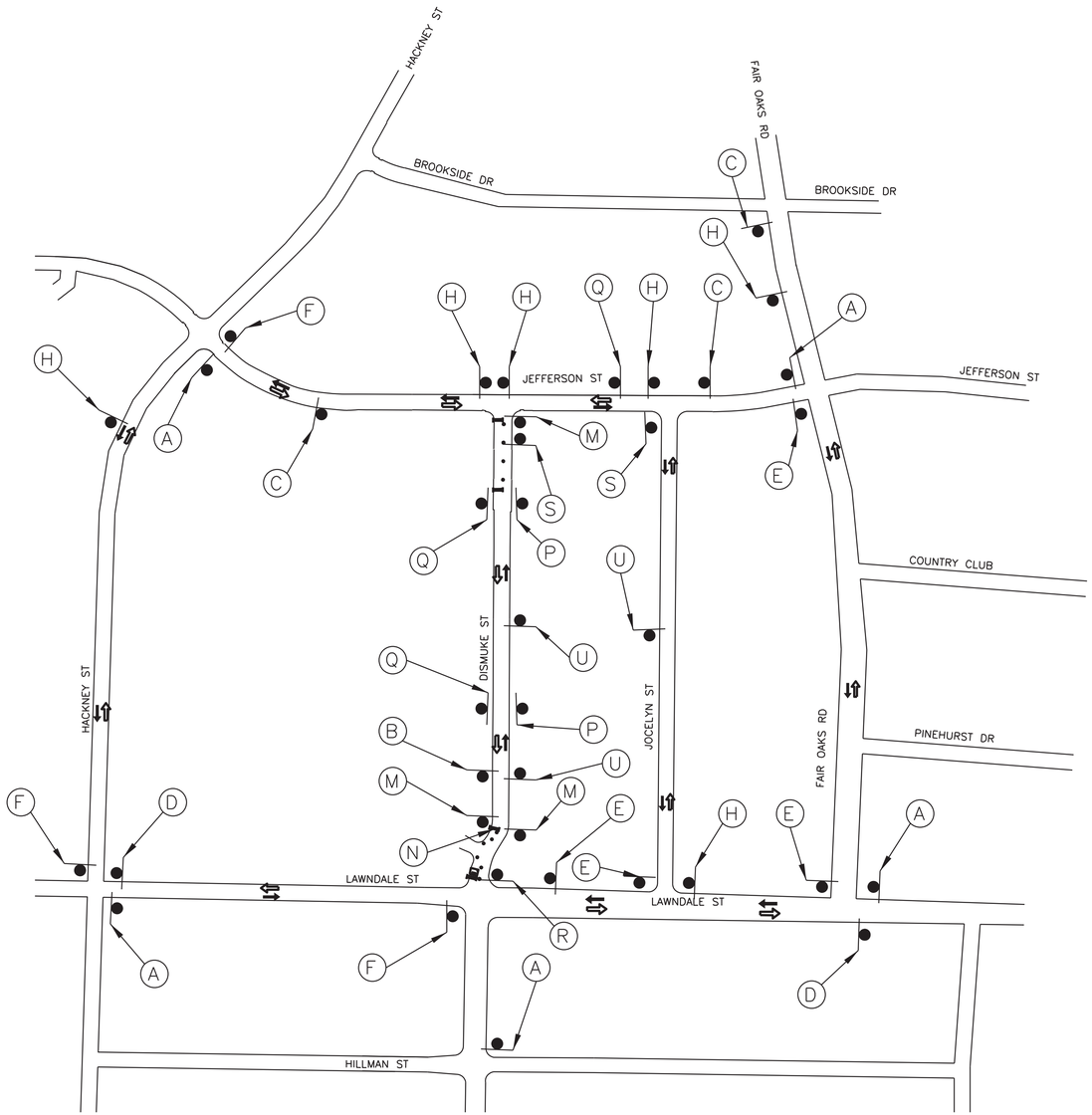
WBS NO.
R-01000-0036-3

DRAWING SCALE
N.T.S.

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 157 OF 183

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N

LEGEND

- TEMPORARY SIGN
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1/30/2026

SURVEYED BY: AMANI
FB NO.: P-

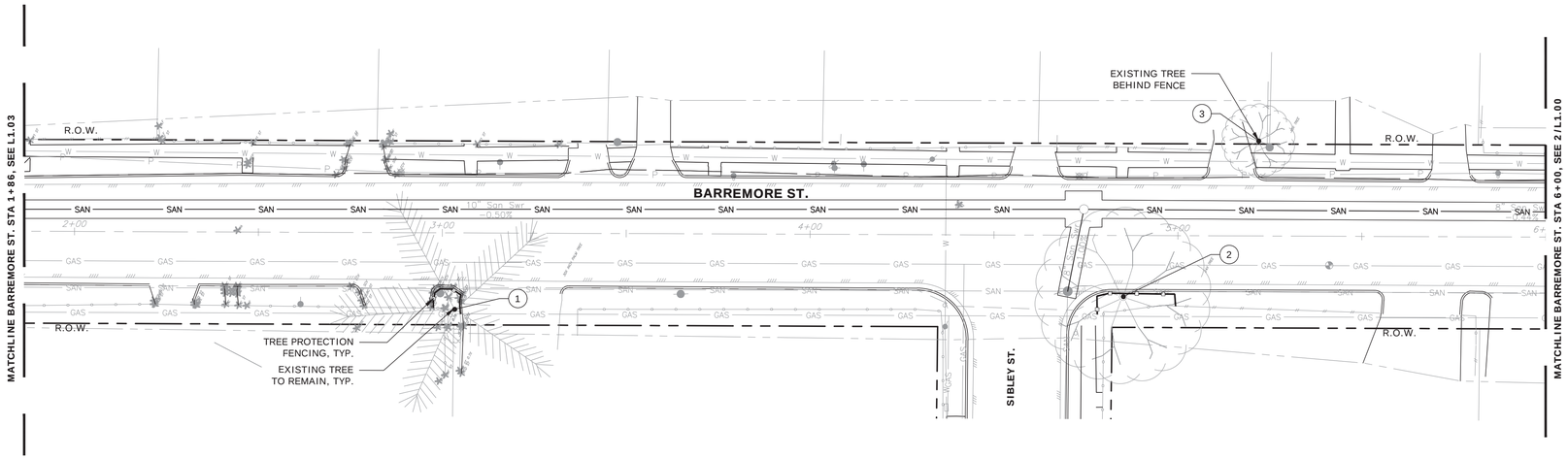
CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

TCP FOR DISMUKE STREET
(SHEET 2 OF 2)
(TRENCHLESS CONSTRUCTION)

WBS NO.	R-01000-0036-3
DRAWING SCALE	N.T.S.
CITY OF HOUSTON, PM	SABEEN SHAIK, P.E.
SHEET NO.	158 OF 183

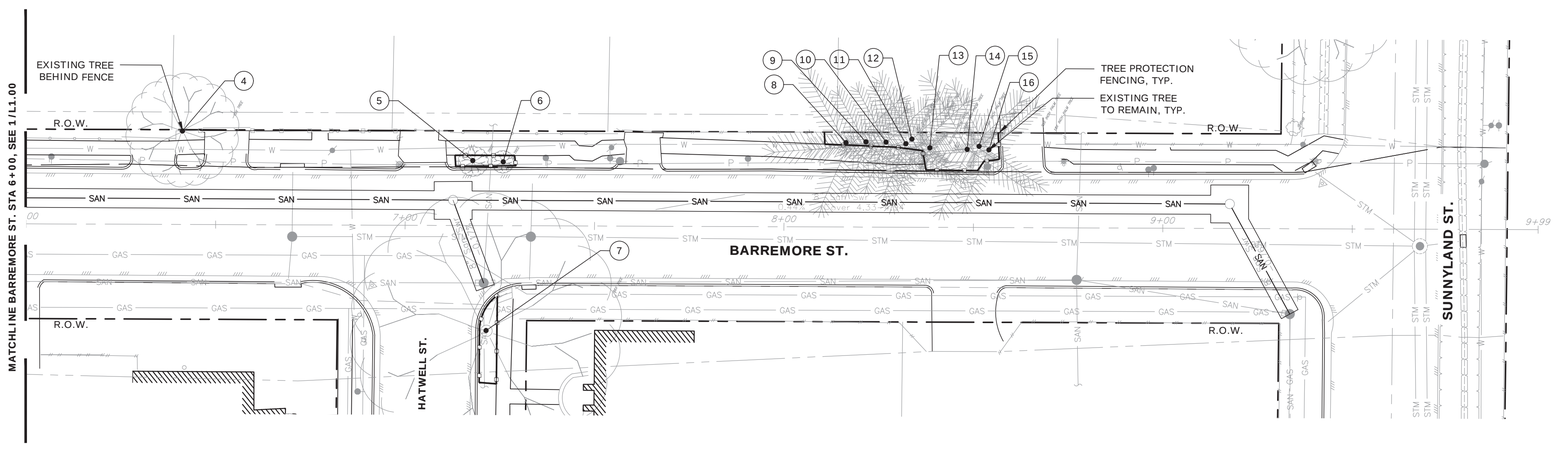
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1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

J:\AMA2501 COH CRMP CIP Package 5\AR\03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:29pm

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

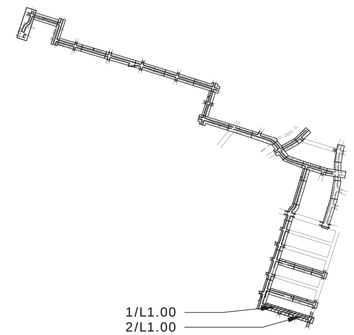
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

ASAKURA ROBINSON
2500 Summer Street, Suite 3228 Houston Texas 77007
P: 713.337.5830 www.asakurarobinson.com

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
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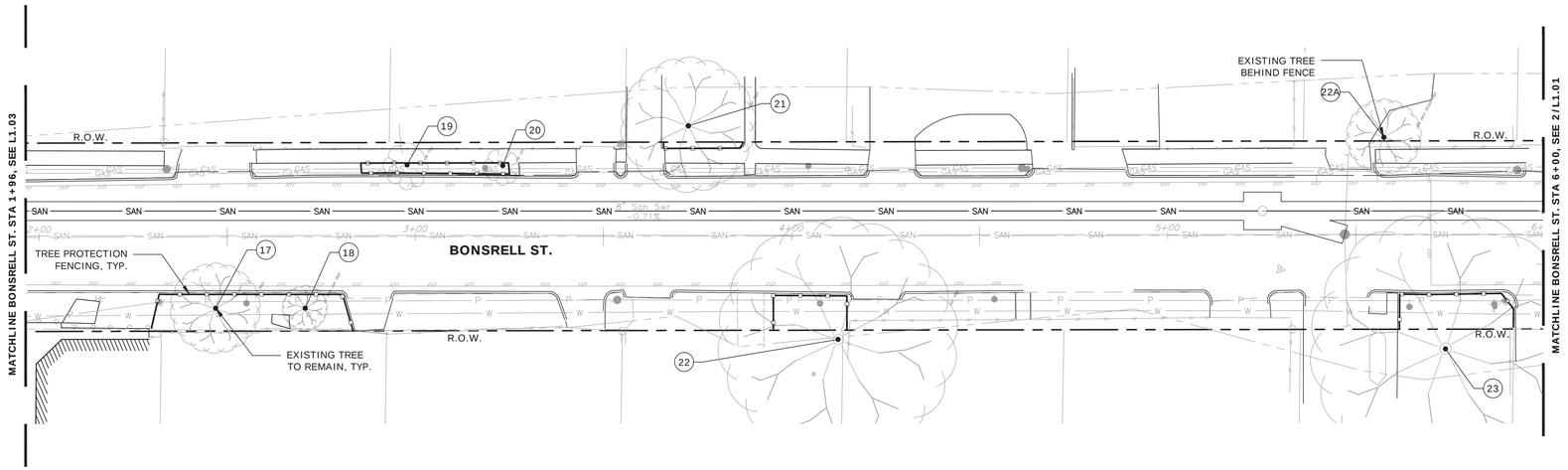
L1.00 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

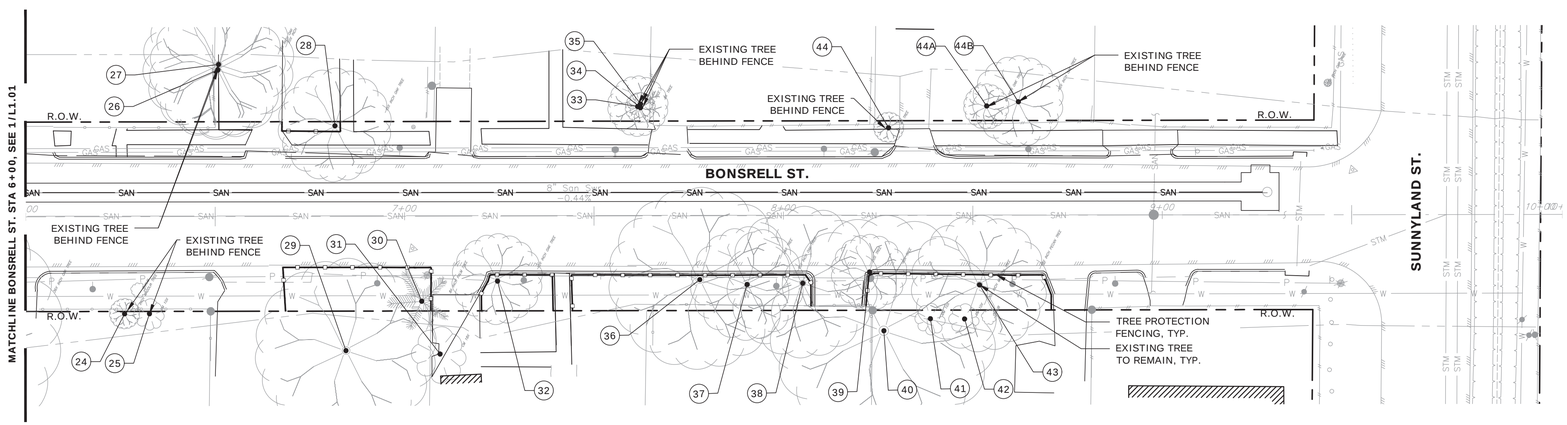
SHEET NO. 159 OF 183



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

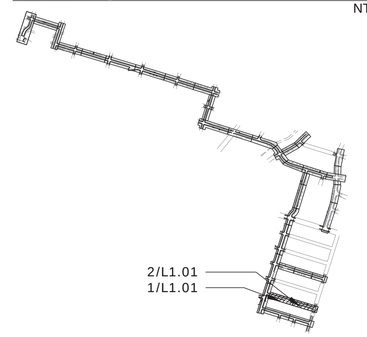
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Date

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Texas Registered Surveying Firm No. 100282-00

ASAKURA ROBINSON
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P: 713.337.5830 www.asakurarobinson.com

SURVEYED BY: AMANI
FB NO.: P-

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CITY OF HOUSTON

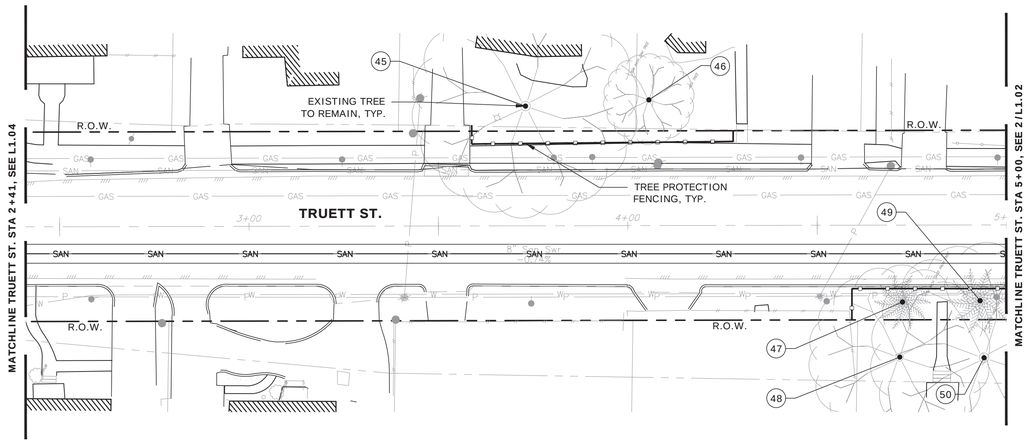
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.01 TREE PROTECTION PLAN

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	
SABEEN SHAIK, P.E.	
SHEET NO.	160 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:29pm

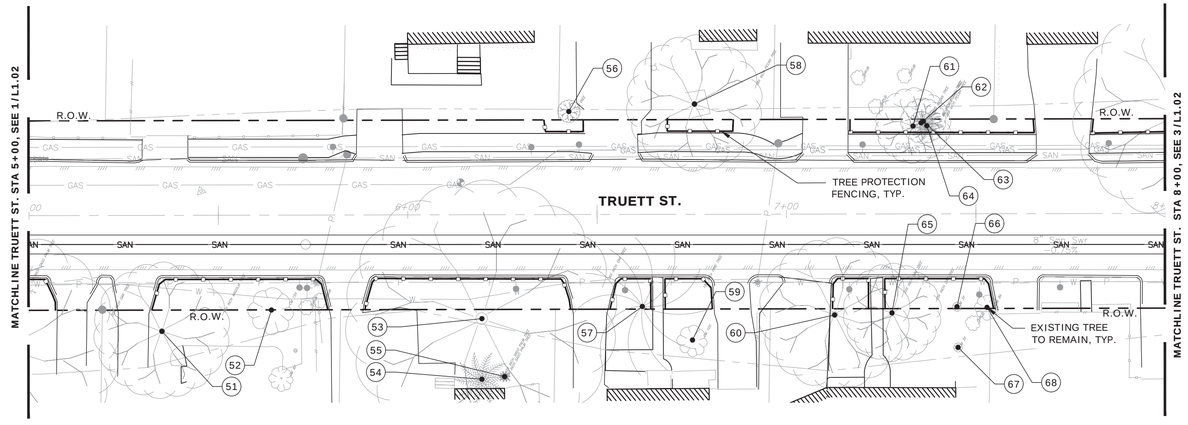


1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

0 20' 40'

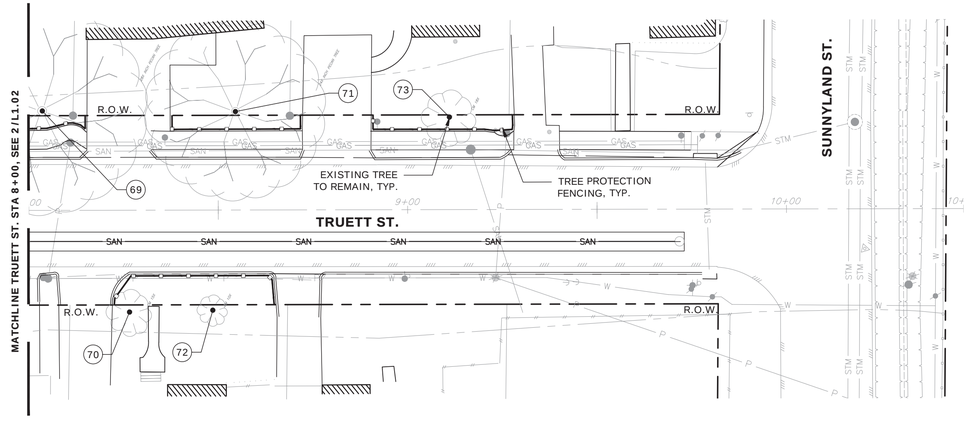


2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

0 20' 40'



3 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

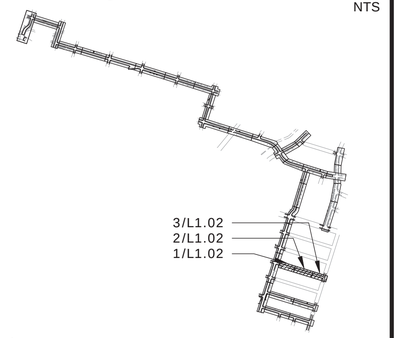
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
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AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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SURVEYED BY: AMANI
FB NO.: P-

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.02 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 161 OF 183

J:\AMA2501 COH CRMP CIP Package 5\AR\03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:38pm

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

NOTE:

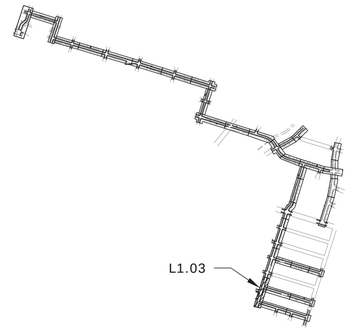
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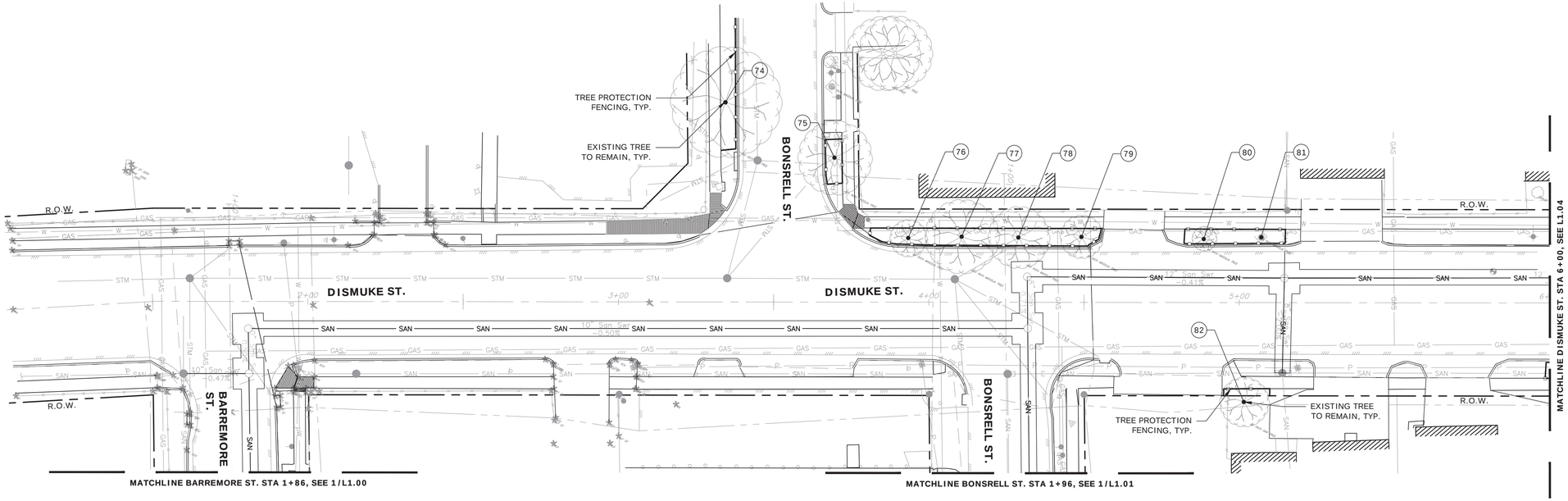
CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP

NTS





1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

L1.03 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 162 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm

LEGEND

MATCHLINE

TREE NUMBER

EXISTING TREES TO REMAIN

EXISTING TREES TO BE REMOVED

TREE PROTECTION FENCING
RE: DETAIL 1/L1.22

ROOT PRUNING WITH
6" WIDE, 2' DEEP TRENCH
RE: DETAIL 2/L1.22

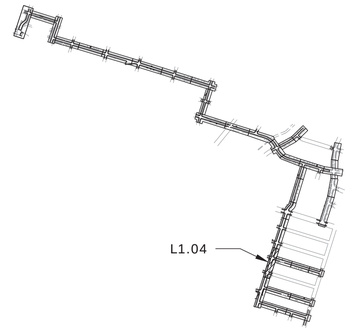
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.04 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 163 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARY03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

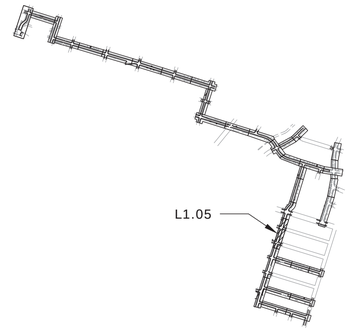
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
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AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

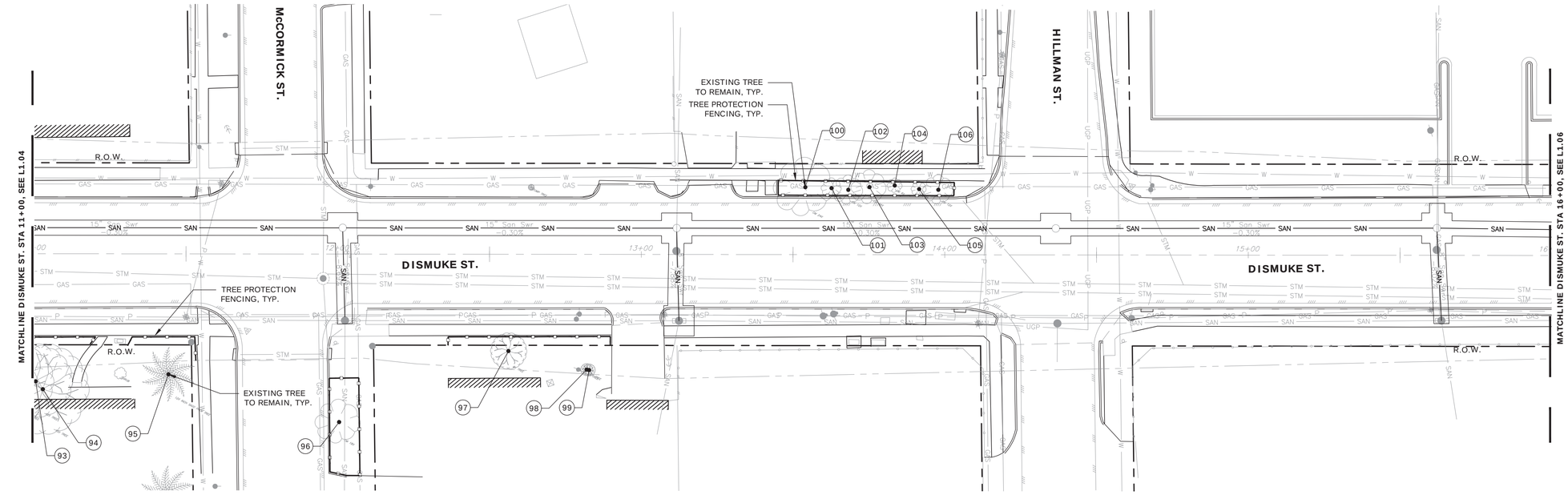
L1.05 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 164 OF 183

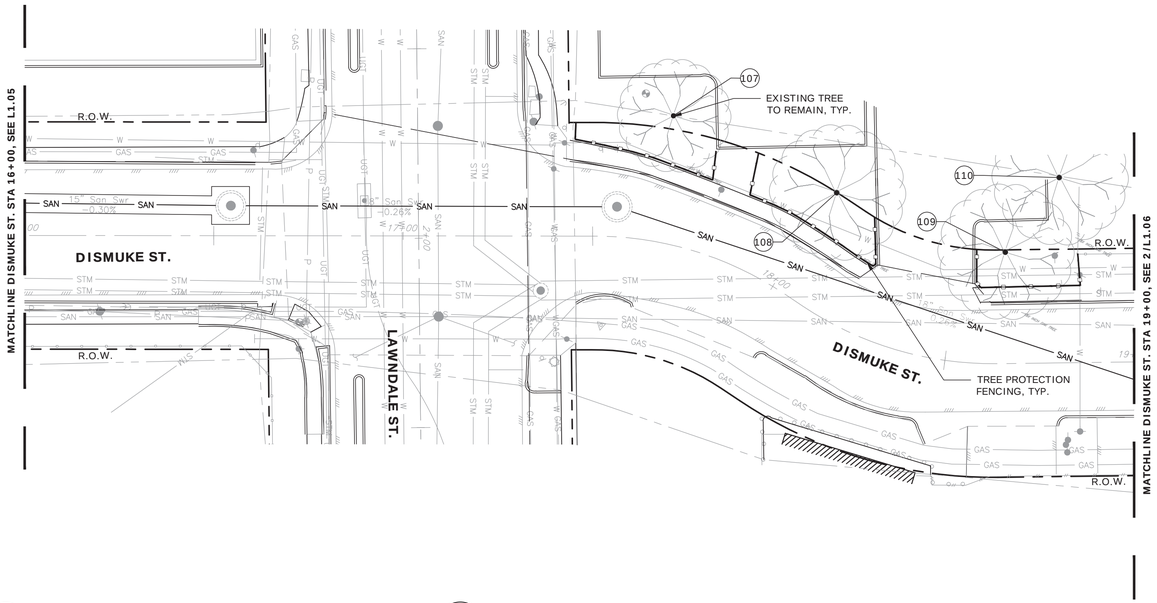


1 TREE PROTECTION PLAN
SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

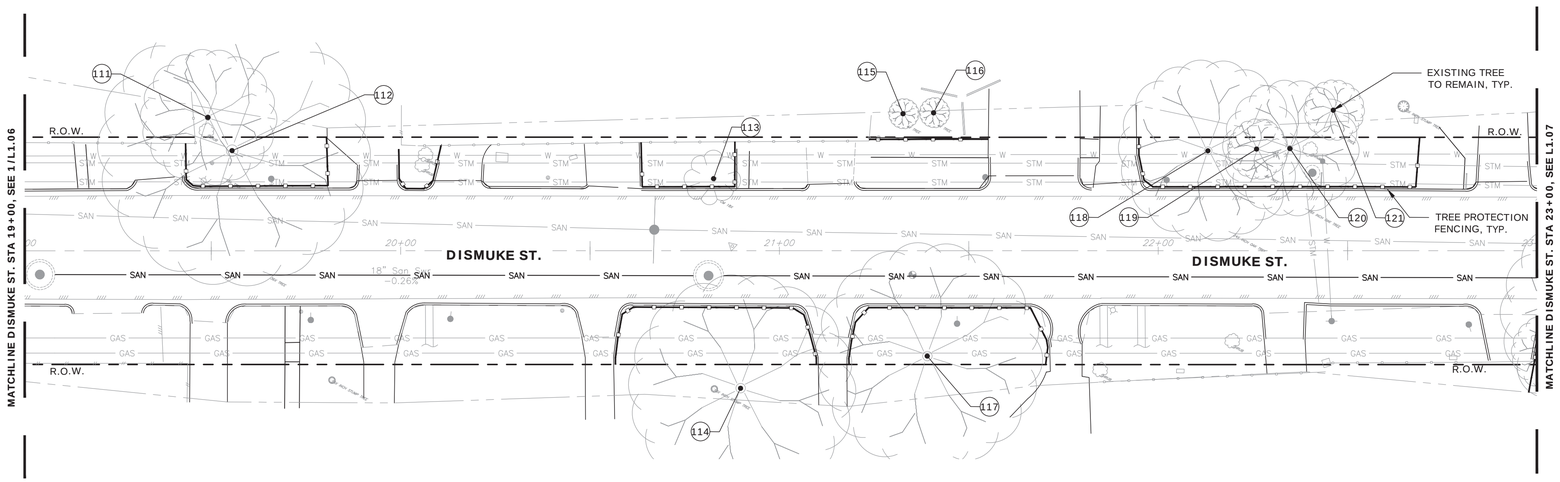
J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

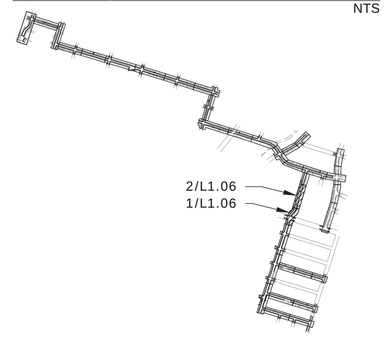
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.06 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

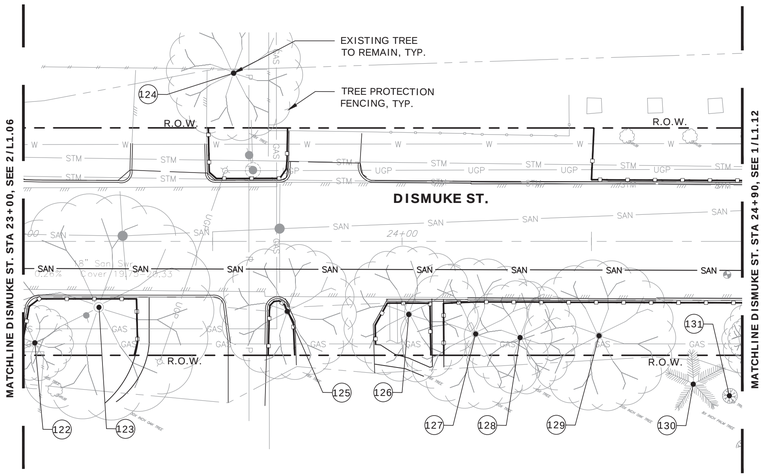
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 165 OF 183

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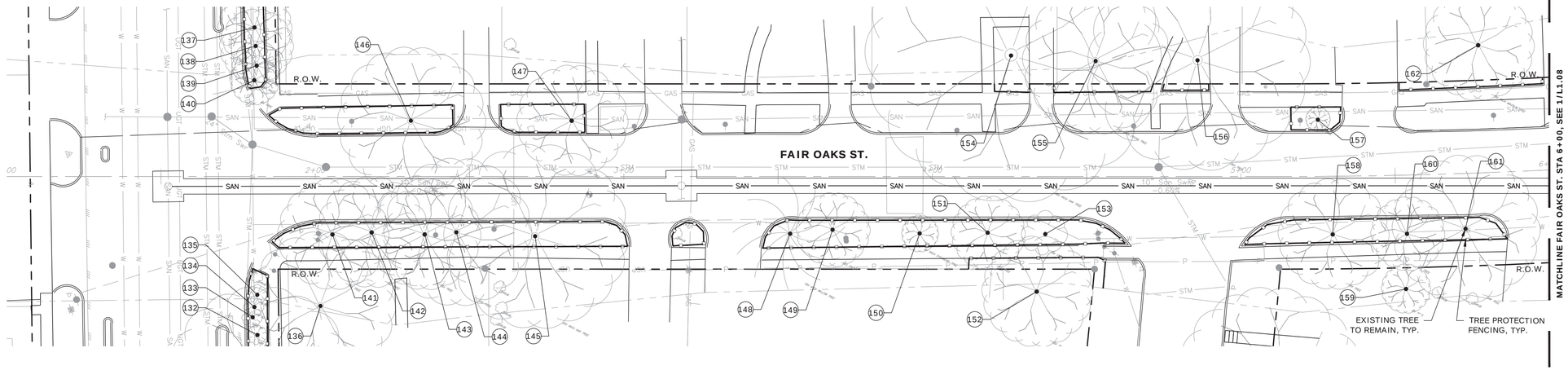
0 1 2 3 ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

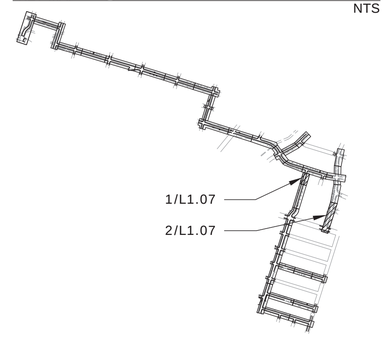
NOTE:

PROJECT BENCH MARK:

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ALUMINIUM DISK LOCATED ON THE
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ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

L1.07 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

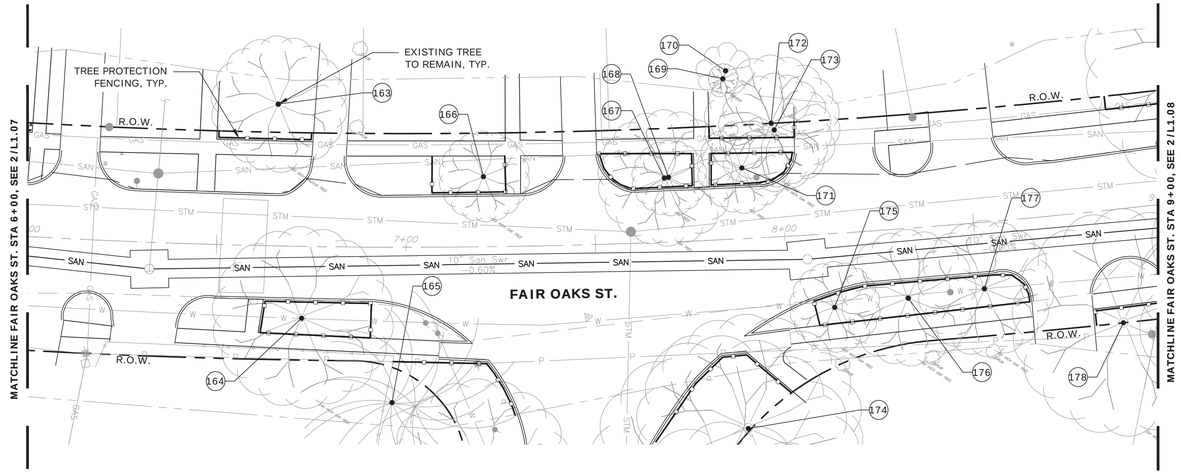
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 166 OF 183

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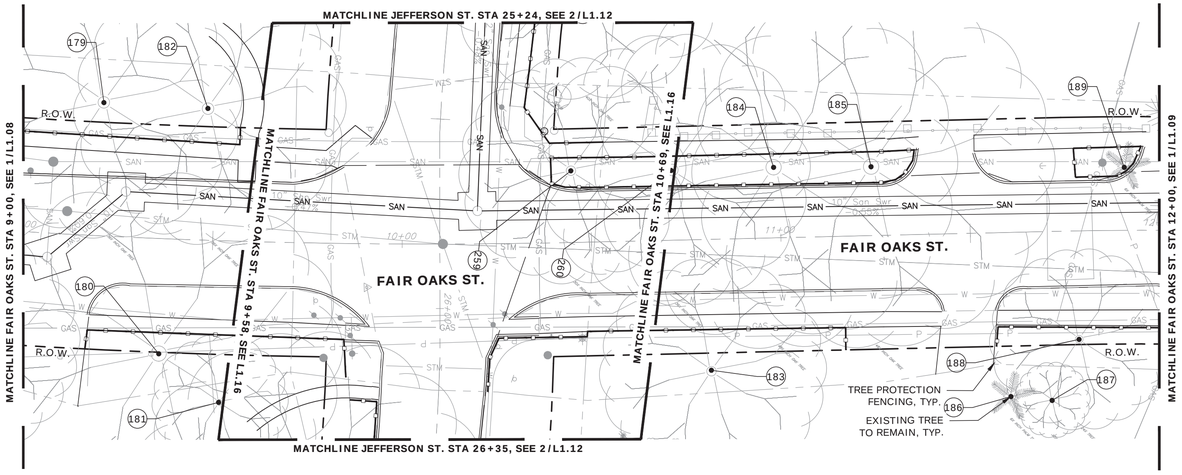
0 1 2 3 ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

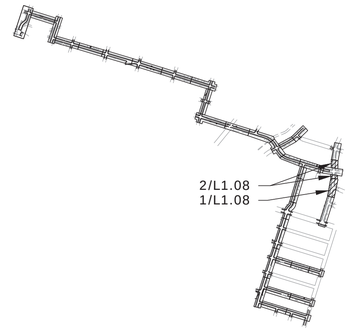
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

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Signature valid for six months.

Date

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11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

ASAKURA ROBINSON
2500 Summer Street, Suite 3228 Houston Texas 77007
P: 713.337.5830 www.asakurarobinson.com

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.08 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

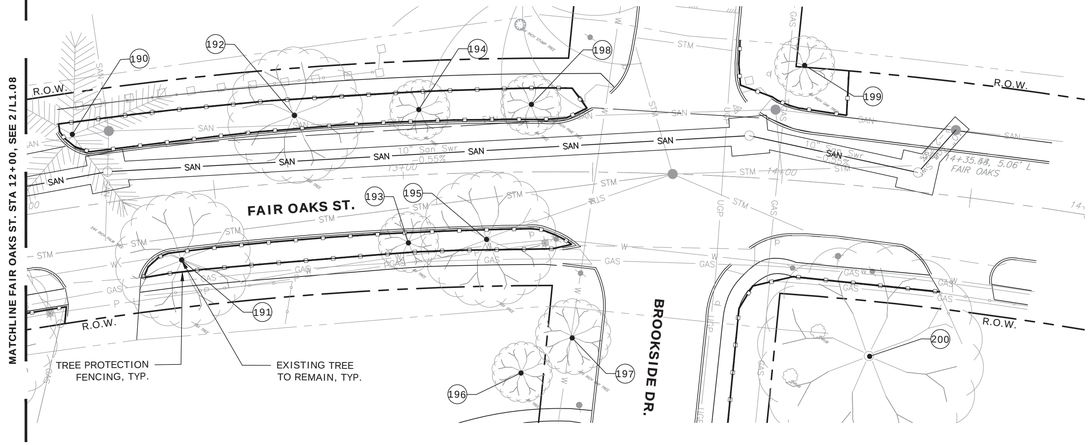
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 167 OF 183

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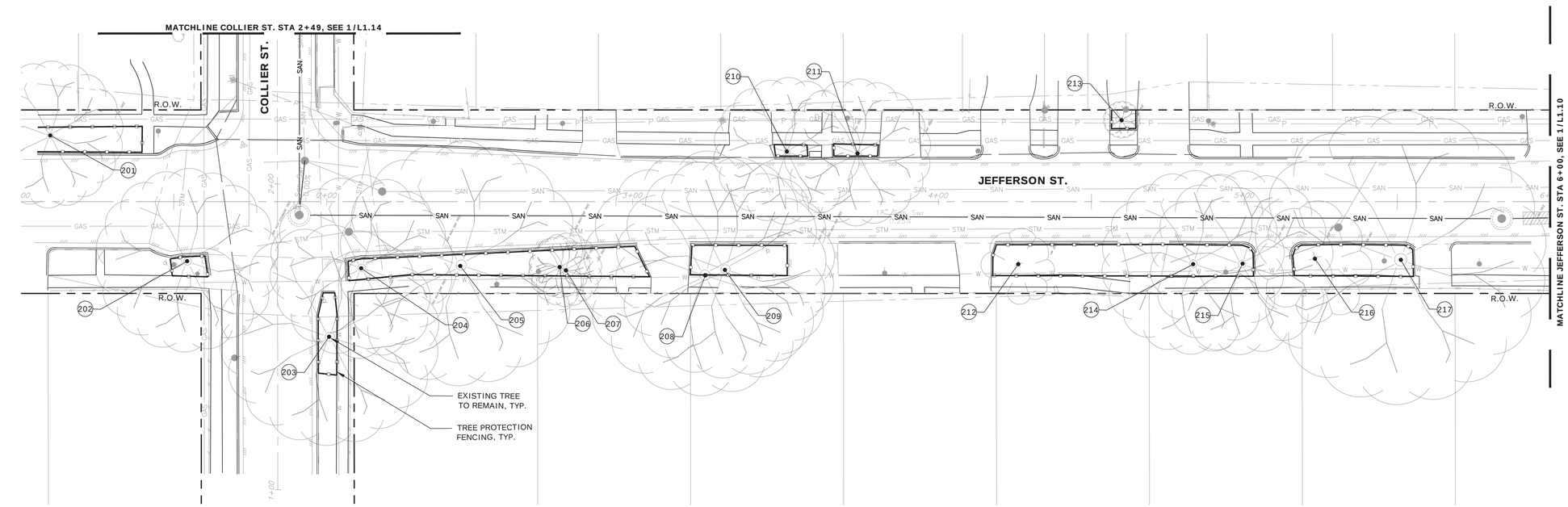
0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

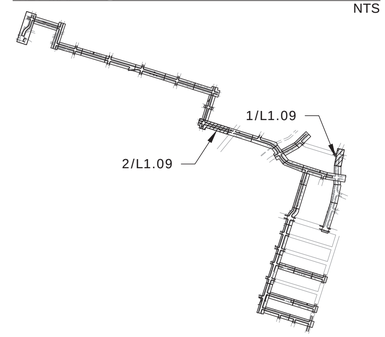
NOTE:

PROJECT BENCH MARK:

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ALUMINIUM DISK LOCATED ON THE
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ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.09 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

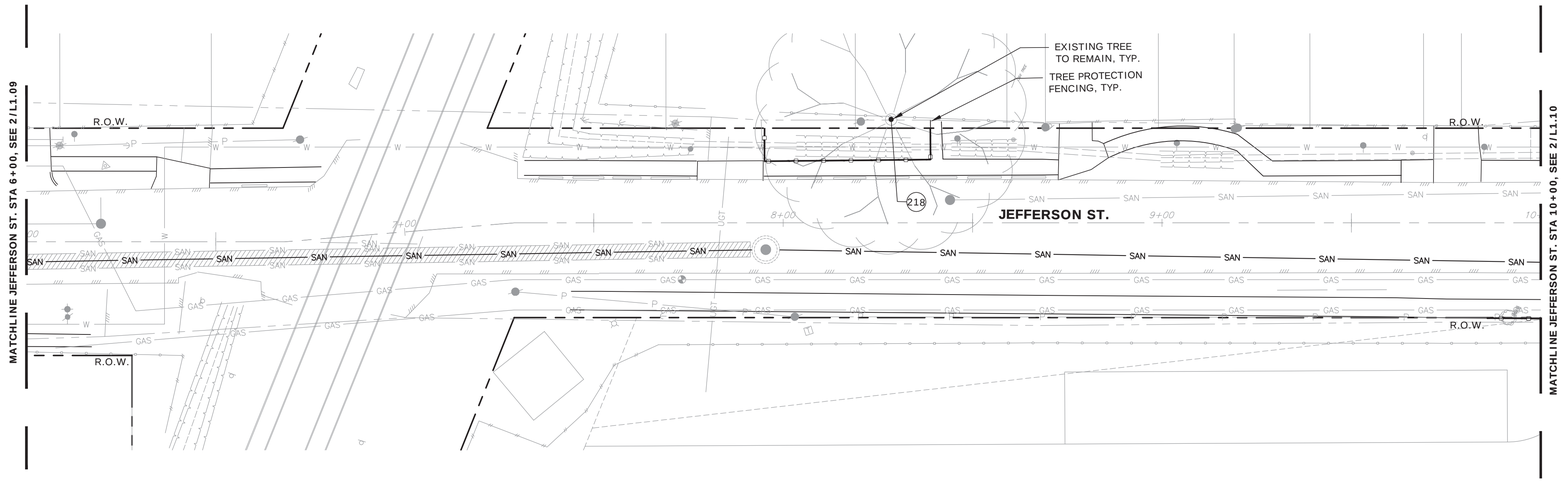
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 168 OF 183

J:\AMA2501 COH CRMP CIP Package 5\AR\03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:31pm

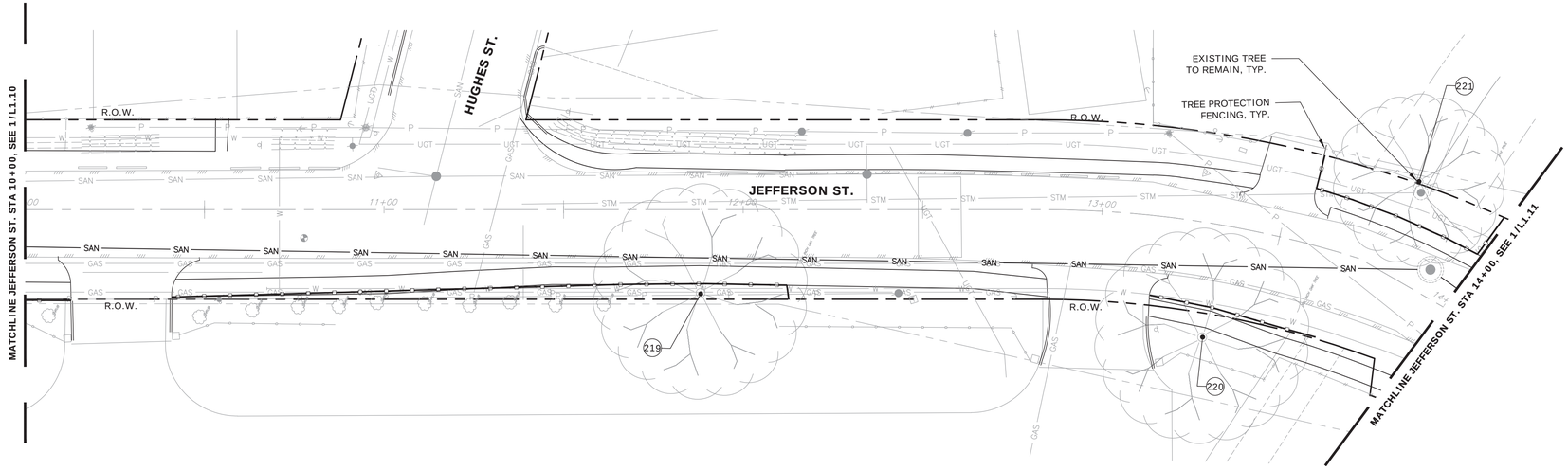
0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

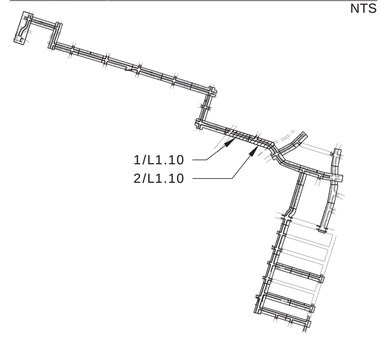
NOTE:

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ALUMINIUM DISK LOCATED ON THE
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AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.10 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

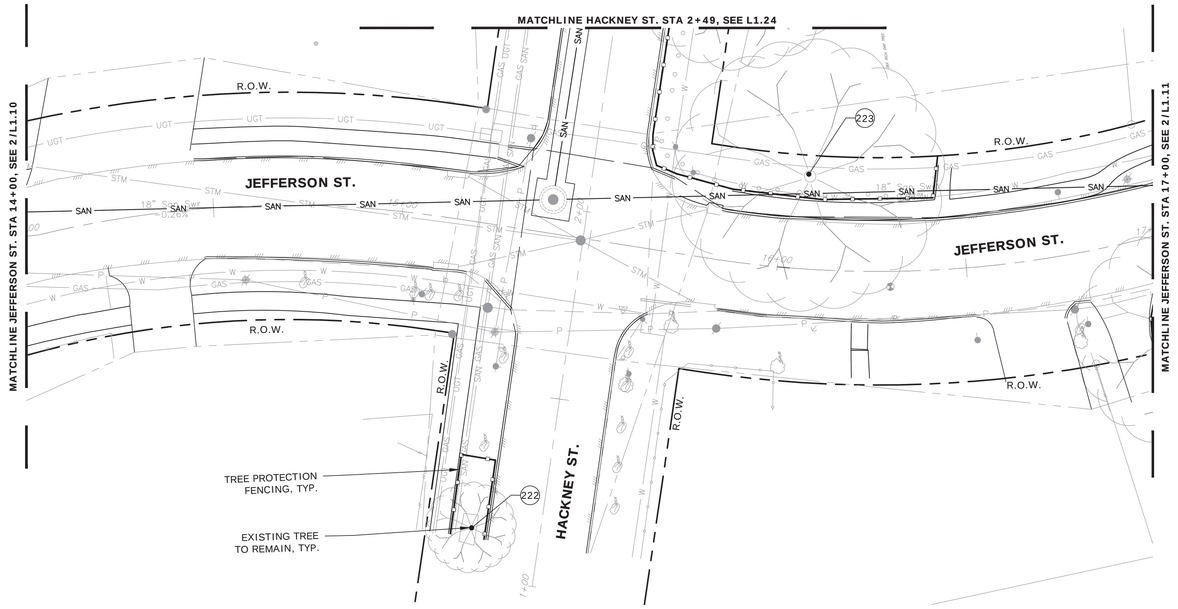
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 169 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:31pm

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

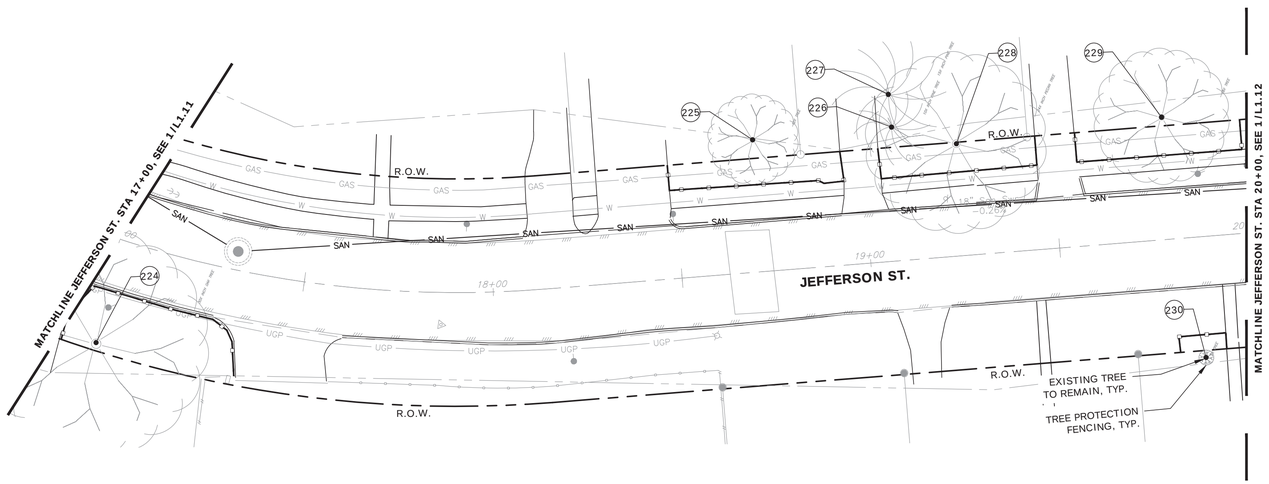


1 **TREE PROTECTION PLAN**

SCALE: 1" = 20'-0"

1" = 20'-0"

0 20' 40'



2 **TREE PROTECTION PLAN**

SCALE: 1" = 20'-0"

1" = 20'-0"

0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

J:\AMA2501 COH CRMP CIP Package 5\AR\03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

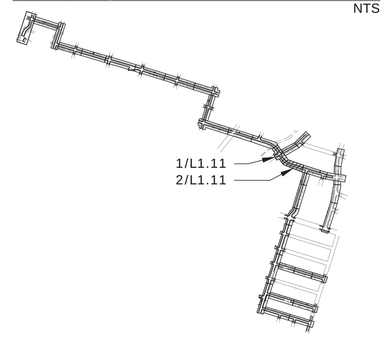
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
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AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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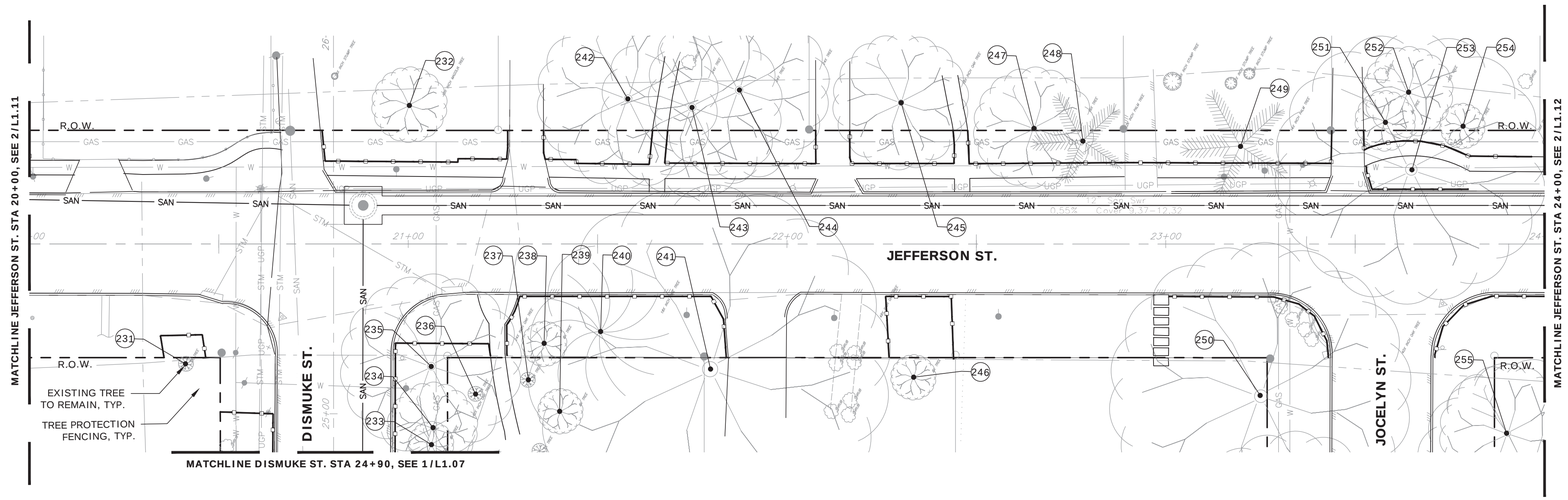
SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.11 TREE PROTECTION PLAN

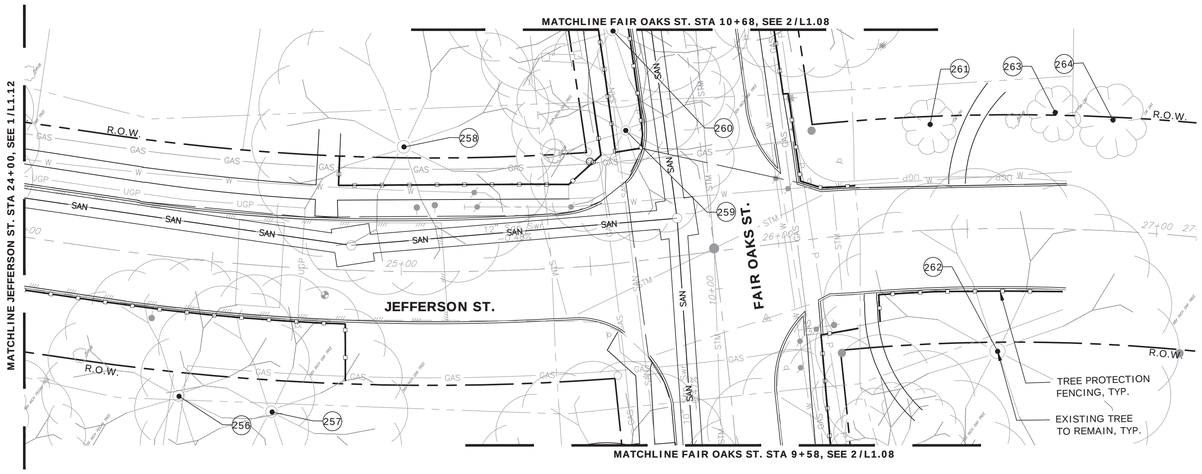
WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIK, P.E.
SHEET NO.	170 OF 183



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

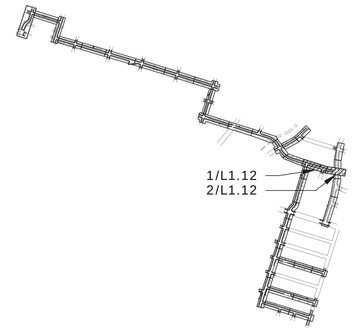
NOTE:

PROJECT BENCH MARK:

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ALUMINIUM DISK LOCATED ON THE
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ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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FB NO.: P-

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CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.12 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

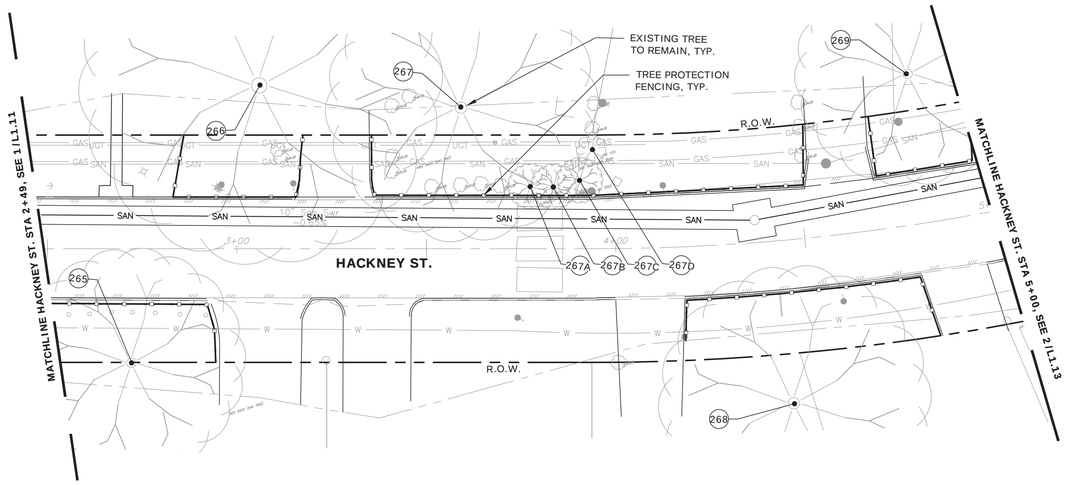
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 171 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:31pm

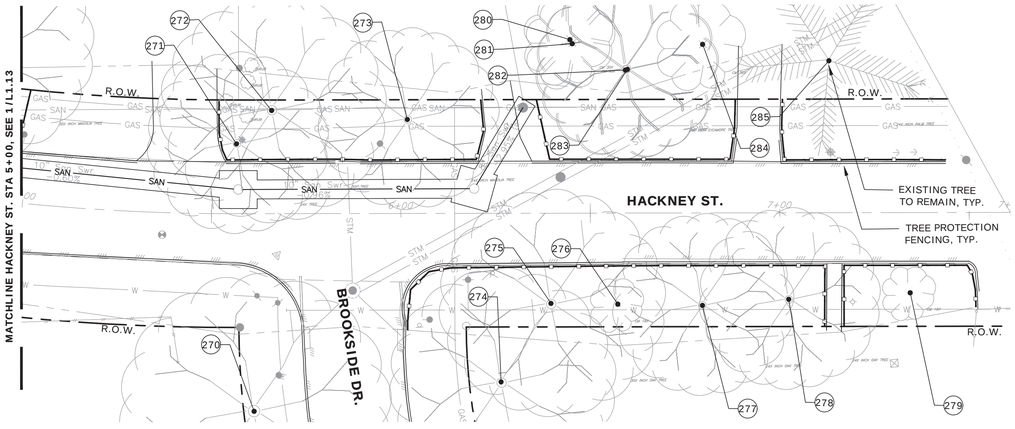
0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

LEGEND

- MATCHLINE
- (#) TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

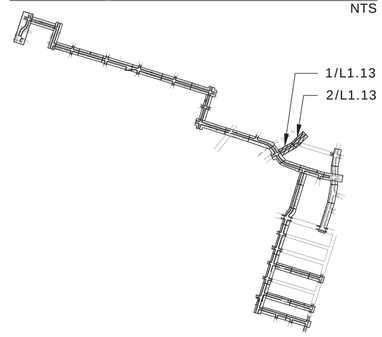
NOTE:

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ALUMINIUM DISK LOCATED ON THE
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ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.13 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 172 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg jan 16, 2026 4:31pm

LEGEND

MATCHLINE

TREE NUMBER

EXISTING TREES TO REMAIN

EXISTING TREES TO BE REMOVED

TREE PROTECTION FENCING
RE: DETAIL 1/L1.22

ROOT PRUNING WITH
6" WIDE, 2' DEEP TRENCH
RE: DETAIL 2/L1.22

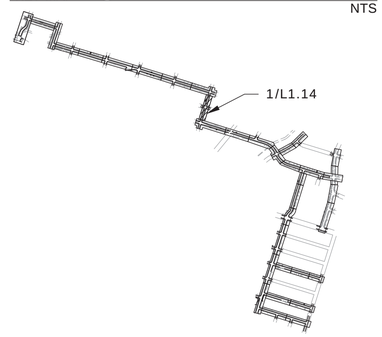
NOTE:

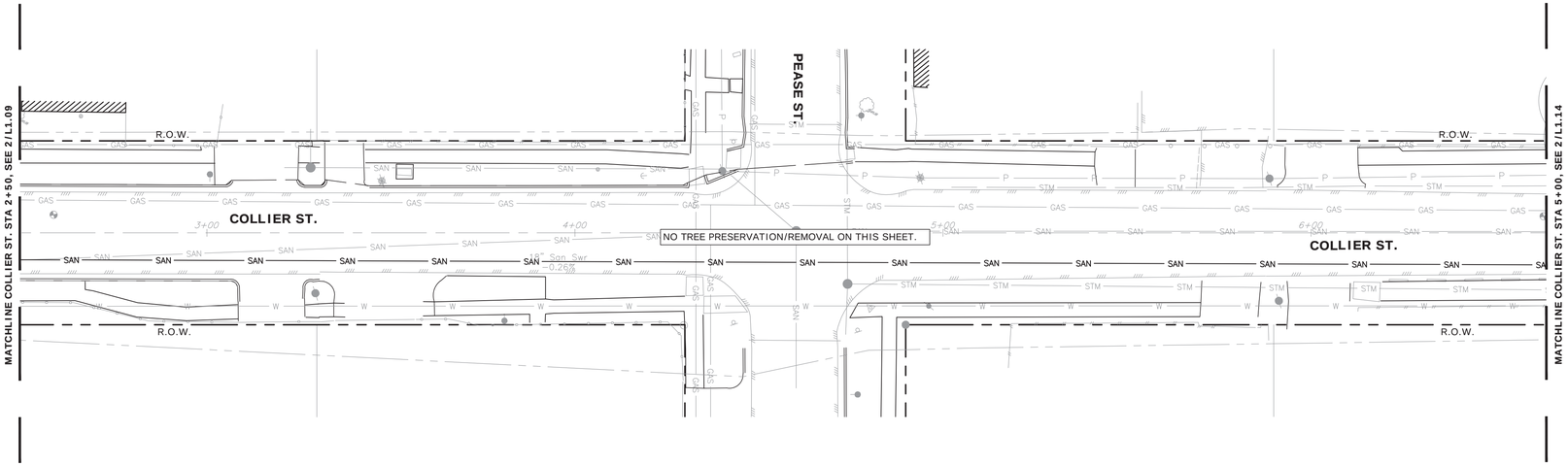
PROJECT BENCH MARK:

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ALUMINIUM DISK LOCATED ON THE
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AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS





1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

L1.14 TREE PROTECTION PLAN

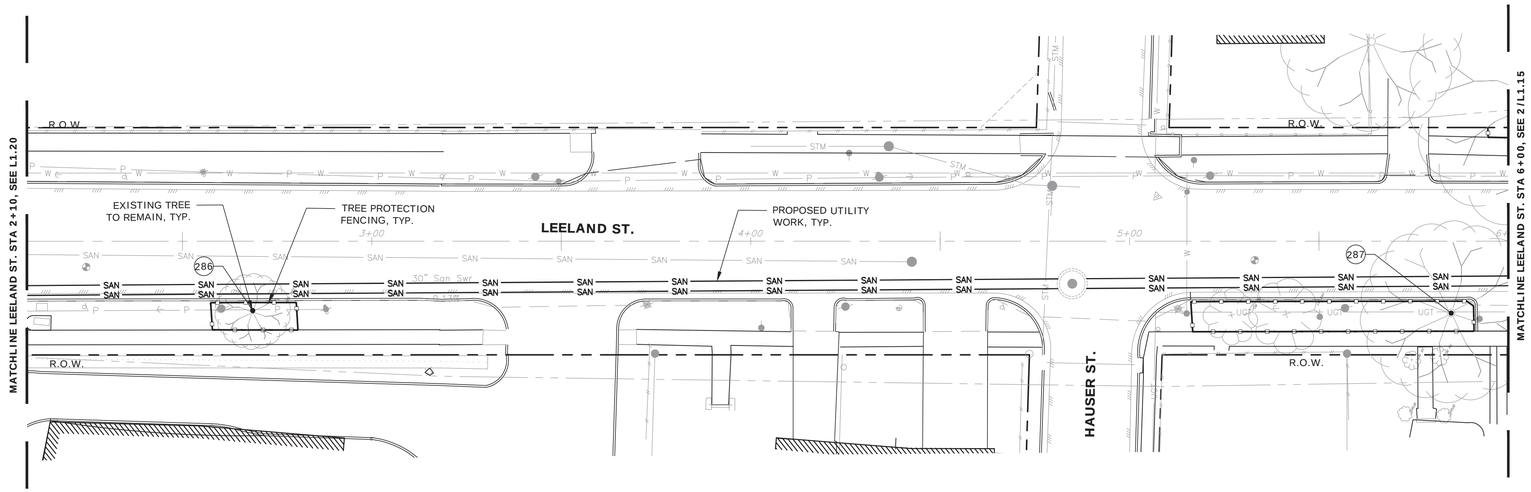
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 173 OF 183

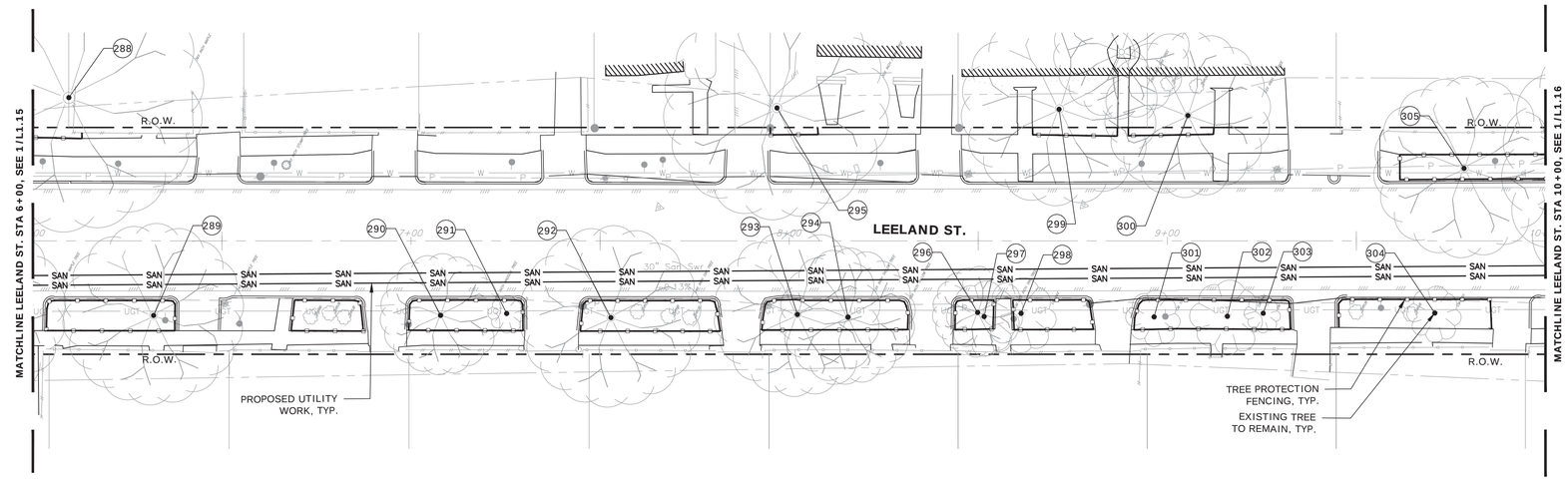
J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm



1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

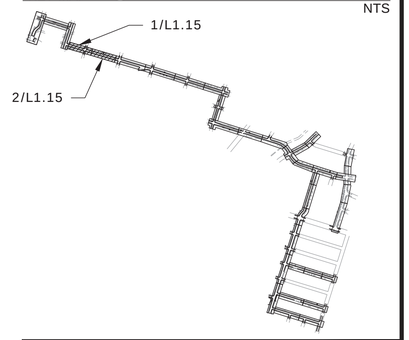
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Signature valid for six months.

Date

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Date

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AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

ASAKURA ROBINSON
2500 Summer Street, Suite 3228 Houston Texas 77007
P: 713.337.5830 www.asakurarobinson.com

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.15 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 174 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

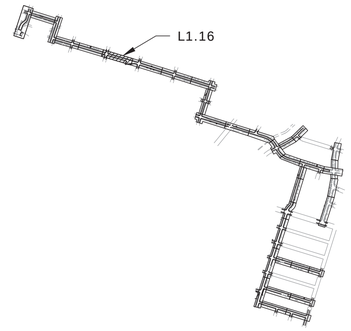
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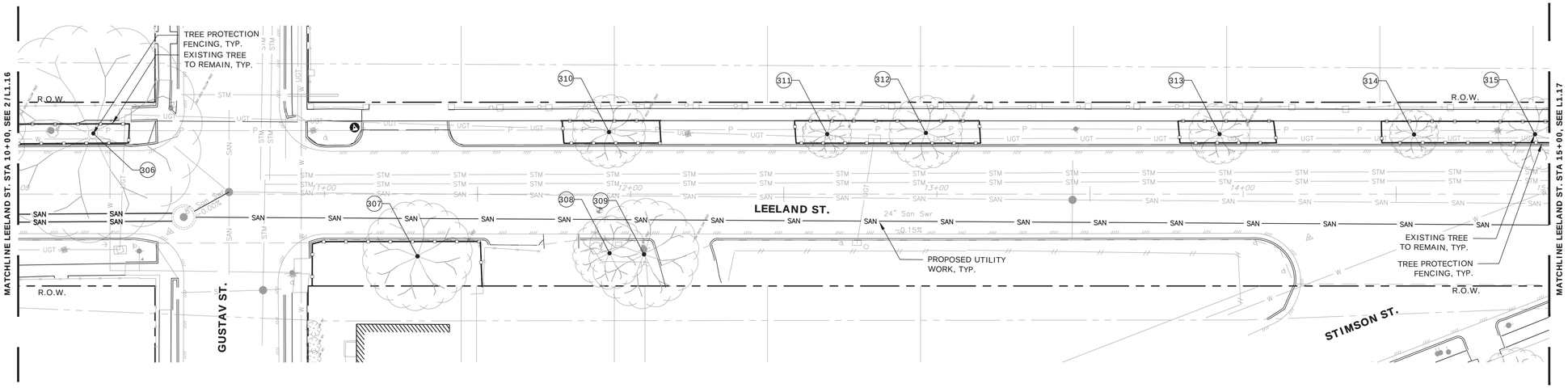
PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS





1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

L1.16 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 175 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARY03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:31pm

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

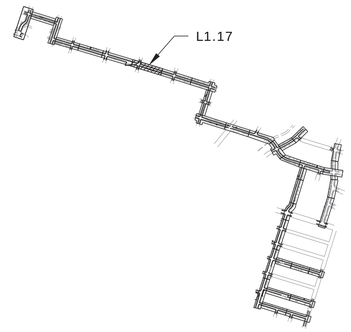
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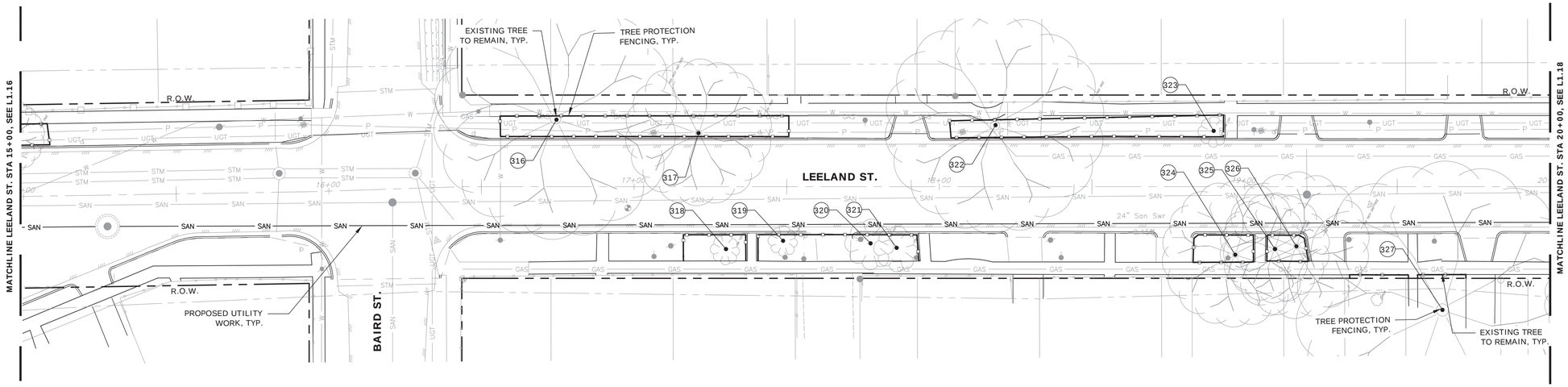
PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS





1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.31 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 176 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

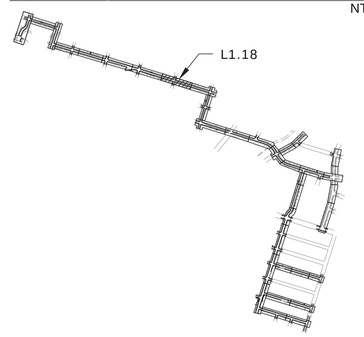
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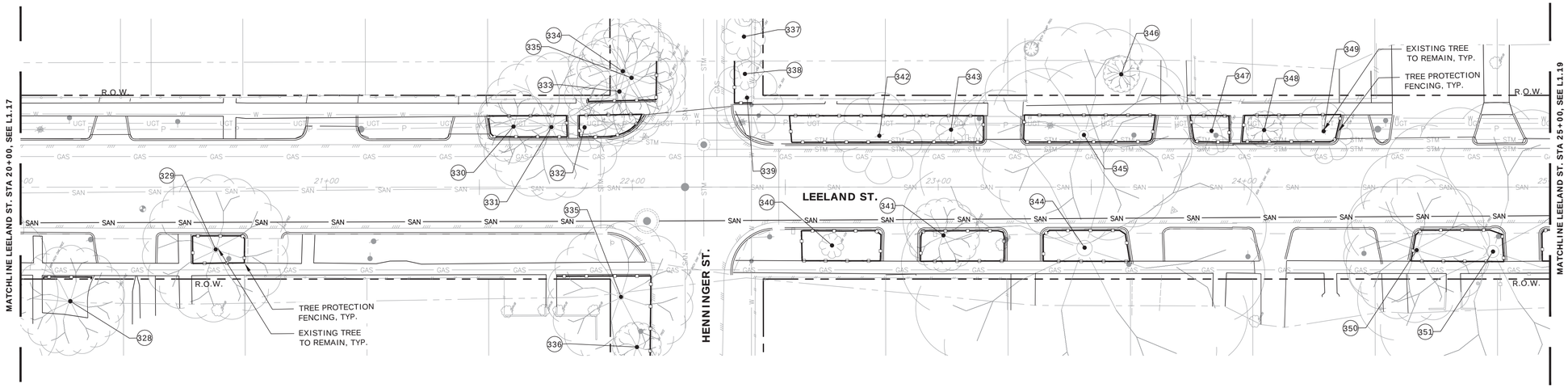
PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS





1 TREE PROTECTION PLAN
SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

L1.18 TREE PROTECTION PLAN

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 177 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARY03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

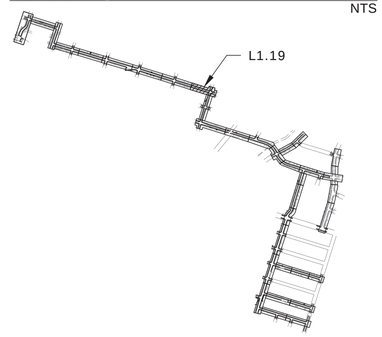
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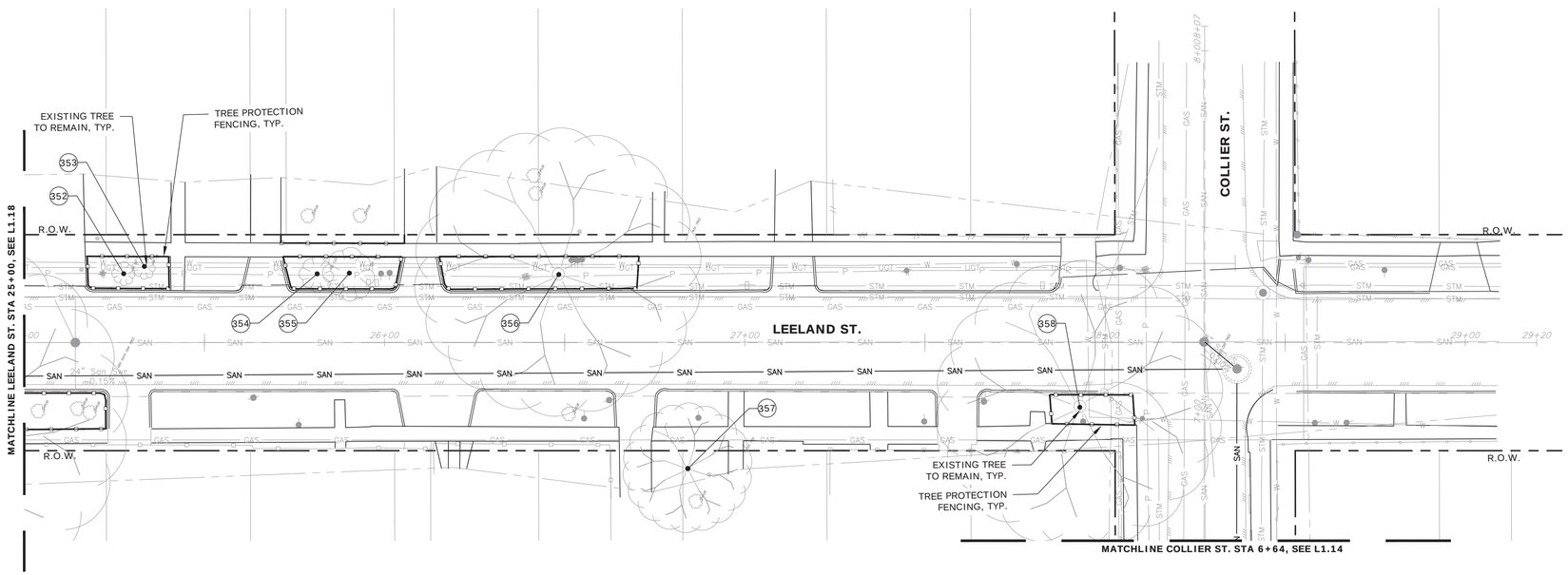
PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS





1 TREE PROTECTION PLAN

SCALE: 1" = 20'-0"

1" = 20'-0"

0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SURVEYED BY: AMANI
FB NO.: P–

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.19 TREE PROTECTION PLAN

WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIK, P.E.
SHEET NO.	178 OF 183

J:\AMA2501 COH CRMP CIP Package 5\AR\03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm

LEGEND

- MATCHLINE
- TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING
  RE: DETAIL 1/L1.22
- ROOT PRUNING WITH
  6" WIDE, 2' DEEP TRENCH
  RE: DETAIL 2/L1.22

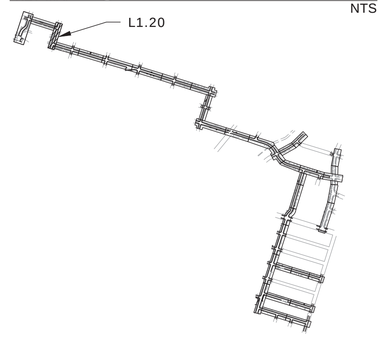
NOTE:

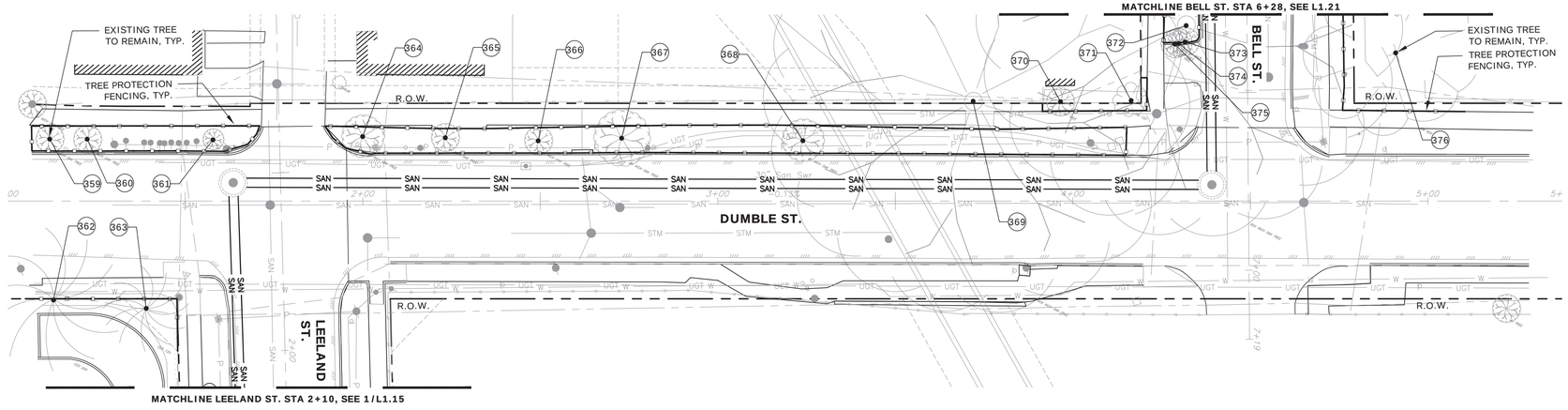
PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS





1 **TREE PROTECTION PLAN**

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON

HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5 SANITARY SEWER IMPROVEMENTS UPSTREAM OF EDDINGTON LIFT STATION

L1.20 TREE PROTECTION PLAN

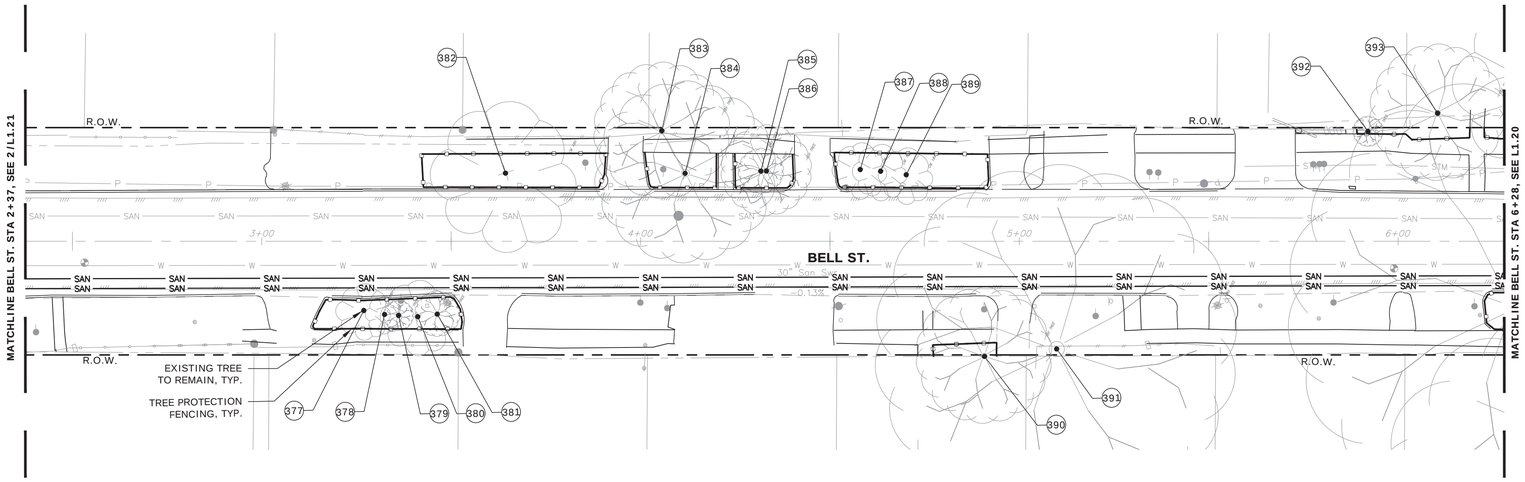
WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 179 OF 183

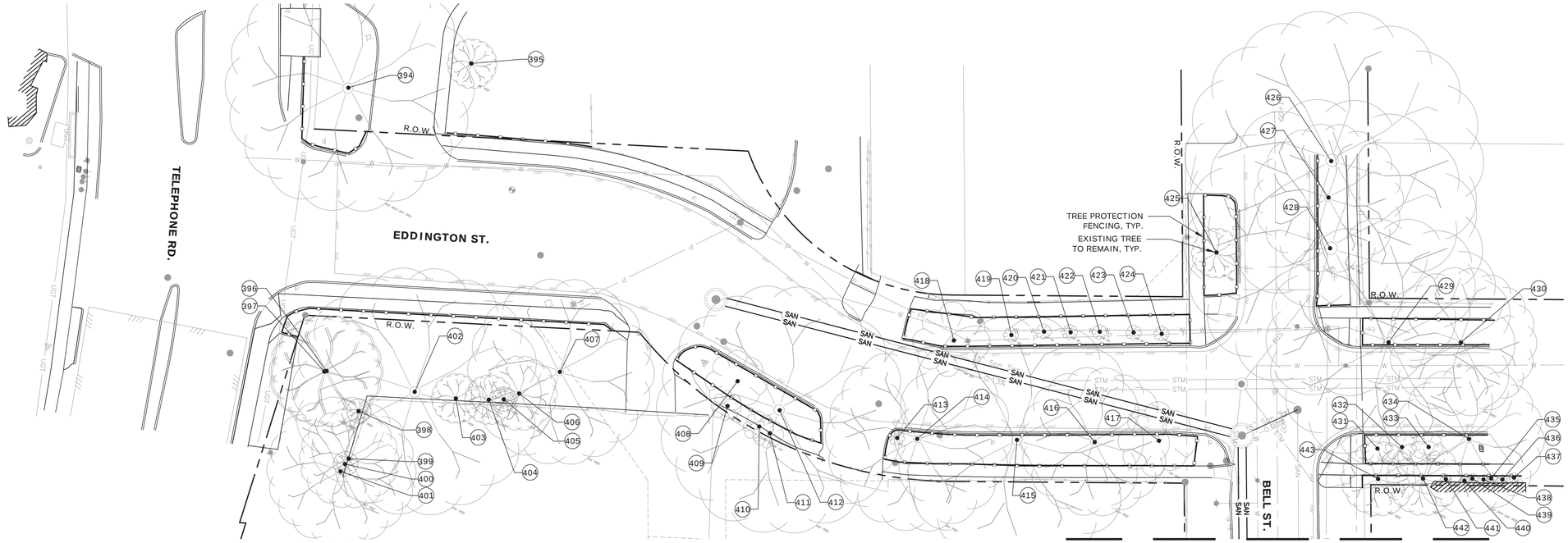
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1 **TREE PROTECTION PLAN**

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'



2 **TREE PROTECTION PLAN**

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

LEGEND

- MATCHLINE
- # TREE NUMBER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE PROTECTION FENCING RE: DETAIL 1/L1.22
- ROOT PRUNING WITH 6" WIDE, 2' DEEP TRENCH RE: DETAIL 2/L1.22

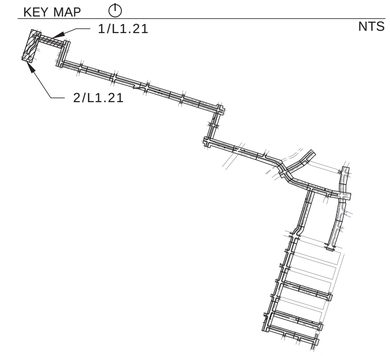
NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

KEY MAP NTS



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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.21 TREE PROTECTION PLAN

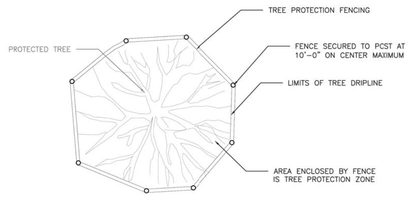
WBS NO.	R-01000-0036-3
DRAWING SCALE	1"=20'
CITY OF HOUSTON, PM	SABEEN SHAIK, P.E.
SHEET NO.	180 OF 183

J:\AMA2501 COH CRMP CIP Package 5\ARV03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:30pm

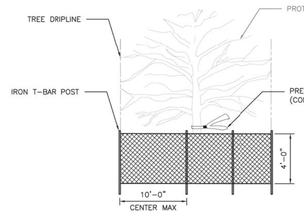
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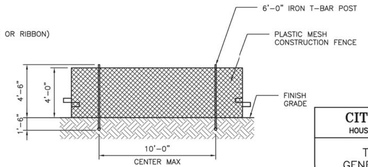
FENCE LOCATION MAY BE ADJUSTED TO ACTUAL SITE CONDITIONS.



PLAN VIEW
TREE PROTECTION FENCING DETAIL



FRONT VIEW
TREE PROTECTION FENCING DETAIL



DETAIL B-4
PROTECTIVE PLASTIC MESH FENCE

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
GENERAL REQUIREMENTS

(SCALE: NOT TO SCALE)

APPROVED BY:

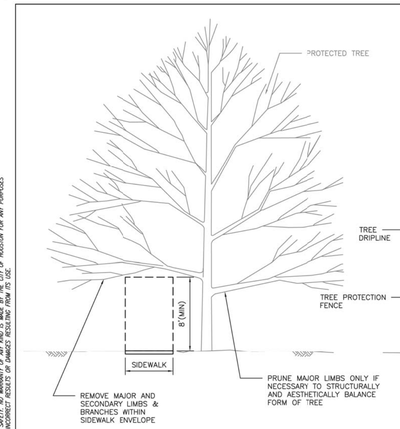
CITY ENGINEER	DIRECTOR OF HPW
Digitally signed by Sidiki Kauwar	Digitally signed by Carol Haddock

EFF DATE: NOV-27-2023 | DWG NO: 01562-01

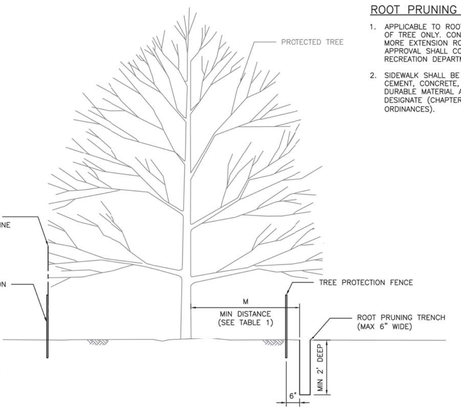
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1 **CITY OF HOUSTON**
TREE PROTECTION GENERAL REQUIREMENTS
SCALE: NTS

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0C2F2CC55AF6



TREE PRUNING



ROOT PRUNING DETAIL

ROOT PRUNING NOTE:

1. APPLICABLE TO ROOT PRUNING ON ONE SIDE OF TREE ONLY. CONSULT CITY ARBORIST FOR MORE EXTENSION ROOT PRUNING. FINAL APPROVAL SHALL COME FROM PARKS AND RECREATION DEPARTMENT.
2. SIDEWALK SHALL BE CONSTRUCTED OF EITHER CEMENT, CONCRETE, ASPHALT OR OTHER DURABLE MATERIAL AS THE COUNCIL MAY DESIGNATE (CHAPTER 40-91, CODE OF ORDINANCES).

TABLE 1
"M" DISTANCE TABLE

TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.-INCH
> 20"	CONSULT CITY ARBORIST

*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF TRENCH

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
TREE AND ROOT PRUNING

(SCALE: NOT TO SCALE)

APPROVED BY:

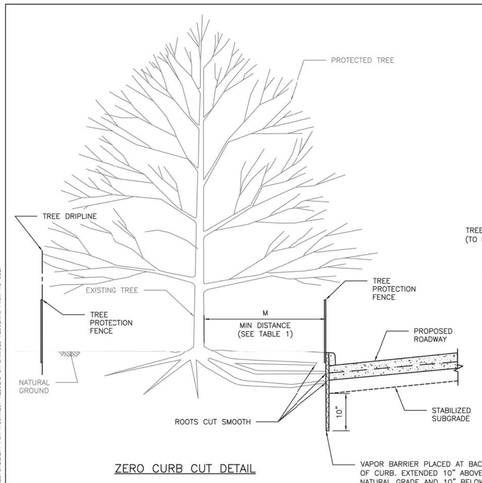
CITY ENGINEER	DIRECTOR OF HPW
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EFF DATE: NOV-27-2023 | DWG NO: 01562-02

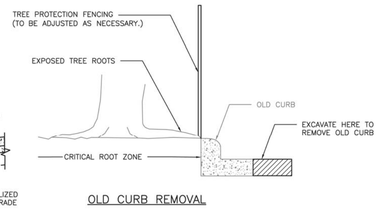
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2 **CITY OF HOUSTON**
TREE PROTECTION TREE AND ROOT PRUNING
SCALE: NTS

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ZERO CURB CUT DETAIL



OLD CURB REMOVAL

TABLE 1
"M" DISTANCE TABLE

TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.-INCH
> 20"	CONSULT CITY ARBORIST

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
ZERO CURB CUT

(SCALE: NOT TO SCALE)

APPROVED BY:

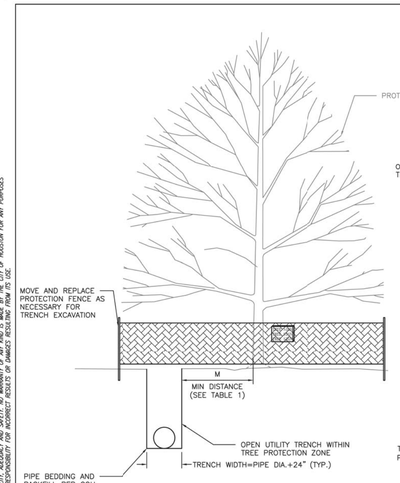
CITY ENGINEER	DIRECTOR OF HPW
Digitally signed by Sidiki Kauwar	Digitally signed by Carol Haddock

EFF DATE: NOV-27-2023 | DWG NO: 01562-04

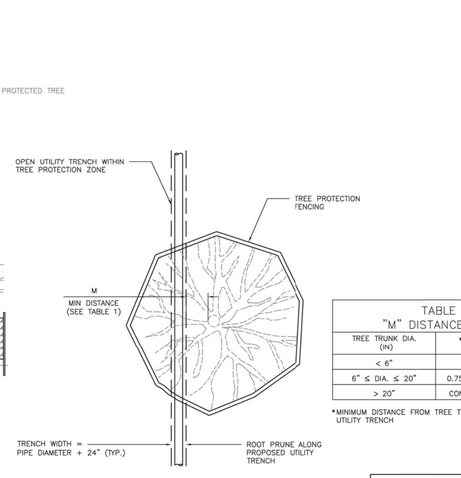
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3 **CITY OF HOUSTON**
TREE PROTECTION ZERO CURB CUT
SCALE: NTS

DocuSign Envelope ID: CB71C116-B716-4899-A5EE-0C2F2CC55AF6



ELEVATION
TRENCH EXCAVATION



PLAN
TRENCH EXCAVATION

TABLE 1
"M" DISTANCE TABLE

TREE TRUNK DIA. (IN)	*MINIMUM DISTANCE 'M'
< 6"	3 FEET
6" ≤ DIA. ≤ 20"	0.75 FEET PER DIA.-INCH
> 20"	CONSULT CITY ARBORIST

*MINIMUM DISTANCE FROM TREE TRUNK TO EDGE OF UTILITY TRENCH

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE PROTECTION
TRENCH REQUIREMENTS

(SCALE: NOT TO SCALE)

APPROVED BY:

CITY ENGINEER	DIRECTOR OF HPW
Digitally signed by Sidiki Kauwar	Digitally signed by Carol Haddock

EFF DATE: NOV-27-2023 | DWG NO: 01562-06

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4 **CITY OF HOUSTON**
TREE PROTECTION TRENCH REQUIREMENTS
SCALE: NTS

0 1 2 3 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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.

AMANI ENGINEERING, INC.
11011 RICHMOND AVENUE, SUITE 700
HOUSTON, TEXAS 77024
TEL: (713) 270-5700
Texas Registered Engineering Firm No. F-4528
Texas Registered Surveying Firm No. 100282-00

ASAKURA ROBINSON
2500 Summer Street, Suite 3228 Houston Texas 77007
P: 713.337.5830 www.asakurarobinson.com

THESE DOCUMENTS ARE INCOMPLETE AND FOR INTERIM REVIEW ONLY. THEY ARE NOT TO BE USED FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION. KEIJI ASAKURA, RLA REGISTRATION NO. 1170.

SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.22 TREE PROTECTION DETAILS

WBS NO.
R-01000-0036-3

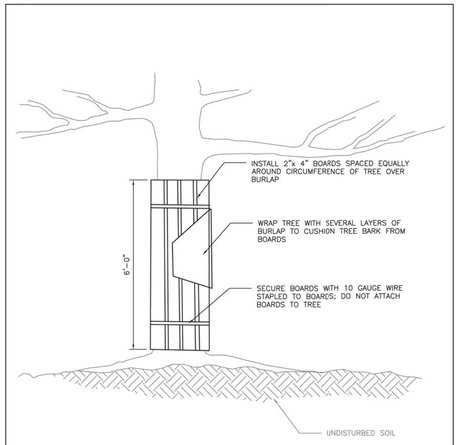
DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 181 OF 183

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ELEVATION

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APPROVED BY:

Signed by: Sukut Kaswar — CITY ENGINEER

Signed by: Carl Haddock — DIRECTOR OF HPW

CITY OF HOUSTON
HOUSTON PUBLIC WORKS STANDARD

TREE BOARDING

(SCALE: NOT TO SCALE)

EFF DATE: NOV-27-2023 | DWG NO: 01562-07

1 TREE BOARDING TREE PROTECTION TABLE

SCALE: NTS

TREE PROTECTION NOTES :

1. IT IS CRITICAL TO ERECT TREE PROTECTION FENCES PRIOR TO THE BEGINNING OF ANY SITE DEMOLITION.
2. THE TREE PROTECTION FENCE SHALL BE A MIN. 4' HT. BRIGHT ORANGE, LIGHT WEIGHT, REUSABLE MESH SAFETY FENCING MADE OF HIGH DENSITY POLYETHYLENE WITH 1 1/2" X 3" SIZE MESH. REFER TO PLAN FOR LOCATIONS. T-POSTS AND FENCING SHALL BE LOCATED TO THE EXTENTS AND SHAPES NOTED ON PLAN. UNDER NO CIRCUMSTANCES SHALL FENCING BE WRAPPED AROUND OR AFFIXED TO PROTECTED TREES.
3. TREE PROTECTION FENCE SHALL BE PLACED AROUND CRITICAL ROOT ZONE OF ALL TREES TO REMAIN.
4. UNDER NO CIRCUMSTANCES SHOULD A CONTRACTOR DRIVE OR PARK MACHINERY ON TREE ROOTS OR UNDER THE TREE CANOPY DRIPLINE.
5. AVOID DISTURBING ROOTS IN CRITICAL ROOT ZONE. IF ROOT CUTTING IS NECESSARY OR ANY ROOTS ARE DAMAGED, THEY SHALL BE CUT CLEANLY WITH THE APPROPRIATE PRUNING SHEARS OR PRUNING SAWS A FEW INCHES ON THE SIDE CLOSER TO THE TRUNK. ANY EXPOSED OR PRUNED TREE ROOTS MUST BE COVERED IMMEDIATELY WITH DIRT AND MULCH TO PREVENT ROOTS FROM DRYING OUT.
6. NO STORAGE OR CONCRETE DUMPING IS PERMITTED ON TREE ROOTS AND/OR UNDER DRIPLINE.
7. NO BUILDING MATERIALS ARE TO BE STACKED OR STOCKPILED WITHIN THE DRIPLINE OR WITHIN 6 FEET OF ANY TREE TO BE PRESERVED, WHICHEVER DISTANCE IS GREATER.
8. NO TOPSOILS, COMPOST, OR MULCH ARE TO BE STOCKPILED WITHIN THE DRIP LINE OR WITHIN 6 FEET OF ANY TREE TO BE PRESERVED, WHICHEVER DISTANCE IS GREATER.
9. TREE BOARDING SHALL BE USED IF WORK IS REQUIRED WITHIN FENCING.
10. ANY UNDERSTORY CLEARING WITHIN SIX FEET OF EXISTING TREE TRUNKS SHALL BE DONE BY HAND.
11. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT IF ROOT PRUNING IS DEEMED NECESSARY. CONTRACTOR SHALL NOT CUT ROOT LARGER THAN 2" PRIOR CONSULTING LANDSCAPE ARCHITECT.
12. CONTRACTOR IS REQUIRED TO HIRE A CERTIFIED ARBORIST TO MONITOR AND ASSIST WITH FIELD LAYOUT (EXACT LOCATIONS OF FENCING, ROOT PRUNING, AND ZERO CURB CUTBACK) OF THE TREE PRESERVATION PROGRAM DURING DEMOLITION AND CONSTRUCTION TO ENSURE TREE PROTECTION PROCEDURES AND TECHNIQUES ARE PRACTICED AS SPECIFIED TO ADDRESS CONCERNS AND CONDITIONS WHICH OCCUR IN THE FIELD. AT A MINIMUM, THE INDIVIDUAL RESPONSIBLE FOR MONITORING AND FIELD LAYOUT OF THE TREE PROTECTION SHALL HAVE A MINIMUM OF 5 YEARS OF EXPERIENCE AS A CONSULTANT, AND SHALL NOT BE AFFILIATED WITH A TREE CARE CONTRACTOR IN THE HARRIS COUNTY AREA. QUALIFICATIONS OF THE SELECTED CERTIFIED ARBORIST SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.

Tree Assessment

TREE NUMBER	DBH (INCHES)	SPECIES	LOCATION	TREATMENT/ NOTES
1		Palm	ROW	Tree Protection Fencing
2	24	Chinese Privet	ROW	Tree Protection Fencing
3	10	Tree of Heaven	ROW	Behind property fence
4	15	Hackberry	ROW	Behind property fence
5	4	Cedar Elm	ROW	Tree Protection Fencing
6	3	Cedar Elm	ROW	Tree Protection Fencing
7	36	Hackberry	ROW	Tree Protection Fencing
8	20	Palm	ROW	In a planter. Tree Protection Fencing
9	15	Palm	ROW	In a planter. Tree Protection Fencing
10	15	Palm	ROW	In a planter. Tree Protection Fencing
11	16	Palm	ROW	In a planter. Tree Protection Fencing
12	19	Palm	ROW	In a planter. Tree Protection Fencing
13	6	Palm	ROW	In a planter. Tree Protection Fencing
14	20	Palm	ROW	In a planter. Tree Protection Fencing
15	6	Palm	ROW	In a planter. Tree Protection Fencing
16	19	Palm	ROW	In a planter. Tree Protection Fencing
17	12	Crepe Myrtle	ROW	Tree Protection Fencing
18	6	Oak	ROW	Tree Protection Fencing
19	15	Crepe Myrtle	ROW	Tree Protection Fencing
20	12	Crepe Myrtle	ROW	Tree Protection Fencing
21	18	Hackberry	Private	Tree Protection Fencing
22	32	Oak	Private	Tree Protection Fencing
22A	10	Pecan	Private	Behind property fence
23	36	Oak	Private	Tree Protection Fencing
24	4	Magnolia	Private	Behind property fence
25	10	Crepe Myrtle	Private	Behind property fence
26	18	Oak	Private	Tree Protection Fencing
27	20	Oak	Private	Tree Protection Fencing
28	15	Hackberry	ROW	Tree Protection Fencing
29	24	Chinese Tallow	Private	Tree Protection Fencing
30	8	Palm	ROW	Tree Protection Fencing
31	18	Crepe Myrtle	Private	Tree Protection Fencing
32	12	Oak	ROW	Tree Protection Fencing
33	8	Crepe Myrtle	Private	Behind property fence
34	8	Sycamore	Private	Behind property fence
35	4	Hackberry	Private	Behind property fence
36	24	Oak	ROW	Tree Protection Fencing
37	15	Chinese Tallow	ROW	Tree Protection Fencing
38	20	Crepe Myrtle	ROW	Tree Protection Fencing
39	10	Crepe Myrtle	ROW	Tree Protection Fencing
40	30	Magnolia	Private	Tree Protection Fencing
41	10	Crepe Myrtle	Private	Tree Protection Fencing
42	10	Crepe Myrtle	Private	Tree Protection Fencing
43	18	Pecan	ROW	Tree Protection Fencing
44	4	Redbud	ROW	Behind property fence
44A	6	Oak	Private	Behind property fence
44B	12	Oak	Private	Behind property fence
45	30	Oak	Private	Tree Protection Fencing
46	12	Western Soapberry	Private	Tree Protection Fencing
47	10	Sago Palm	ROW	Tree Protection Fencing
48	24	Oak	Private	Tree Protection Fencing
49	12	Sago Palm	ROW	Tree Protection Fencing
50	30	Oak	Private	Tree Protection Fencing
51	18	Magnolia	Private	Tree Protection Fencing
52	15	Crepe Myrtle	ROW	Tree Protection Fencing
53	36	Oak	Private	Tree Protection Fencing
54	10	Sago Palm	Private	Tree Protection Fencing
55	2	Sago Palm	Private	Tree Protection Fencing
56	3	Japanese Privet	Private	Tree Protection Fencing
57	18	Yaupon Holly	ROW	Tree Protection Fencing
58	18	Pecan	Private	Tree Protection Fencing
59	10	Crepe Myrtle	Private	Tree Protection Fencing
60	20	Oak	ROW	Tree Protection Fencing
61	10	Pecan	ROW	Tree Protection Fencing
62	3	Pecan	ROW	Tree Protection Fencing
63	6	Pecan	ROW	Tree Protection Fencing
64	6	Sago Palm	ROW	Tree Protection Fencing
65	13	Oak	Private	Tree Protection Fencing
66	3	Crepe Myrtle	ROW	Tree Protection Fencing
67	3	Crepe Myrtle	Private	Tree Protection Fencing
68	8	Crepe Myrtle	ROW	Tree Protection Fencing
69	28	Pecan	Private	Tree Protection Fencing
70	15	Crepe Myrtle	Private	Tree Protection Fencing
71	24	Pecan	Private	Tree Protection Fencing
72	10	Crepe Myrtle	Private	Tree Protection Fencing
73	18	Crepe Myrtle	ROW	Tree Protection Fencing
74	18	Chinese Elm	ROW	Tree Protection Fencing
75	12	Magnolia	ROW	Tree Protection Fencing
76	6	Magnolia	ROW	Tree Protection Fencing
77	12	Magnolia	ROW	Tree Protection Fencing
78	10	Magnolia	ROW	Tree Protection Fencing
79	7	Magnolia	ROW	Tree Protection Fencing
80	4	Magnolia	ROW	Tree Protection Fencing
81	1	Magnolia	ROW	Tree Protection Fencing
82	8	Oak	Private	Tree Protection Fencing
83	15	Pine	Private	Tree Protection Fencing
84	18	Pecan	Private	Tree Protection Fencing
85	12	Crepe Myrtle	Private	Tree Protection Fencing
86	15	Magnolia	Private	Tree Protection Fencing
87	15	Hackberry	Private	Tree Protection Fencing
88	24	Crepe Myrtle	ROW	Tree Protection Fencing
89	30	Sweetgum	Private	Tree Protection Fencing
90	24	Crepe Myrtle	ROW	Tree Protection Fencing
91	12	Wisteria	ROW	Tree Protection Fencing
92	12	Crepe Myrtle	Private	Tree Protection Fencing
93	12	Crepe Myrtle	Private	Tree Protection Fencing
94	15	Columnar Cypress	Private	Tree Protection Fencing
95	12	Sago Palm	Private	Tree Protection Fencing
96	18	Crepe Myrtle	ROW	Tree Protection Fencing
97	6	Magnolia	Private	Tree Protection Fencing
98	2	Yaupon Holly	Private	Tree Protection Fencing
99	2	Yaupon Holly	Private	Tree Protection Fencing
100	24	Crepe Myrtle	ROW	Tree Protection Fencing
101	8	Crepe Myrtle	ROW	Tree Protection Fencing
102	12	Crepe Myrtle	ROW	Tree Protection Fencing
103	14	Crepe Myrtle	ROW	Tree Protection Fencing
104	6	Crepe Myrtle	ROW	Tree Protection Fencing
105	6	Crepe Myrtle	ROW	Tree Protection Fencing
106	12	Crepe Myrtle	ROW	Tree Protection Fencing
107	15	Oak	Private	Tree Protection Fencing
108	18	Oak	ROW	Tree Protection Fencing
109	18	Oak	ROW	Tree Protection Fencing
110	18	Oak	Private	Tree Protection Fencing
111	18	Yaupon Holly	Private	Tree Protection Fencing
112	36	Yaupon Holly	ROW	Tree Protection Fencing
113	18	Crepe Myrtle	ROW	Tree Protection Fencing
114	30	Oak	Private	Tree Protection Fencing
115	30	Crepe Myrtle	Private	Tree Protection Fencing
116	4	Crepe Myrtle	Private	Tree Protection Fencing
117	4	Oak	ROW	Tree Protection Fencing
118	24	Oak	ROW	Tree Protection Fencing
119	8	Yaupon Holly	ROW	Tree Protection Fencing
120	18	Yaupon Holly	ROW	Tree Protection Fencing
121	8	Yaupon Holly	Private	Tree Protection Fencing
122	10	Japanese Privet	ROW	Tree Protection Fencing
123	30	Oak	ROW	Tree Protection Fencing
124	18	Cedar Elm	Private	Tree Protection Fencing
125	18	Yaupon Holly	ROW	Tree Protection Fencing
126	18	Yaupon Holly	ROW	Tree Protection Fencing
127	20	Eastern Redcedar	ROW	Tree Protection Fencing
128	15	Yaupon Holly	ROW	Tree Protection Fencing
129	20	Oak	ROW	Tree Protection Fencing
130	8	Palm	Private	Tree Protection Fencing
131	2	Japanese Privet	Private	Tree Protection Fencing
132	6	Chinese Elm	ROW	Tree Protection Fencing
133	8	Crepe Myrtle	ROW	Tree Protection Fencing
134	8	Crepe Myrtle	ROW	Tree Protection Fencing
135	8	Crepe Myrtle	ROW	Tree Protection Fencing
136	8	Crepe Myrtle	Private	Tree Protection Fencing
137	24	Crepe Myrtle	ROW	Tree Protection Fencing
138	24	Crepe Myrtle	ROW	Tree Protection Fencing
139	8	Crepe Myrtle	ROW	Tree Protection Fencing
140	8	Crepe Myrtle	ROW	Tree Protection Fencing
141	18	Hackberry	ROW	Tree Protection Fencing
142	18	Hackberry	ROW	Tree Protection Fencing
143	18	Hackberry	ROW	Tree Protection Fencing
144	24	Hackberry	ROW	Tree Protection Fencing
145	30	Hackberry	ROW	Tree Protection Fencing
146	24	Oak	ROW	Tree Protection Fencing
147	18	Live Oak	ROW	Tree Protection Fencing
148	18	Bald Cypress	ROW	Tree Protection Fencing
149	12	Bradford Pear	ROW	Tree Protection Fencing
150	6	Sweetgum	ROW	Tree Protection Fencing
151	12	Chinese Pistache	ROW	Tree Protection Fencing
152	18	Crepe Myrtle	Private	Tree Protection Fencing
153	18	Crepe Myrtle	ROW	Tree Protection Fencing
154	48	Oak	Private	Tree Protection Fencing
155	24	Pecan	Private	Tree Protection Fencing
156	36	Hackberry	Private	Tree Protection Fencing
157	4	Bradford Pear	ROW	Tree Protection Fencing
158	18	Crepe Myrtle	ROW	Tree Protection Fencing
159	8	Yaupon Holly	Private	Tree Protection Fencing
160	12	Sweetgum	ROW	Tree Protection Fencing
161	24	Chinese Pistache	ROW	Tree Protection Fencing
162	18	Magnolia	Private	Tree Protection Fencing
163	18	Magnolia	Private	Tree Protection Fencing
164	24	Oak	ROW	Tree Protection Fencing
165	24	Loblolly Pine	Private	Tree Protection Fencing
166	12	Oak	ROW	Tree Protection Fencing
167	18	Cedar Elm	ROW	Tree Protection Fencing
168	10	Cedar Elm	ROW	Tree Protection Fencing
169	4	Magnolia	Private	Tree Protection Fencing
170	8	Crepe Myrtle	Private	Tree Protection Fencing
171	12	Cedar Elm	ROW	Tree Protection Fencing
172	18	Oak	ROW	Tree Protection Fencing
173	15	Oak	ROW	Tree Protection Fencing
174	30	Oak	Private	Tree Protection Fencing
175	12	Oak	ROW	Tree Protection Fencing
176	18	Oak	ROW	Tree Protection Fencing
177	18	Oak	ROW	Tree Protection Fencing
178	30	Oak	ROW	Tree Protection Fencing
179	36	Oak	Private	Tree Protection Fencing
180	48	Oak	ROW	Tree Protection Fencing
181	18	Oak	Private	Tree Protection Fencing
182	36	Oak	Private	Tree Protection Fencing
183	30	Magnolia	Private	Tree Protection Fencing
184	48	Oak	ROW	Tree Protection Fencing
185	48	Oak	ROW	Tree Protection Fencing

2 TREE PROTECTION TABLE

SCALE: NTS

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE NORTHEAST CORNER OF LEELAND ST. AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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.

AMANI ENGINEERING, INC.
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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.23 TREE PROTECTION NOTES, DETAILS, & TABLE

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 182 OF 183

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ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

186	6	Palm	Private	Tree Protection Fencing
187	10	Crepe Myrtle	Private	Tree Protection Fencing
188	24	Chinese Pistache	ROW	Tree Protection Fencing
189	6	Palm	ROW	Tree Protection Fencing
190	24	Palm	ROW	Tree Protection Fencing
191	18	Chinese Pistache	ROW	Tree Protection Fencing
192	18	Oak	ROW	Tree Protection Fencing
193	8	Chinese Pistache	ROW	Tree Protection Fencing
194	8	Crepe Myrtle	ROW	Tree Protection Fencing
195	18	Chinese Pistache	ROW	Tree Protection Fencing
196	8	Green Ash	Private	Tree Protection Fencing
197	10	Chinese Pistache	Private	Tree Protection Fencing
198	8	Crepe Myrtle	ROW	Tree Protection Fencing
199	8	Oak	ROW	Tree Protection Fencing
200	30	Oak	Private	Tree Protection Fencing
201	24	Oak	ROW	Tree Protection Fencing
202	30	Sycamore	ROW	Tree Protection Fencing
203	36	Oak	Private	Tree Protection Fencing
204	30	Oak	ROW	Tree Protection Fencing
205	40	Oak	ROW	Tree Protection Fencing
206	10	Sweetgum	ROW	Tree Protection Fencing
207	12	Sweetgum	ROW	Tree Protection Fencing
208	40	Sweetgum	ROW	Tree Protection Fencing
209	36	Sweetgum	ROW	Tree Protection Fencing
210	24	Cedar Elm	ROW	Tree Protection Fencing
211	24	Green Ash	ROW	Tree Protection Fencing
212	30	Crepe Myrtle	ROW	Tree Protection Fencing
213	6	Eastern Redcedar	ROW	Tree Protection Fencing
214	30	Hackberry	ROW	Tree Protection Fencing
215	30	Oak	ROW	Tree Protection Fencing
216	48	Crepe Myrtle	ROW	Tree Protection Fencing
217	48	Oak	ROW	Tree Protection Fencing
218	36	Bradford Pear	Private	Tree Protection Fencing
219	30	Hackberry	ROW	Tree Protection Fencing
220	30	Oak	Private	Tree Protection Fencing
221	24	Bradford Pear	Private	Tree Protection Fencing
222	12	Chinese Pistache	ROW	Tree Protection Fencing
223	36	Oak	ROW	Tree Protection Fencing
224	30	Oak	ROW	Tree Protection Fencing
225	12	Bradford Pear	Private	Tree Protection Fencing
226	10	Pine	Private	Tree Protection Fencing
227	15	Pine	Private	Tree Protection Fencing
228	24	Pecan	ROW	Tree Protection Fencing
229	18	Chinese Pistache	Private	Tree Protection Fencing
230	2	Yaupon Holly	Private	Tree Protection Fencing
231	2	Yaupon Holly	Private	Tree Protection Fencing
232	10	Magnolia	Private	Tree Protection Fencing
233	6	Crepe Myrtle	ROW	Tree Protection Fencing
234	12	Oak	ROW	Tree Protection Fencing
235	24	Oak	ROW	Tree Protection Fencing
236	2	Dwarf Juniper	Private	Tree Protection Fencing
237	2	Dwarf Juniper	Private	Tree Protection Fencing
238	6	Cedar Elm	ROW	Tree Protection Fencing
239	6	Chinese Pistache	Private	Tree Protection Fencing
240	18	Loblolly Pine	ROW	Tree Protection Fencing
241	48	Oak	Private	Tree Protection Fencing
242	24	Live Oak	Private	Tree Protection Fencing
243	24	Live Oak	Private	Tree Protection Fencing
244	24	Pecan	Private	Tree Protection Fencing
245	18	Oak	Private	Tree Protection Fencing
246	6	Chinese Pistache	Private	Tree Protection Fencing
247	16	Oak	ROW	Tree Protection Fencing
248	12	Palm	ROW	Tree Protection Fencing
249	14	Palm	ROW	Tree Protection Fencing
250	40	Oak	Private	Tree Protection Fencing
251	8	Bradford Pear	Private	Tree Protection Fencing
252	12	Oak	Private	Tree Protection Fencing
253	36	Oak	ROW	Tree Protection Fencing
254	6	Japanese Privet	ROW	Tree Protection Fencing
255	18	Oak	Private	Tree Protection Fencing
256	36	Oak	Private	Tree Protection Fencing
257	36	Oak	Private	Tree Protection Fencing
258	40	Oak	ROW	Tree Protection Fencing
259	30	Oak	ROW	Tree Protection Fencing
260	36	Oak	ROW	Tree Protection Fencing
261	18	Crepe Myrtle	ROW	Tree Protection Fencing
262	48	Oak	Private	Tree Protection Fencing
263	18	Crepe Myrtle	ROW	Tree Protection Fencing
264	24	Crepe Myrtle	ROW	Tree Protection Fencing
265	30	Oak	ROW	Tree Protection Fencing
266	48	Oak	Private	Tree Protection Fencing
267	36	Oak	Private	Tree Protection Fencing
268	36	Tree	ROW	Tree Protection Fencing
269	30	Magnolia	Private	Tree Protection Fencing
270	36	Oak	Private	Tree Protection Fencing
271	24	Oak	ROW	Tree Protection Fencing
272	30	Oak	ROW	Tree Protection Fencing
273	24	Magnolia	ROW	Tree Protection Fencing
274	30	Magnolia	Private	Tree Protection Fencing
275	30	Oak	ROW	Tree Protection Fencing
276	18	Crepe Myrtle	ROW	Tree Protection Fencing
267A	6	Tree	ROW	Tree Protection Fencing
267B	6	Tree	ROW	Tree Protection Fencing
267C	6	Tree	ROW	Tree Protection Fencing
267D	10	Crepe Myrtle	ROW	Tree Protection Fencing
277	24	Oak	ROW	Tree Protection Fencing
278	24	Oak	ROW	Tree Protection Fencing
279	18	Crepe Myrtle	ROW	Tree Protection Fencing
280	30	Crepe Myrtle	Private	Tree Protection Fencing
281	30	Crepe Myrtle	Private	Tree Protection Fencing
282	24	Sycamore	Private	Tree Protection Fencing
283	24	Crepe Myrtle	Private	Tree Protection Fencing
284	30	Crepe Myrtle	Private	Tree Protection Fencing
285	24	Palm	Private	Tree Protection Fencing
286	10	Cedar Elm	ROW	Tree Protection Fencing
287	24	Maple	ROW	Tree Protection Fencing
288	36	Maple	Private	Tree Protection Fencing
289	24	Maple	ROW	Tree Protection Fencing
290	16	Magnolia	ROW	Tree Protection Fencing
291	12	Crepe Myrtle	ROW	Tree Protection Fencing
292	24	Oak	ROW	Tree Protection Fencing
293	22	Tallow	ROW	Tree Protection Fencing
294	18	Tallow	ROW	Tree Protection Fencing
295	30	Pecan	Private	Tree Protection Fencing
296	12	Oak	ROW	Tree Protection Fencing
297	24	Crepe Myrtle	ROW	Tree Protection Fencing
298	24	Crepe Myrtle	ROW	Tree Protection Fencing
299	26	Oak	Private	Tree Protection Fencing
300	22	Oak	Private	Tree Protection Fencing
301	18	Crepe Myrtle	ROW	Tree Protection Fencing
302	24	Crepe Myrtle	ROW	Tree Protection Fencing
303	12	Crepe Myrtle	ROW	Tree Protection Fencing
304	18	Crepe Myrtle	ROW	Tree Protection Fencing
305	24	Tallow	ROW	Tree Protection Fencing
306	36	Tallow	ROW	Tree Protection Fencing
307	18	Chinese Tallow	ROW	Tree Protection Fencing
308	12	Cedar Elm	ROW	Behind property fence
309	18	Cedar Elm	ROW	Behind property fence
310	12	Crepe Myrtle	ROW	Tree Protection Fencing
311	8	Pecan	ROW	Tree Protection Fencing
312	12	Pecan	ROW	Tree Protection Fencing
313	10	Pecan	ROW	Tree Protection Fencing
314	8	Crepe Myrtle	ROW	Tree Protection Fencing
315	12	Crepe Myrtle	ROW	Tree Protection Fencing
316	40	Oak	ROW	Tree Protection Fencing
317	24	Crepe Myrtle	ROW	Tree Protection Fencing
318	12	Crepe Myrtle	ROW	Tree Protection Fencing
319	12	Crepe Myrtle	ROW	Tree Protection Fencing
320	20	Crepe Myrtle	ROW	Tree Protection Fencing
321	18	Crepe Myrtle	ROW	Tree Protection Fencing
322	36	Cedar Elm	ROW	Tree Protection Fencing
323	12	Crepe Myrtle	ROW	Tree Protection Fencing
324	24	Pecan	ROW	Tree Protection Fencing
325	18	Pecan	ROW	Tree Protection Fencing
326	24	Oak	ROW	Tree Protection Fencing
327	48	Oak	Private	Tree Protection Fencing
328	18	Magnolia	Private	Tree Protection Fencing
329	24	Eastern Redbud	ROW	Tree Protection Fencing
330	12	Chinese Pistache	ROW	Tree Protection Fencing
331	24	Chinese Pistache	ROW	Tree Protection Fencing
332	18	Crepe Myrtle	ROW	Tree Protection Fencing
333	18	Chinese Privet	ROW	Tree Protection Fencing
334	18	Chinese Privet	ROW	Tree Protection Fencing
335	24	Oak	Private	Tree Protection Fencing
336	8	Magnolia	Private	Tree Protection Fencing
337	18	Crepe Myrtle	Private	Tree Protection Fencing
338	12	Crepe Myrtle	ROW	Tree Protection Fencing
339	30	Crepe Myrtle	ROW	Tree Protection Fencing
340	10	Crepe Myrtle	ROW	Tree Protection Fencing
341	12	Crepe Myrtle	ROW	Tree Protection Fencing
342	36	Crepe Myrtle	ROW	Tree Protection Fencing
343	12	Crepe Myrtle	ROW	Tree Protection Fencing
344	60	Oak	ROW	Tree Protection Fencing
345	36	Crepe Myrtle	ROW	Tree Protection Fencing
346	6	Freeman Maple	ROW	Tree Protection Fencing
347	18	Crepe Myrtle	ROW	Tree Protection Fencing
348	6	Yaupon Holly	ROW	Tree Protection Fencing
349	24	Crepe Myrtle	ROW	Tree Protection Fencing
350	24	Pecan	ROW	Tree Protection Fencing
351	48	Oak	ROW	Tree Protection Fencing
352	8	Crepe Myrtle	ROW	Tree Protection Fencing
353	8	Crepe Myrtle	ROW	Tree Protection Fencing
354	12	Crepe Myrtle	ROW	Tree Protection Fencing
355	18	Crepe Myrtle	ROW	Tree Protection Fencing
356	40	Chinese Privet	ROW	Tree Protection Fencing
357	18	Bald Cypress	Private	Behind property fence
358	40	Oak	ROW	Tree Protection Fencing
359	4	Oak	ROW	Tree Protection Fencing
360	4	Oak	ROW	Tree Protection Fencing
361	3	Chinese Pistache	ROW	Tree Protection Fencing
362	20	Cedar	ROW	Tree Protection Fencing
363	12	Cedar	ROW	Tree Protection Fencing
364	6	Chinese Pistache	ROW	Tree Protection Fencing
365	4	Chinese Pistache	ROW	Tree Protection Fencing
366	4	Chinese Pistache	ROW	Tree Protection Fencing
367	8	Chinese Pistache	ROW	Tree Protection Fencing
368	6	Chinese Pistache	ROW	Tree Protection Fencing
369	60	Oak	ROW	Tree Protection Fencing
370	4	Oak	ROW	Tree Protection Fencing
371	12	Crepe Myrtle	Private	Tree Protection Fencing
372	60	Oak	ROW	Tree Protection Fencing
373	4	Yaupon Holly	ROW	Tree Protection Fencing
374	4	Yaupon Holly	ROW	Tree Protection Fencing
375	4	Yaupon Holly	ROW	Tree Protection Fencing
376	60	Crepe Myrtle	Private	Tree Protection Fencing
377	18	Crepe Myrtle	ROW	Tree Protection Fencing
378	12	Crepe Myrtle	ROW	Tree Protection Fencing
379	4	Japanese Privet	ROW	Tree Protection Fencing
380	24	Crepe Myrtle	ROW	Tree Protection Fencing
381	6	Yaupon Holly	ROW	Tree Protection Fencing
382	48	Crepe Myrtle	ROW	Tree Protection Fencing
383	18	Crepe Myrtle	ROW	Tree Protection Fencing
384	24	Oak	ROW	Tree Protection Fencing
385	6	Chinese Tallow	ROW	Tree Protection Fencing
386	12	Chinese Tallow	ROW	Tree Protection Fencing
387	18	Crepe Myrtle	ROW	Tree Protection Fencing
388	18	Crepe Myrtle	ROW	Tree Protection Fencing
389	18	Crepe Myrtle	ROW	Tree Protection Fencing
390	18	Hackberry	ROW	Tree Protection Fencing
391	48	Cedar Elm	ROW	Behind property fence
392	4	Crepe Myrtle	ROW	Tree Protection Fencing
393	18	Chinese Pistache	Private	Tree Protection Fencing
394	40	Oak	Private	Tree Protection Fencing
395	8	Palm	Private	Tree Protection Fencing
396	18	Crepe Myrtle	Private	Tree Protection Fencing
397	18	Chinaberry	Private	Tree Protection Fencing
398	4	Cedar Elm	Private	Tree Protection Fencing
399	16	Chinaberry	Private	Tree Protection Fencing
400	4	Cedar Elm	Private	Tree Protection Fencing
401	24	Hackberry	Private	Tree Protection Fencing
402	40	Oak	Private	Tree Protection Fencing
403	8	Cedar Elm	Private	Tree Protection Fencing
404	8	Cedar Elm	Private	Tree Protection Fencing
405	4	Cedar Elm	Private	Tree Protection Fencing
406	12	Cedar Elm	Private	Tree Protection Fencing
407	30	Chinese Pistache	Private	Tree Protection Fencing
408	24	Crepe Myrtle	ROW	Tree Protection Fencing
409	12	Crepe Myrtle	ROW	Tree Protection Fencing
410	12	Crepe Myrtle	ROW	Tree Protection Fencing
411	12	Crepe Myrtle	ROW	Tree Protection Fencing
412	40	Cedar Elm	ROW	Tree Protection Fencing
413	6	Crepe Myrtle	ROW	Tree Protection Fencing
414	30	Hackberry	ROW	Tree Protection Fencing
415	40	Hackberry	ROW	Tree Protection Fencing
416	24	Hackberry	ROW	Tree Protection Fencing
417	30	Crepe Myrtle	ROW	Tree Protection Fencing
418	30	Crepe Myrtle	ROW	Tree Protection Fencing
419	6	Crepe Myrtle	ROW	Tree Protection Fencing
420	6	Crepe Myrtle	ROW	Tree Protection Fencing
421	6	Crepe Myrtle	ROW	Tree Protection Fencing
422	6	Crepe Myrtle	ROW	Tree Protection Fencing
423	6	Crepe Myrtle	ROW	Tree Protection Fencing
424	6	Crepe Myrtle	ROW	Tree Protection Fencing
425	8	Chinese Pistache	ROW	Tree Protection Fencing
426	48	White Mulberry	ROW	Tree Protection Fencing
427	24	Cedar Elm	ROW	Tree Protection Fencing
428	48	White Mulberry	ROW	Tree Protection Fencing
429	40	Oak	ROW	Tree Protection Fencing
430	24	Oak	ROW	Tree Protection Fencing
431	12	Crepe Myrtle	ROW	Tree Protection Fencing
432	12	Crepe Myrtle	ROW	Tree Protection Fencing
433	12	Crepe Myrtle	ROW	Tree Protection Fencing
434	24	Oak	ROW	Tree Protection Fencing
435	4	Crepe Myrtle	ROW	Tree Protection Fencing
436	4	Crepe Myrtle	ROW	Tree Protection Fencing
437	4	Crepe Myrtle	ROW	Tree Protection Fencing
438	4	Crepe Myrtle	ROW	Tree Protection Fencing
439	4	Crepe Myrtle	ROW	Tree Protection Fencing
440	4	Crepe Myrtle	ROW	Tree Protection Fencing
441	4	Crepe Myrtle	ROW	Tree Protection Fencing
442	12	Japanese Privet	ROW	Tree Protection Fencing
443	12	Japanese Privet	ROW	Tree Protection Fencing

1 **TREE PROTECTION TABLE**

SCALE: NTS

NOTE:

PROJECT BENCH MARK:

CITY OF HOUSTON MARKER 5556-7109
ALUMINIUM DISK LOCATED ON THE
NORTHEAST CORNER OF LEELAND ST.
AND W. GUSTAV ST.

ELEVATION = 34.16' Geoid 18

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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.

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Date

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SURVEYED BY: AMANI
FB NO.: P-

CITY OF HOUSTON
HOUSTON PUBLIC WORKS

CRMP CIP PACKAGE 5
SANITARY SEWER
IMPROVEMENTS UPSTREAM OF
EDDINGTON LIFT STATION

L1.24 TREE PROTECTION TABLE

WBS NO.
R-01000-0036-3

DRAWING SCALE
1"=20'

CITY OF HOUSTON, PM
SABEEN SHAIK, P.E.

SHEET NO. 183 OF 183

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS
0 1 2 3

J:\AMA2501 COH CRMP CIP Package 5\AR\03 CD\L100_TREE PROTECTION PLAN_AMA2501_CR.dwg Jan 16, 2026 4:29pm