

# CITY OF HOUSTON

## HOUSTON PUBLIC WORKS

### GROUNDWATER REDUCTION PLAN (GRP) CONVERSION WATERLINES NORTHEAST (NE) AREA GROUP B WBS NO. S-000900-0305-3

**\*Construction in Harris County Flood Control District Right-of-Way requires:**

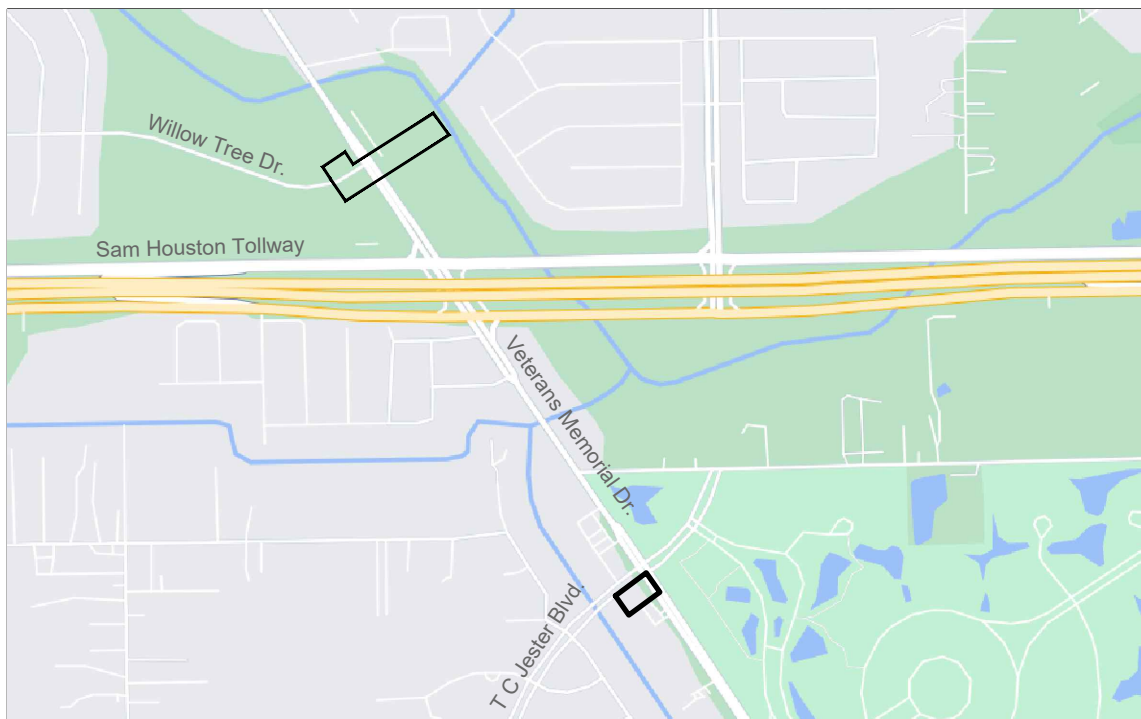
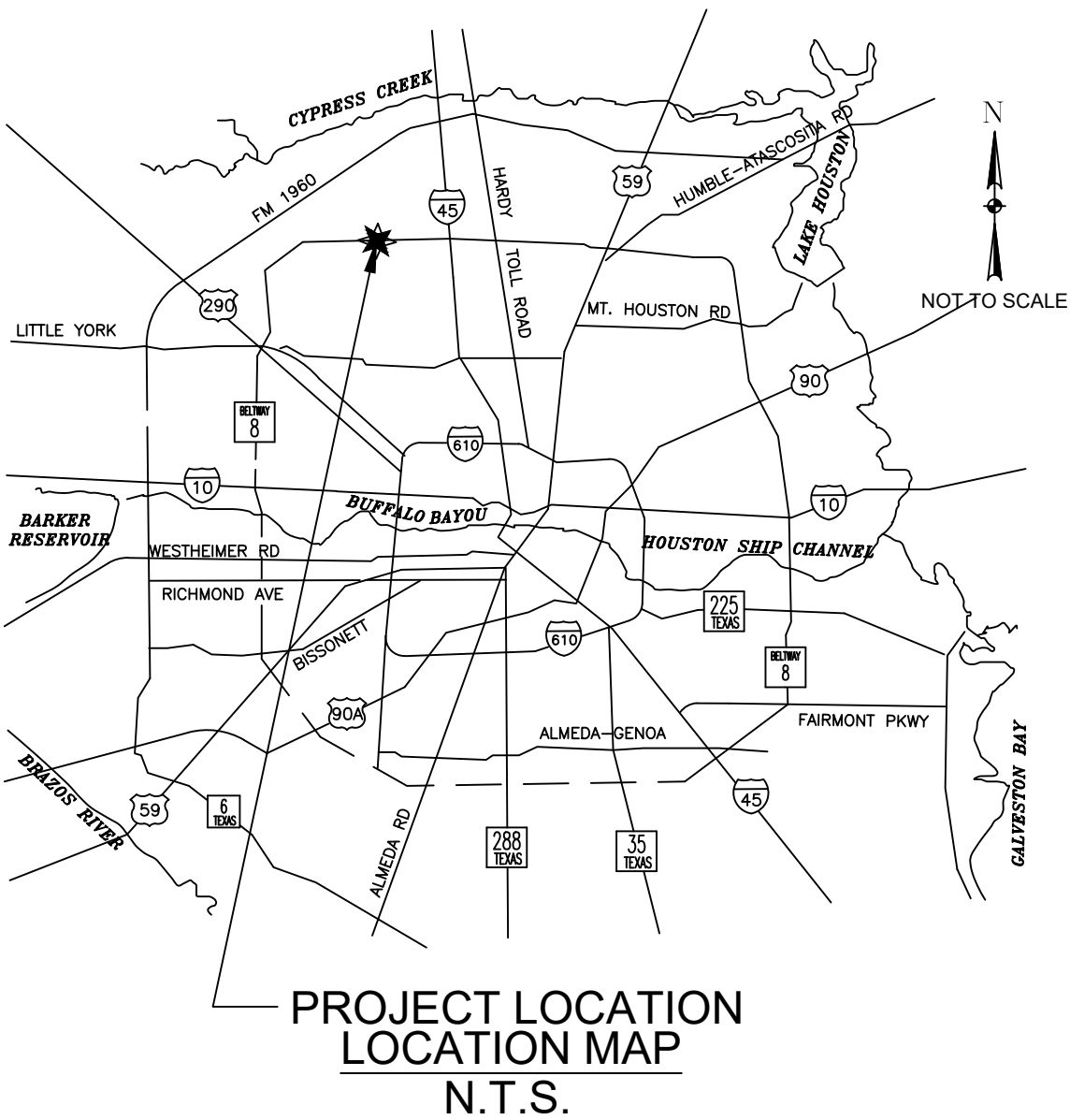
Site plans must be approved prior to obtaining the required HCFCD Right-of-Way Notification. Be advised that the HCFCD Right-of-Way Notification is separate from the site development permit package

- 1.) HCFCD Right-of-Way Notification (permit)
- 2.) HCFCD 48-hr Pre-Construction Notice

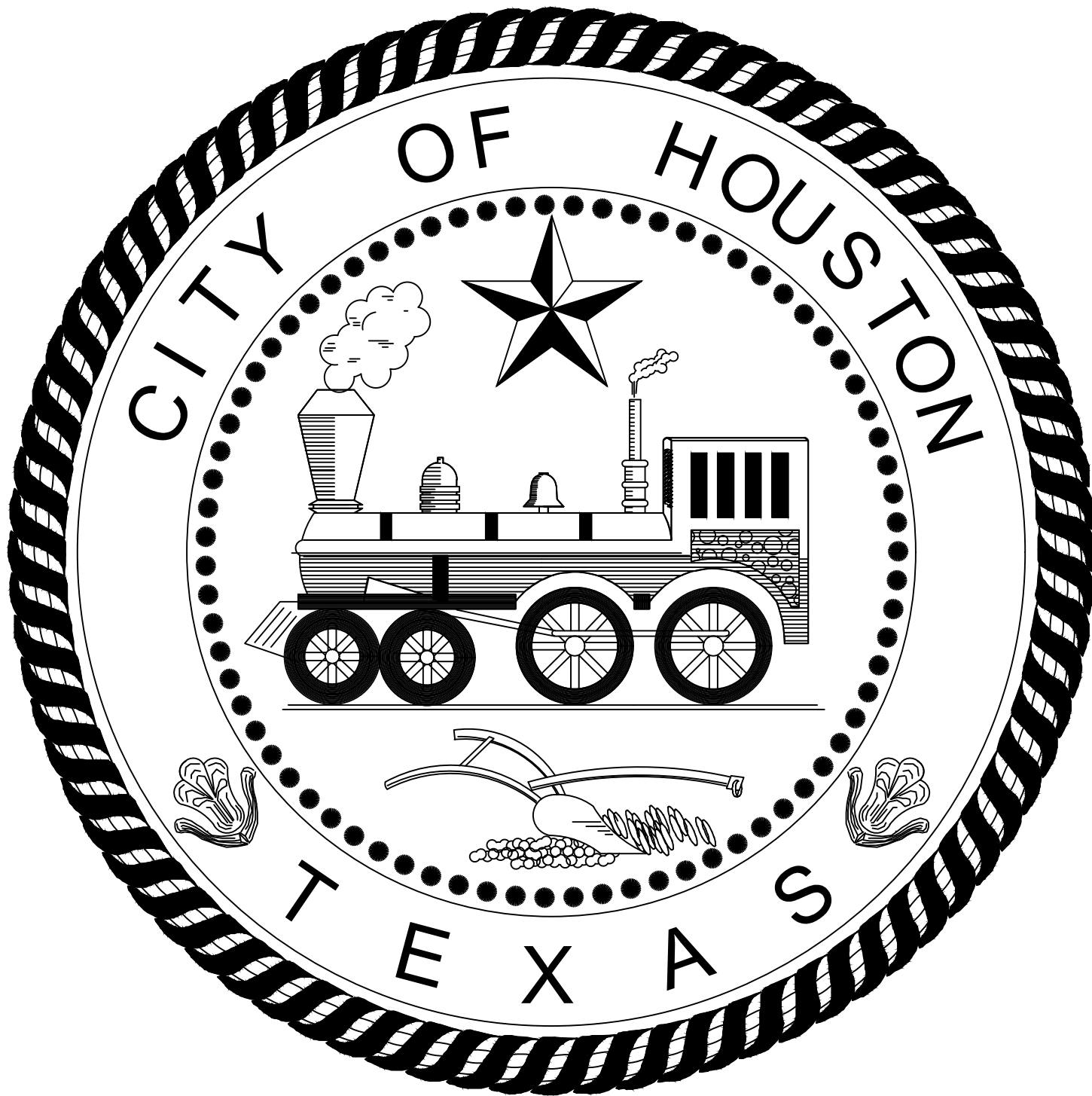
Both are required prior to entering or working within Harris County Flood Control District right-of-way. The HCFCD Right-of-Way Notification and 48-hour notice must be provided to HCFCD at [dcid@hcfcd.hctx.net](mailto:dcid@hcfcd.hctx.net).

To apply for the HCFCD Right-of-Way Notification please go to <http://apps.harriscountytexas.gov/EPermits> and apply for the HCFCD ROW under ROW Notification.

Failure to provide both items could result in project delays.



**VICINITY MAP**  
**N.T.S.**  
**KEY MAP NO 371V**  
**GIMS MAP NO 13565**  
**COUNCIL DISTRICT B**



MAYOR  
JOHN WHITMIRE  
  
CONTROLLER  
CHRIS HOLLINS

**DISTRICT  
COUNCIL MEMBERS**

AMY PECK DISTRICT A	TARSHA JACKSON DISTRICT B	ABBIE KAMIN DISTRICT C	CAROLYN E. SHABAZZ DISTRICT D
FRED FLICKINGER DISTRICT E	TIFFANY D. THOMAS DISTRICT F	MARY NAN HUFFMAN DISTRICT G	MARIO CASTILLO JR. 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.
		6161 SAVOY DRIVE, SUITE 830 HOUSTON, TEXAS 77036 (P) 281-272-1612 (F) 281-272-1619 FIRM REG. F-2488	THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW, MARK-UP, DRAFTING UNDER THE AUTHORITY OF TANITA GILBERT ALEXANDER LICENSE NO. 88719 DATED 9/29/2025. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
DESIGN PM		DATE	
CONSTRUCTION		DATE	
MANAGING ENGINEER		DATE	
HOUSTON WATER (WWOPS)		DATE	
PARK-FORESTRY DEPT.		DATE	
CITY ENGINEER		DATE	
DIRECTOR OF HOUSTON PUBLIC WORKS		DATE	
SHEET NO 1 OF 33 SHEETS		FOR CITY OF HOUSTON USE ONLY	

FILE PATH: F:\Projects\246-09 COH GRP 24 Inch WL\4-Drawings\1-Sheets\246-09-002-INDEX-SHEET.dwg PLOT STYLE: COH.ctb PLOTTED: 9/26/2025 8:57 AM

SHEET NO.

SHEET TITLE

COVER SHEET & INDEX

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2

COVER SHEET, LOCATION MAP, VICINITY MAP  
INDEX OF SHEETS

GENERAL NOTE LEGEND ABBREVIATIONS

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LEGEND  
ABBREVIATIONS  
GENERAL NOTES (SHEET 1 OF 2)  
GENERAL NOTES (SHEET 1 OF 2)

SURVEY SHEETS

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SURVEY CONTROL MAP SITE 1 (1 OF 2)  
SURVEY CONTROL MAP SITE 1 (2 OF 2)  
SURVEY CONTROL MAP SITE 2

PLAN AND PROFILE

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WILLOW TREE BASELINE – WATER LINE PLAN – BEGIN TO STA 6+00  
WILLOW TREE BASELINE – WATER LINE PROFILE – BEGIN TO STA 6+00  
WILLOW TREE BASELINE – WATER LINE PLAN – 6+00 TO END  
WILLOW TREE BASELINE – WATER LINE PROFILE – 6+00 TO END  
T.C. JESTER BASELINE – WATER LINE PLAN – BEGIN TO END  
T.C. JESTER BASELINE – WATER LINE PROFILE – BEGIN TO END

WATER DETAILS

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COH WATER DETAILS (SHEET 2 OF 4)  
COH WATER DETAILS (SHEET 3 OF 4)  
COH WATER DETAILS (SHEET 4 OF 4)

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SWPPP PLAN (SHEET 1 OF 3)  
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TREE PROTECTION STANDARD DETAILS (SHEET 1 OF 4)  
TREE PROTECTION STANDARD DETAILS (SHEET 2 OF 4)  
TREE PROTECTION STANDARD DETAILS (SHEET 3 OF 4)  
TREE PROTECTION STANDARD DETAILS (SHEET 4 OF 4)

CONSTRUCTION DETAILS

33

COH CONSTRUCTION SIGN DETAILS

			APP.
			REVISION
			DATE
			NO.

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.



6161 SAVOY DRIVE.  
SUITE 830  
HOUSTON, TEXAS 77036  
(P) 281-272-1612  
(F) 281-272-1619  
FIRM REG. F-2488

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

COH GRP CONVERSION WL  
NE AREA GROUP B

INDEX OF SHEETS

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
S-00900-0305-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ANH BOYD	
SHEET NO. 2 OF 33	



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
	CENTERPOINT ENERGY AERIAL LINE
	CENTERPOINT ENERGY UNDERGROUND LINE
	GAS LINE
	MISC UNDERGROUND LINE
	PIPELINE OR WESTERN UNION CONDUIT
	AT&T CONDUIT
	CABLE TV
	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
	MISC UNDERGROUND PIPELINE LABLE

PROPOSED PLAN VIEW

	WATER METER
	WATER VALVE (GATE)
	WATER VALVE (BUTTERFLY)
	FIRE HYDRANT/FLUSHING VALVE
	TAPPING SLEEVE & VALVE
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	AT&T CONDUIT
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	MATCH 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
	MISC UNDERGROUND PIPELINE LABLE

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 WEST DITCH
	SOUTH OR EAST DITCH
	NORTH OR WEST CULVERT
	SOUTH OR EAST 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

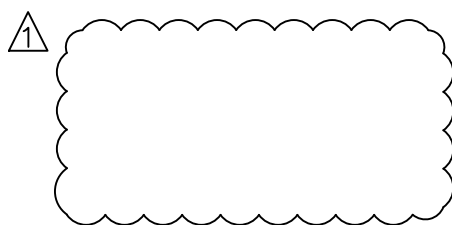
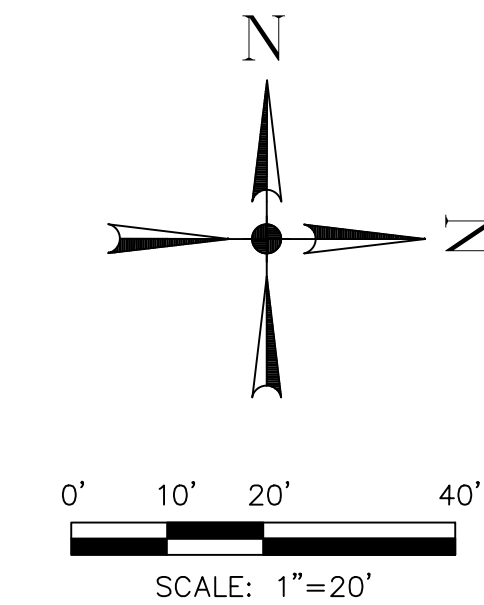
PROPOSED PLAN VIEW

	PAVING HEADER
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	SOUTH OR WEST DITCH
	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
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MISC. STANDARD ELEMENTS



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SHEET NO. 3 OF 33	

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## ABBREVIATIONS

AC	ACRES	OPRRPHCT	OFFICIAL PUBLIC RECORDS OF REAL PROPERTY
AE	AERIAL EASEMENT		HARRIS COUNTY TEXAS
AEP	ANNUAL EXCEEDANCE PROBABILITY	PAE	PRIVATE ACCESS EASEMENT
AKA	ALSO KNOWN AS	POB	POINT OF BEGINNING
APPROX	APPROXIMATELY	POC	POINT OF COMMENCING
AVE	AVENUE	PP	POWER POLE
BFE	BASE FLOOD ELEVATION	PROP.	PROPOSED
BL	BUILDING LINE	PT	POINT
BRS	BEARS	PTP	PINCHED TOP PIPE
BM	BENCH MARK	PUE	PUBLIC UTILITY EASEMENT
CATV	CABLE TV	PVMT	PAVEMENT
CCF NO.	COUNTY CLERK FILE NO.	PVT.	PRIVATE
CF NO.	CLERK FILE NO.	RCB	REINFORCED CONCRETE BOX
CH.LNK.FNC	CHAIN LINKED FENCE	RCP	REINFORCED CONCRETE PIPE
CL	CENTER LINE	RCPA	REINFORCED CONCRETE ARCHED PIPE
CLD	CENTER LINE DITCH	ROW	RIGHT OF WAY
CNP	CENTERPOINT ENERGY ELEC.	RR	RAILROAD
CNP GAS	CENTERPOINT ENERGY GAS	RT	RIGHT
CMP	CORRUGATED METAL PIPE	S=XX%	SLOPE%
CONC	CONCRETE	SAN SWR	SANITARY SEWER
COH	CITY OF HOUSTON	SB/BH	SOIL BORING/BORE HOLE
DE	DRAINAGE EASEMENT	SH	SPRINKLER HEAD
DESC	DESCRIPTION	SP	SERVICE POLE
DIP	DOWNSTREAM	SQ. FT.	SQUARE FEET
DS	DRIVEWAY	ST	STREET
D/W	EASEMENT	STL	STEEL
ESMT	EAST DITCH	STM SWR	STORM SEWER
E.D.	ELEVATION	STM. S.E.	STORM SEWER EASEMENT
EL	EXISTING	STA.	STATION
EXIST.	FILM CODE NUMBER	SWBT	SOUTHWESTERN BELL TELEPHONE
FC NO.	FENCE CORNER	SYC	SYCAMORE
FNC. COR.	FIRE HYDRANT	TAL	TALLOW
F.H.	FLOOD INSURANCE RATE MAP	TR	TREE
FIRM	FLOW LINE	TMB	TEMPORARY BENCHMARK
FL.	FLOODPLAIN MANAGEMENT OFFICE	TBD	TO BE DETERMINED
FMO	FOUND	TEMP	TEMPORARY
FND.	GAS METER	TOC	TOP OF CURB
GM	GAS VALVE	TYP.	TYPICAL
GV	HARRIS COUNTY CLERK FILE	UE	UTILITY EASEMENT
HCCF	HARRIS COUNTY DEED RECORDS	US	UPSTREAM
HCDR	HARRIS COUNTY MAP RECORDS	VOL	VOLUME
HCMR	HARD COUNT FLOOD CONTROL DISTRICT	W/	WITH
HCFC	HARRIS COUNTY CLERK FILE NO.	W.D.	WEST DITCH
HCCF NO.	HYDRAULIC GRADIENT LINE	WL	WATER LINE
HGL	HIGH PRESSURE GAS MAIN	WLE	WATER LINE EASEMENT
HP GM	IRON PIPE	WM	WATER METER
IP	IRON ROD	WSEL	WATER SURFACE ELEVATION LEVEL
IR	IRRIGATION LINE	WV	WATER VALVE
IRR	LIGHT POLE		
LP	LEFT MAXIMUM		
LT	MANHOLE		
MAX	MINIMUM		
MH	NOT APPLICABLE		
MIN	NORTH AMERICAN VERTICAL DATUM		
N/A	NATURAL GROUND		
NAVD	NATIONAL GEOLOGICAL SURVEY		
N.G.	NAIL		
NGS	NUMBER		
NL	NOT TO SCALE		
NO.			
NTS			

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PLOT STYLE: COH.ctb

FILE PATH: F:\Projects\246-09 COH GRP 24 Inch WL\4-Drawings\1-Sheets\246-09-005-A-GENERAL\_NOTES.dwg

PRIVATE UTILITY NOTES:

AT&T TEXAS/ SWBT FACILITIES:

- THE LOCATIONS OF AT&T TEXAS/SWBT FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL CALL 1-800-344-8377 (TEXAS 811) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF AT&T TEXAS/SWBT FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWBT FACILITIES.
- WHEN AT&T TEXAS/SWBT FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
- THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES OR BURIED CABLE FACILITIES SHOWN ON THESE PLANS DOES NOT MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN CONDUIT IN THE AREA. PLEASE CONTACT AT&T, TEXAS DAMAGE PREVENTION MANAGER KEVIN RAY AT (713) 614-1983 OR EMAIL HIM AT [kr7896@att.com](mailto:kr7896@att.com), IF THERE ARE QUESTIONS ABOUT BORING OR EXCAVATING NEAR OUR AT&T TEXAS/SWBT FACILITIES.

CENTERPOINT ENERGY NOTES:

CAUTION: UNDERGROUND GAS FACILITIES

- THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.  
-WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 207-5463 (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) 659-2111 OR (713) 207-4200.
- THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL LINES:

- OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:  
-ANY ACTIVITY WHERE 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.
- PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL CENTERPOINT ENERGY AT (713) 207-2222.

ACTIVITIES ON/OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

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

WARNING: UNDERGROUND ELECTRICAL UTILITIES:

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

- ALL INFORMATION CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTORS ARE RESPONSIBLE MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND PIPELINES, CONDUITS, AND STRUCTURES BY CONTACTING OWNERS OF UNDERGROUND UTILITIES OR BY EXCAVATING IN ADVANCE OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES WHEN AND WHERE THEY FALL IN THE PATH OF CONSTRUCTION.
- THE CONTRACTOR IS ALSO RESPONSIBLE FOR CONTACTING THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 AND TEXAS ONE CALL AT 1-800-245-4545, FORTY-EIGHT (48) HOURS PRIOR TO ANY CONSTRUCTION.
- THE LOCATION OF ANY CENTERPOINT ENERGY UTILITIES ARE SHOWN IN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. THEY AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
- ALL PROPOSED FACILITIES SHALL MAINTAIN 12" CLEAR FROM ALL EXISTING UTILITIES.

STANDARD NOTES FOR CONSTRUCTION DRAWINGS (HCFCD):

- 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 RIGHT-OF-WAY.
- 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).
- ENGINEER SHALL SUBMIT CERTIFICATION LETTER AND RECORD DRAWINGS TO THE HARRIS COUNTY FLOOD 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.
- PROTECT, MAINTAIN, AND RESTORE EXISTING BACKSLOPE DRAINAGE SYSTEMS.
- BACKSLOPE SWALE AND INTERCEPTOR STRUCTURE ELEVATIONS AND LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. FINAL ELEVATIONS AND LOCATIONS SHALL BE FIELD VERIFIED BY THE ENGINEER PRIOR TO INSTALLATION.
- 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".
- BACKFILL IN ACCORDANCE WITH THE HARRIS COUNTY FLOOD CONTROL DISTRICT STANDARD SPECIFICATION, SECTION 02315 - EXCAVATING AND BACKFILLING, OR EQUIVALENT.
- 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 DETENTION 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.
- MAINTAIN FLOW IN CHANNEL DURING CONSTRUCTION AND RESTORE CHANNEL TO ORIGINAL CONDITION.
- 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.

GENERAL NOTES:

- THE APPROXIMATE LOCATION OF EXISTING UTILITIES ARE GIVEN FOR REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION AND ELEVATION OF ALL UTILITIES IN THE CONSTRUCTION AREA, CONFLICTS WHICH RESULT DUE TO NEGLIGENCE BY CONTRACTOR TO LOCATE HORIZONTALLY AND VERTICALLY EXISTING UTILITIES WHICH ARE SHOWN ON THE CONSTRUCTION DRAWINGS OR WHICH THE CONTRACTOR HAS BEEN GIVEN NOTICE OR HAS KNOWLEDGE OF, SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING PUBLIC OR PRIVATE UTILITIES, PAVING AND APPURTENANCES; INCLUDING BUT NOT LIMITED TO WATER, SANITARY, DRAINAGE, AND TRAFFIC CONTROL SYSTEMS. ALL DAMAGE SHALL BE REPAIRED IN ACCORDANCE WITH THE CITY OF HOUSTON STANDARDS AT NO COST TO THE PUBLIC.
- THE COST OF REMEDIAL WORK, REMOVAL OF PORTIONS OF THE WORK TO EXTENSIVE DESIGN CHANGES OCCASIONED BY THE FAILURE OF THE CONTRACTOR TO VERIFY THE LOCATION OF EXISTING UTILITIES AS DESCRIBED ABOVE SHALL BE BORNE BY THE CONTRACTOR.
- CONTRACTOR SHALL CONTACT THE LONESTAR COORDINATING COMMITTEE FOR LOCATION OF EXISTING FACILITIES THAT MAY NOT BE SHOWN ON THE DRAWINGS 48 HOURS PRIOR TO BEGINNING CONSTRUCTION (811) OR (1-800-545-6005).

VEGETATION PROTECTION AND REMOVAL NOTES

- CONTRACTOR SHALL PROTECT ALL TREES ALONG THE RIGHT-OF-WAY LINE AND THE ADJACENT 5 FEET THE RIGHT-OF-WAY (NO SEPARATE PAY).
- SEE SPECIFICATION SECTION 01562 FOR PROTECTION AND MAINTENANCE OF TREES AND PLANTS.
- CONTRACTOR SHALL RETURN THE CONSTRUCTION SITE TO THE ORIGINAL OR BETTER CONDITION (NO SEPARATE PAY).

TCP GENERAL NOTES

- THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN A ROADWAY OBSTRUCTION AND SIDEWALK IMPAIRMENT PERMIT PRIOR TO CLOSING ANY LANES, THE REQUEST FOR PERMITS MUST BE AT LEAST TEN BUSINESS DAYS IN ADVANCE. CALL (832-394-9000) FOR APPLICATION.

GENERAL NOTES - METRO:


- CONTRACTOR SHALL NOTIFY METRO AT 713-615-6195 TWO WEEKS PRIOR TO DISTURBING EXISTING BUS STOPS.
- CONTRACTOR SHALL COORDINATE WITH METRO TO REMOVE EXISTING AMENITIES.
- BUS STOPS SHALL CONSTRUCTED PER CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL AND MEET CURRENT ADA REQUIREMENTS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

- THIS PROJECT IS SUBJECT TO ENVIRONMENTAL PROTECTION AGENCY (EPA) NATIONAL POLLUTION DISCHARGE REGULATIONS AND REQUIREMENTS. THE CONTRACTOR WILL BE REQUIRED TO EXECUTE A NOTICE OF INTENT AND IMPLEMENT THE POLLUTION PREVENTION PLANS INCLUDED IN THE CONTRACT DOCUMENTS AND COMPLY WITH ALL REPORTING AND INSPECTION REQUIREMENTS SET FORTH IN THE NPDES REGULATIONS.
- ALL SILT FENCE AND INLET PROTECTION PROVIDED DURING CONSTRUCTION OF THIS PROJECT, SHALL BE REMOVED AS APPROPRIATE UPON CONSTRUCTION COMPLETION (SEE SPECS AND DETAILS).
- DURING THE EXCAVATION PHASE OF THE PROJECT, CONTRACTOR SHALL SCHEDULE THE WORK IN SHORT SEGMENTS SO THAT EXCAVATION MATERIAL CAN BE QUICKLY HAULED AWAY FROM THE SITE AND TO PREVENT IT FROM STAYING UNCOLLECTED ON THE EXISTING PAVEMENT. ANY LOOSE EXCAVATED MATERIAL WHICH FALLS ON PAVEMENTS OR DRIVEWAYS SHALL BE SWEEP BACK INTO THE EXCAVATED AREA.
- PRIOR TO REMOVAL OR EROSION CONTROL DEVICES, ALL DISTURBED AREAS ARE TO BE PROPERLY STABILIZED USING HYDRO-MULCH SEED, OR SOLID SOD AS APPLICABLE.
- CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND SIDE DITCHES AT LOCATION SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION (SWPPP) PLANS TO KEEP SILT AND OR EXCAVATED MATERIALS FROM ENTERING INTO THE STORM WATER INLETS AND DITCHES EVENTUALLY POLLUTING THE RECEIVING STORM.
- 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 AND SODDING 4:1 OR STEEPER SHALL BE REPLACED BY BLOCK SODDING.
- CONTRACTOR SHALL CLEAN UP THE EXISTING STREET INTERSECTIONS AND DRIVEWAYS DAILY, AS NECESSARY, TO REMOVE ANY EXCESS MUD, SILT OR ROCK TRACKED FROM THE EXCAVATED AREA.
- CONTRACTORS SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.
- CONTRACTOR TO INSPECT AND MAINTAIN THE AREAS LISTED BELOW AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.
- CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND SIDE DITCHES AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION (SWPP) PLANS TO KEEP SILT AND OR EXCAVATED MATERIALS FROM ENTERING INTO THE STORM WATER INLETS AND DITCHES EVENTUALLY POLLUTING THE RECEIVING STORM.
- 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.
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- 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.

GRADING NOTES

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

					APP.
				REVISION	
				DATE	
				NO.	
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.					
<div><div><div><div>INCORPORATED</div><div>6161 SAVOY DRIVE. SUITE 830 HOUSTON, TEXAS 77036 (P) 281-272-1612 (F) 281-272-1619 FIRM REG. F-2488</div></div></div><div><div>THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW, MARK-UP, DRAFTING UNDER THE AUTHORITY OF TANITA GILBERT ALEXANDER LICENSE NO. 88719 DATED 9/29/2025. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES</div></div></div>					
CITY OF HOUSTON					
HOUSTON PUBLIC WORKS					
COH GRP CONVERSION WL NE AREA GROUP B					
GENERAL NOTES (SHEET 1 OF 2)					
WBS NUMBER		FOR CITY OF HOUSTON USE ONLY			
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DRAWING SCALE					
AS NOTED					
CITY OF HOUSTON PM					
ANH BOYD					
SHEET NO.		5 OF 33			

### GRADING NOTES (CONT.)

9. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING WATER, WASTEWATER, STORM WATER LINES AND TRAFFIC CONTROL DEVICES. DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE HOUSTON PUBLIC WORKS, STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEM, WATER LINES, STORM DRAINAGE, AND STREET PAVING AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING, REFERENCED ABOVE, AT NO ADDITIONAL COST.
10. 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.
11. 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.
12. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG THE AREA OF EXCAVATION.
13. CONTRACTOR SHALL COMPLY WITH LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION.
14. CONTRACTOR SHALL MAINTAIN A SET OF REDLINE DRAWINGS AND RECORD AS-BUILT CONDITIONS DURING CONSTRUCTION. THESE REDLINE MARKED UP DRAWINGS WILL BE SUBMITTED TO THE DESIGN CONSULTANT WHO WILL MAKE THE CHANGES ON THE ORIGINAL TRACINGS, LABEL EACH SHEET IN THE SET AS "RECORD DRAWINGS", AND RETURN IT TO THE OFFICE OF THE CITY ENGINEER.

## WATER CONSTRUCTION NOTES

1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL, STANDARD SPECIFICATION, AND CONSTRUCTION DETAILS.
2. ALL 4" THROUGH 12" WATER LINE TO BE AWWA C-900 PVC DR-18 BLUE PRESSURE RATED WATER MAIN WITH 2" AND SMALLER WATER SERVICE LINE TO BE CONTINUOUS TYPE K COPPER TUBING PER COH STANDARD SPECIFICATION SECTION 02503. ALL 4" THRU 54" DI PIPE WATERLINES SHALL BE AWWA C151 WITH INSIDE LINING WITH AWWA C104 AND DOUBLE WRAPPED WITH 8-MIL POLYETHYLENE SHEETS.
3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT. USE RESTRAINED JOINTS WHERE PREVENTING MOVEMENT OF 16" OR GREATER PIPE IS NECESSARY DUE TO THRUST.
4. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT OF ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
5. ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER CITY OF HOUSTON AND TCEQ REGULATIONS.
6. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.
7. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH. AT LEAST ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EVERY 1,000 LINEAR FEET OF WATER LINE AND SHALL BE REPEATED IF CONTAMINATION PERSISTS.
8. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.
9. 4" THRU 12" FITTINGS SHALL BE CEMENT MORTAR LINED COMPACT DUCTILE IRON PRESSURE FITTINGS PER ANSI A21.53, OR PUSH ON FITTINGS PER ANSI A21.10 PRESSURE RATED AT 250 PSIG.
10. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST CITY OF HOUSTON STANDARD CONSTRUCTION SPECIFICATIONS. TESTS ARE TO BE PERFORMED ON THE ENTIRE FOOTAGE OF WATER PIPE LINE INCLUDED IN THE PROJECT.
11. ALL WATER LINES TO HAVE 4' MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEARANCE TO OTHER UTILITIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS. ALL WATER LINE INSTALLED OVER 8' DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.
12. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAPPED (OR OTHERWISE EFFECTIVELY COVERED) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.

TRAFFIC NOTES:

CONTRACTOR OR OWNER SHALL SUBMIT TRAFFIC CONTROL PLANS WITH THE MOBILITY PERMIT APPLICATION. THE PLANS SHALL BE DRAWN TO SCALE AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS.

THE GENERAL NOTES THAT SHALL BE INCLUDED ON THE TRAFFIC CONTROL PLAN CAN BE FOUND IN CHAPTER 15 (15.12 TRAFFIC CONTROL PLAN) OF THE CITY OF HOUSTON'S (CITY) INFRASTRUCTURE DESIGN MANUAL (IDM). BELOW ARE SEVERAL KEY NOTES FROM THE IDM TO BE AWARE OF:

3. 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 LANE/SIDEWALK/BICYCLE FACILITY CLOSURE PERMITS FROM TRANSPORTATION & DRAINAGE OPERATIONS (MOBILITY PERMIT SECTION AT [www.gims.houstontx.gov](http://www.gims.houstontx.gov)) BEFORE IMPLEMENTING THE TRAFFIC CONTROL PLAN. THE APPLICATION MUST BE SUBMITTED AT LEAST TEN BUSINESS DAYS PRIOR TO THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN AND/OR BEGINNING CONSTRUCTION WORK. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLANS, CONSTRUCTION SEQUENCING, AND CONSTRUCTION SCHEDULE WITH THE APPLICATION.
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.

NO.	DATE	REVISION	APP.

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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.



6161 SAVOY DRIVE.  
SUITE 830  
HOUSTON, TEXAS 77036  
(P) 281-272-1612  
(F) 281-272-1619  
FIRM REG. F-2488

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## CITY OF HOUSTON

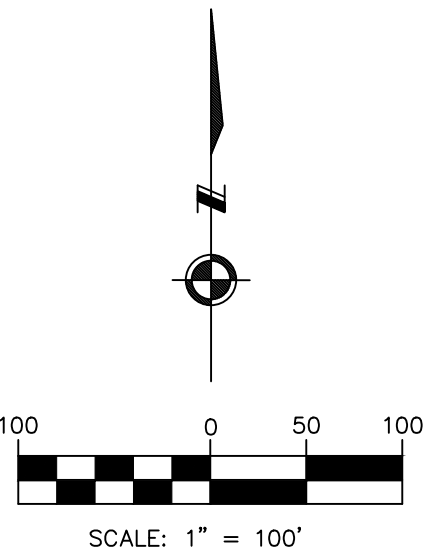
HOUSTON PUBLIC WORKS

**COH GRP CONVERSION WL  
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GENERAL NOTES  
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
S-00900-0305-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ANH BOYD	
SHEET NO. 6 OF 33	





**BENCHMARK:**

CITY OF HOUSTON MONUMENT ----- (ALSO HCFCD RM 150750), AN ALUMINUM ROD, LOCATED AT SOUTHWEST CORNER OF A CULVERT ON VETERANS MEMORIAL DRIVE APPROXIMATELY 0.1 MILE SOUTHEAST FROM THE INTERSECTION OF BELTWAY 8.

ELEV. 98.87 FEET NAVD 1988 (GEOID '18)\*

\* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED MAY 3, 2025.

**VERTICAL DATUM ADJUSTMENT:**

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 150750) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND DATUM NAVD 1988, (GEOID '18) IS 0.66'.

NAVD 1988, 2001 ADJ. ELEVATION  
= NAVD 1988 (GEOID '18) ELEVATION + 0.66 FT

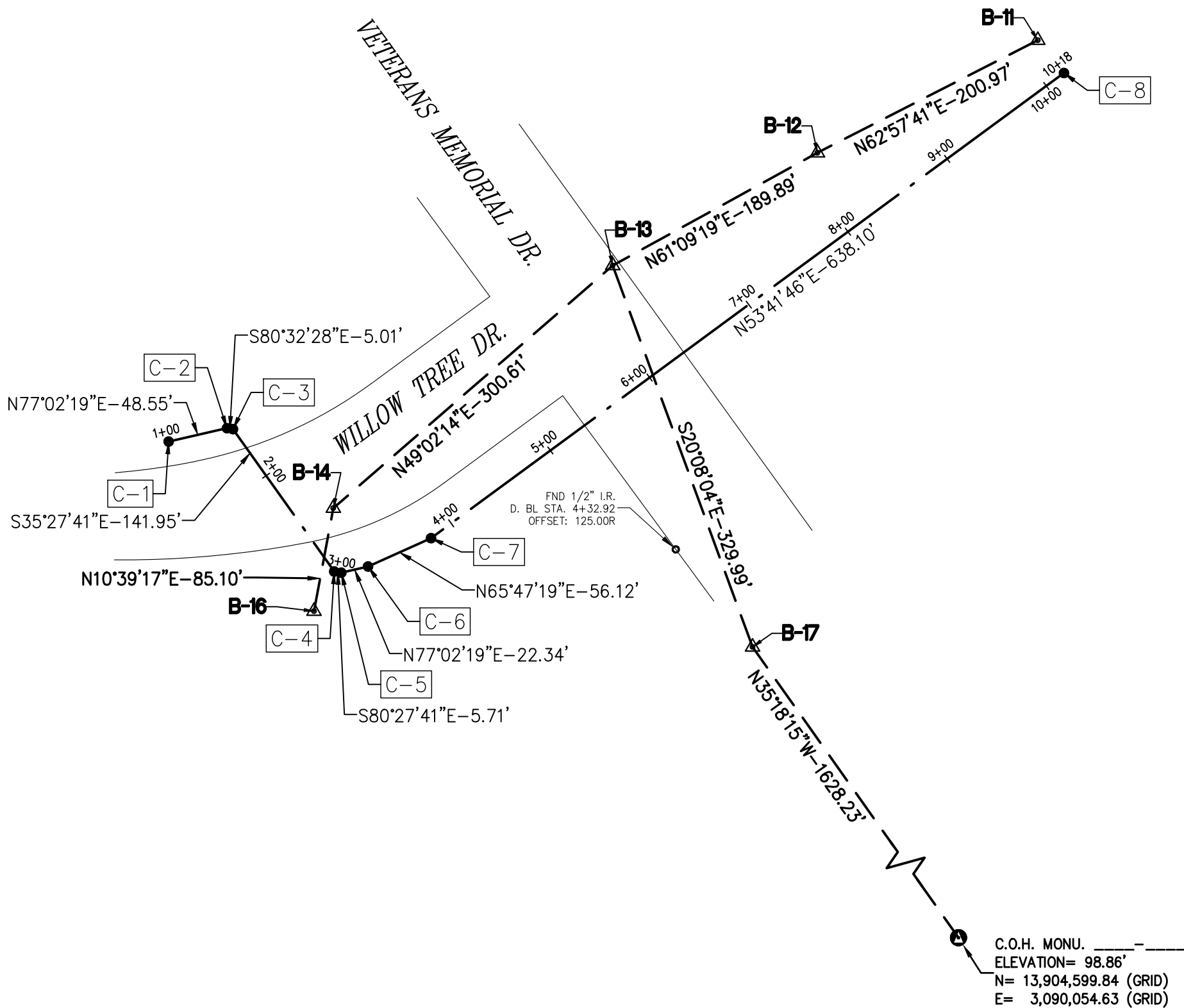
**NOTE:**

ALL BEARINGS AND DISTANCES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. ALL DISTANCES ARE IN SURFACE.

THE COORDINATES SHOWN HEREON ARE TEXAS SOUTH CENTRAL ZONE NO. 4204 STATE PLANE GRID COORDINATES (NAD83) AND MAY BE BROUGHT TO SURFACE BY DIVIDING BY THE COMBINED SCALE FACTOR 0.999870017.

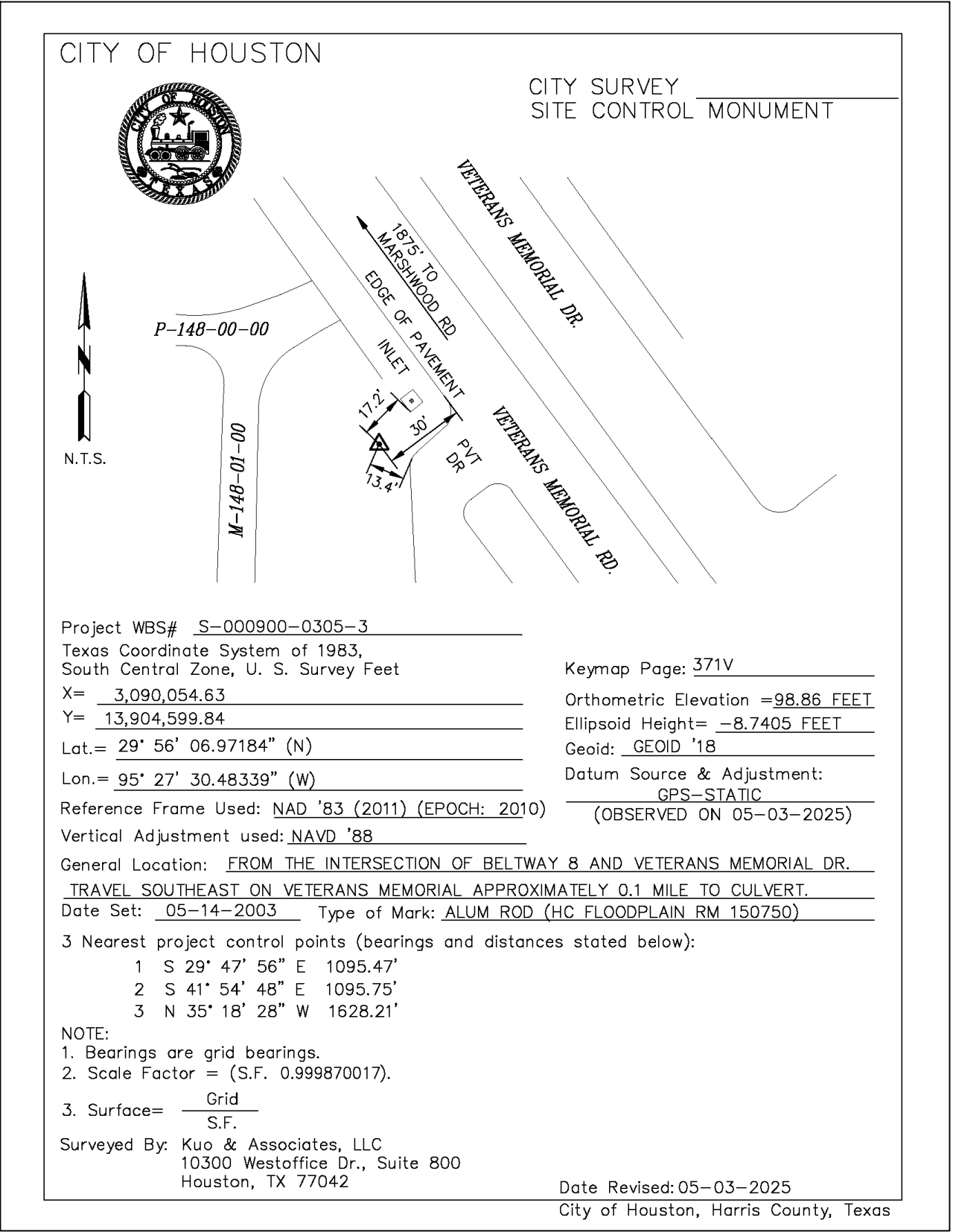
**LEGEND:**

- B-X** SURVEY CONTROL POINT NUMBER  
**C-X** DESIGN BASELINE POINT NUMBER  
▲ SURVEY CONTROL POINT  
• DESIGN BASELINE POINT  
⊙ CITY OF HOUSTON MONUMENT  
D. BL: DESIGN BASELINE  
S. BL: SURVEY BASELINE



SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
B-11	13,908,229.02	3,089,747.10	13,906,421.18	3,089,345.49	100.44'	10+16.39	34.04L	SET 1/2" I.R. W/CAP
B-12	13,908,137.65	3,089,568.10	13,906,329.83	3,089,166.51	101.00'	8+18.03	66.40L	SETMAGNAIL W/SHINER
B-13	13,908,046.04	3,089,401.77	13,906,238.23	3,089,000.20	99.41'	6+29.75	91.05L	SET 'X' CUT ON CONC.
B-14	13,907,848.97	3,089,174.76	13,906,041.19	3,088,773.22	98.45'	2+53.15	29.19L	SET 1/2" I.R. W/CAP
B-16	13,907,765.33	3,089,159.03	13,905,957.56	3,088,757.49	108.07'	2+95.50	36.14L	SET 1/2" I.R. W/CAP
B-17	13,907,736.22	3,089,515.36	13,905,928.45	3,089,113.77	98.56'	5+37.86	225.89R	SET 1/2" I.R. W/CAP

DESIGN BASELINE POINTS DATA					
POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-1	1+00.00	13,907,903.08	3,089,040.95	13,906,095.29	3,088,639.43
C-2	1+48.62	13,907,913.94	3,089,088.32	13,906,106.15	3,088,686.80
C-3	1+53.56	13,907,913.15	3,089,093.21	13,906,105.36	3,088,691.68
C-4	2+95.50	13,907,797.50	3,089,175.50	13,905,989.72	3,088,773.96
C-5	3+01.27	13,907,796.55	3,089,181.25	13,905,988.78	3,088,779.71
C-6	3+23.56	13,907,801.60	3,089,202.96	13,905,993.82	3,088,801.41
C-7	3+79.68	13,907,824.61	3,089,254.14	13,906,016.83	3,088,852.59
C-8	10+17.78	13,908,202.41	3,089,768.38	13,906,394.58	3,089,366.76



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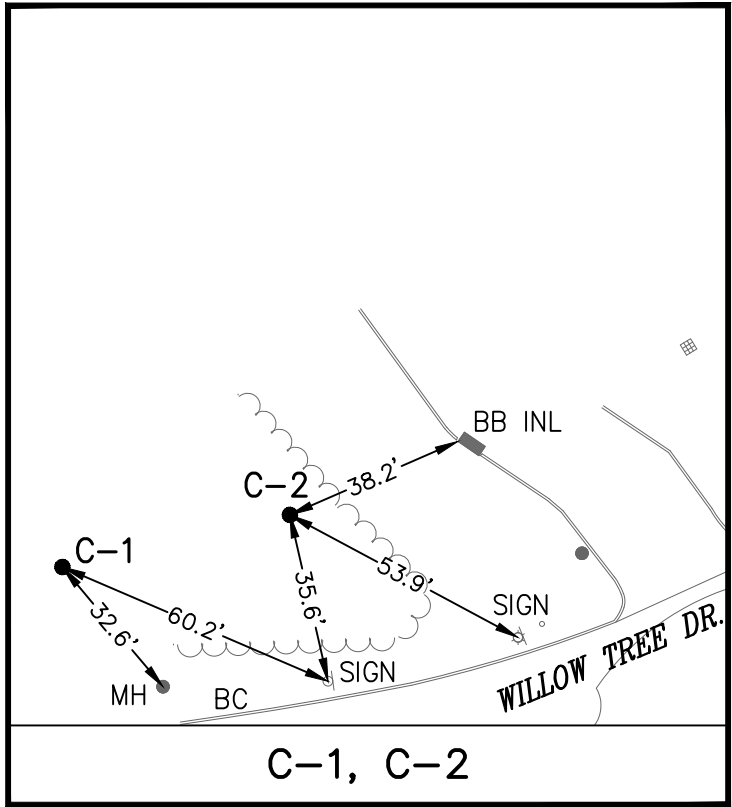
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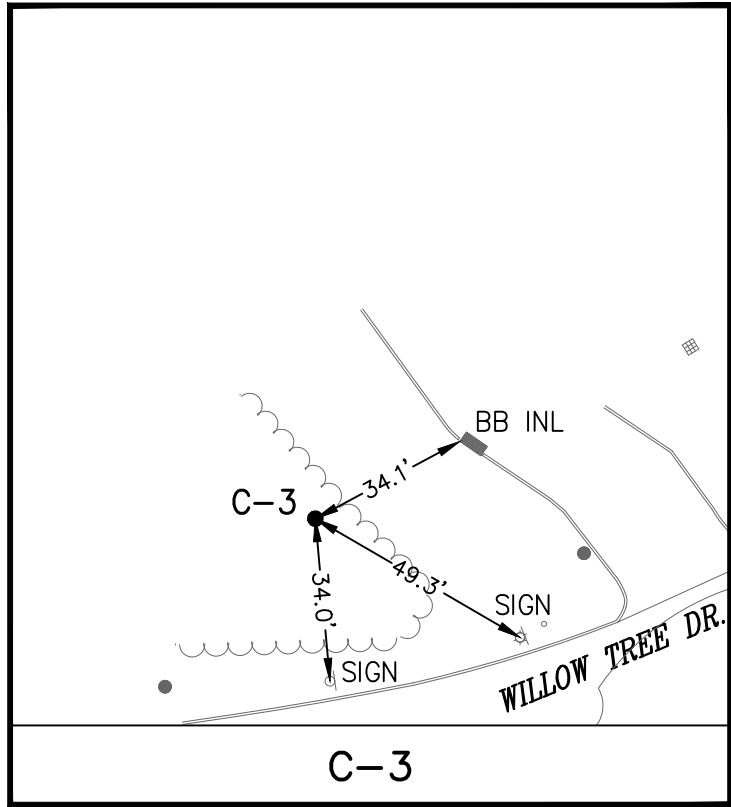
**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

GROUND WATER REDUECTION PLAN  
- CONVERSION WATER LINE  
SITE 1  
SURVEY CONTROL MAP  
(SHEET 1 OF 2)

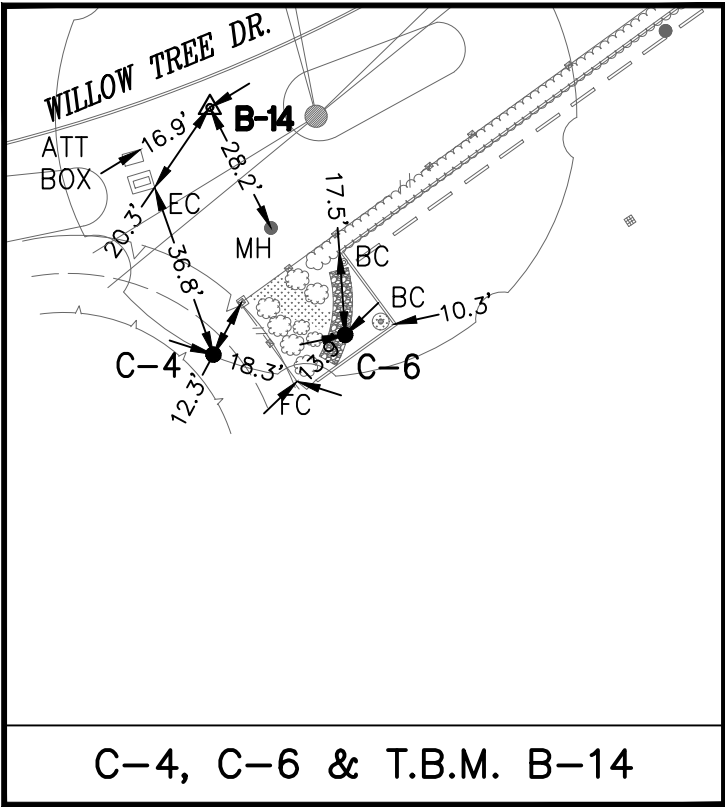
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DRAWING SCALE	
AS SHOWN	
CITY OF HOUSTON PM	
SHEET NO.	OF



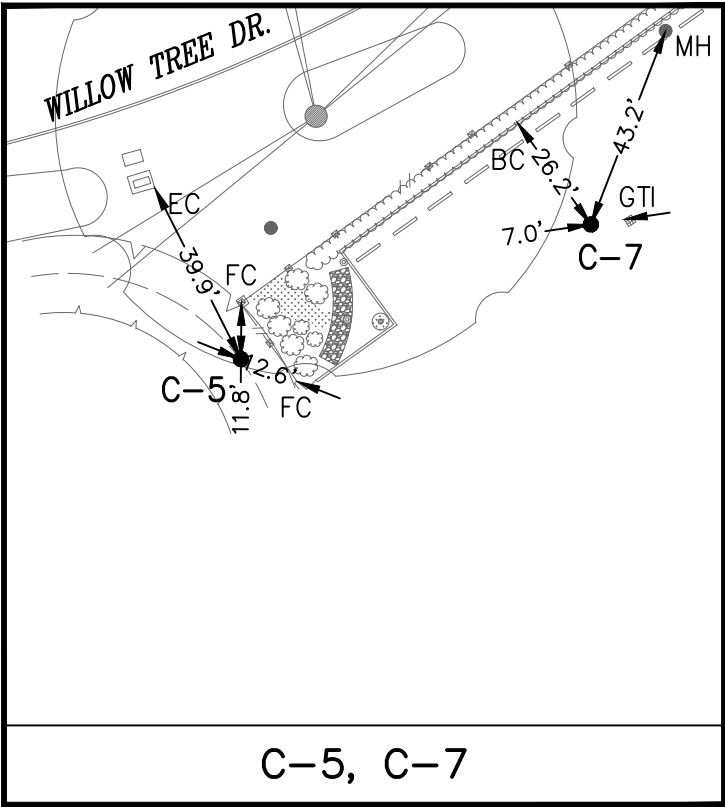
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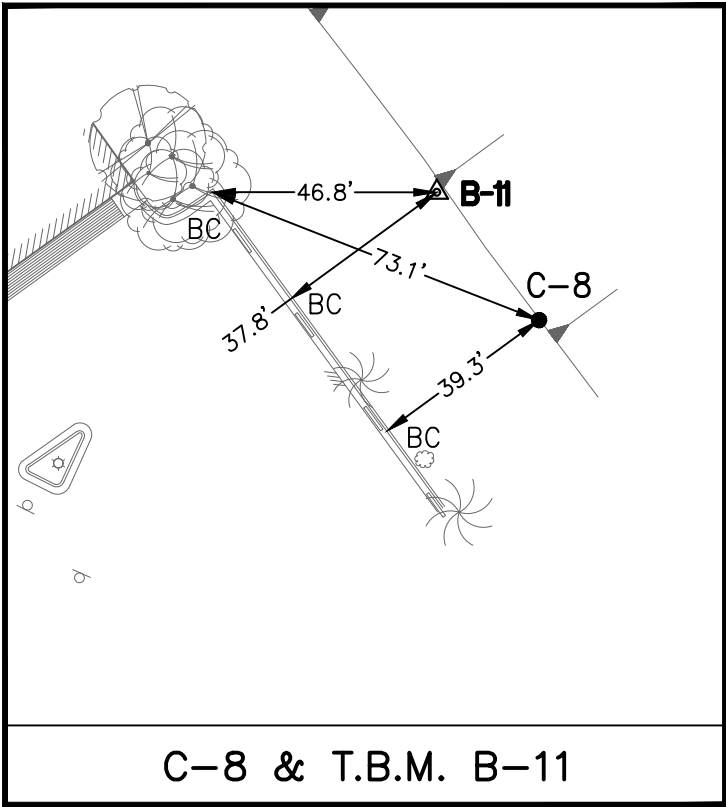
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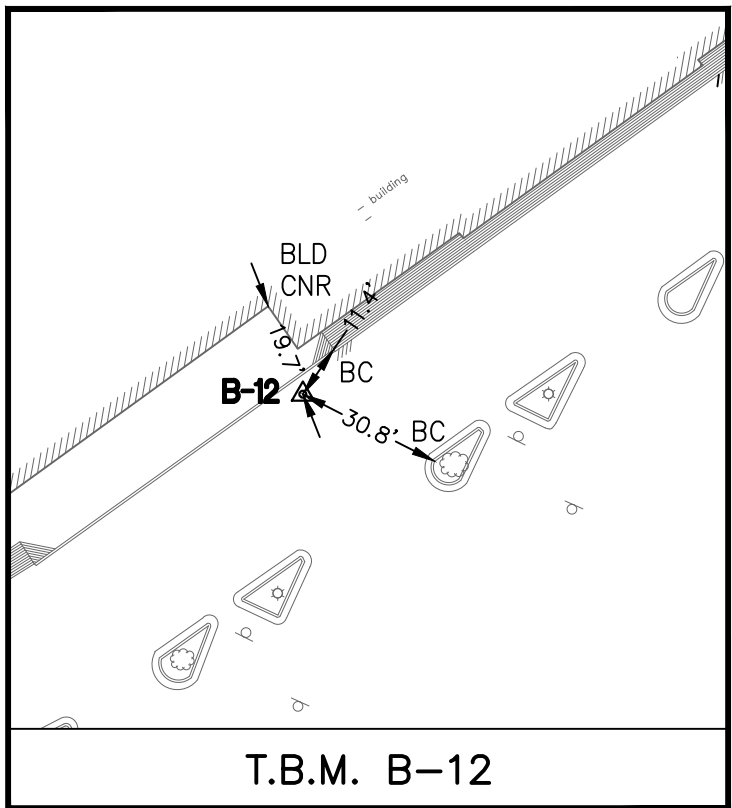
C-4, C-6 & T.B.M. B-14



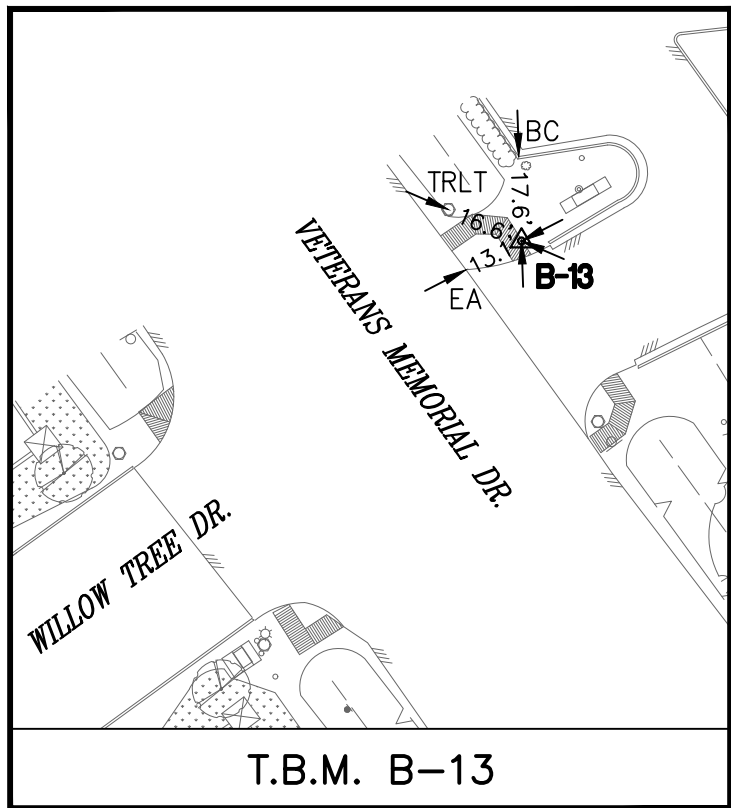
C-5, C-7



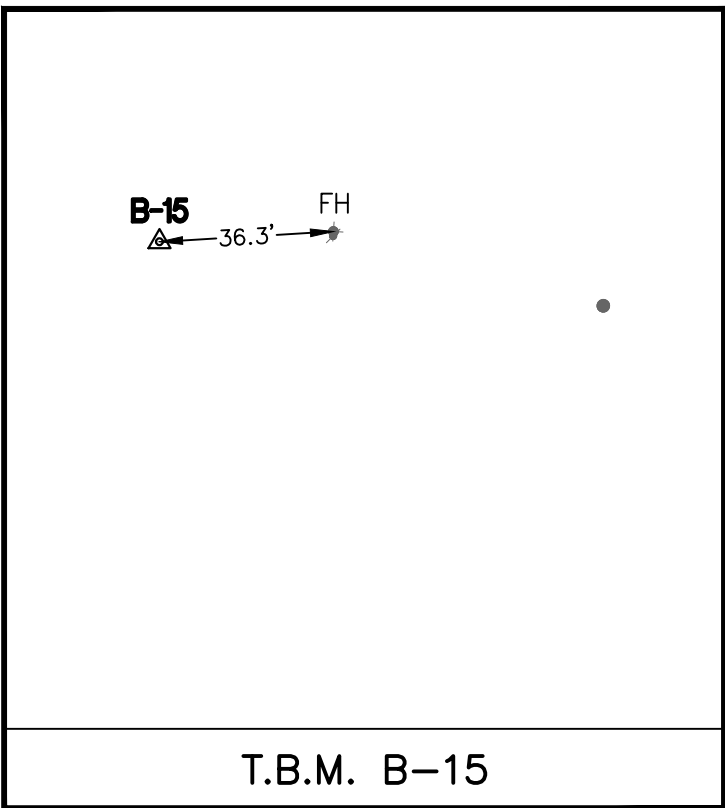
C-8 & T.B.M. B-11



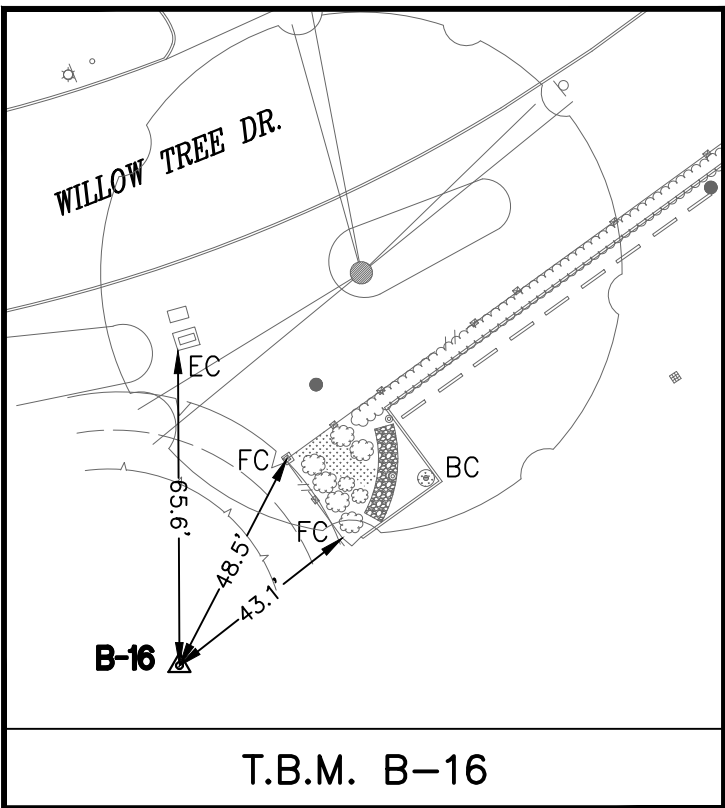
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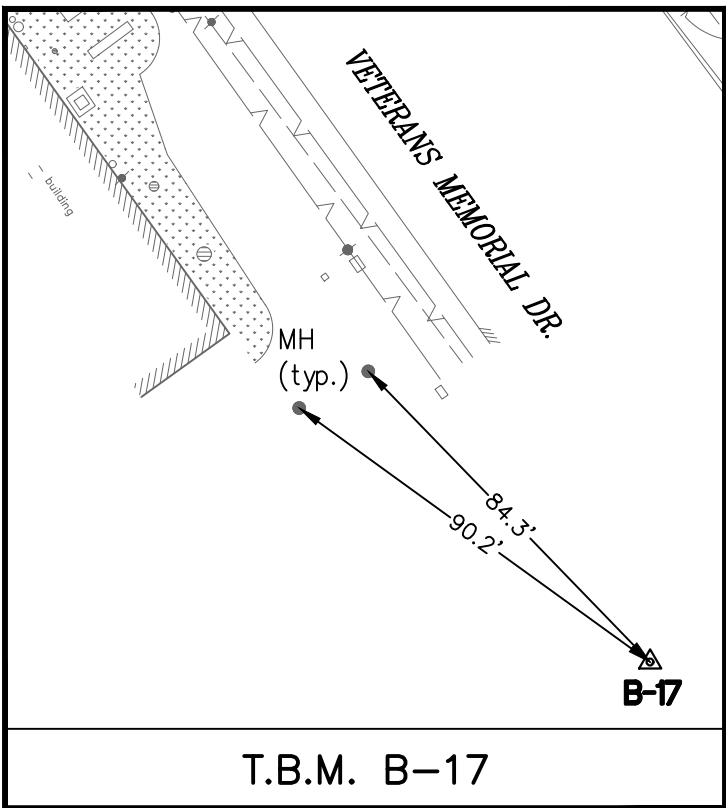
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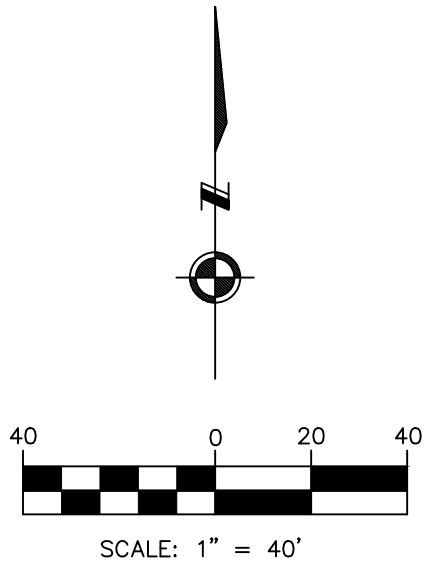
T.B.M. B-15



T.B.M. B-16



T.B.M. B-17



EXIST. TOPOGRAPHIC LEGEND

- |                  |                            |
|------------------|----------------------------|
| ASPHALT SYMBOL   | PLANTER                    |
| B OR BB INLET    | POWER POLE                 |
| BUSH             | POWER POLE W/LT.           |
| C INLET          | SIGN                       |
| CLEANOUT         | SIGNAL POLE                |
| brick column     | SPRINKLER VALVE            |
| DOWN GUY         | SPRINKLER HEAD             |
| E INLET          | STREET LIGHT/FLOOD LIGHT   |
| ELEC MANHOLE     | STREET LIGHT/PARKING LIGHT |
| FIRE HYDRANT     | TREE                       |
| GAS METER        | TREE STUMP                 |
| GAS VALVE        | TREE-CREPE MYRTLE          |
| GATE             | TREE-PINE                  |
| GRATE INLET      | WATER METER                |
| GRATE INLET      | WATER VALVE                |
| MAIL BOX         | IRRIGATION CONTROL VALVE   |
| STORM MANHOLE    |                            |
| SANITARY MANHOLE |                            |

ABBREVIATIONS

- FH - FIRE HYDRANT  
FC - FENCE CORNER  
LT - LIGHT POLE  
MB - MAIL BOX  
MH - MANHOLE  
PP - POWER POLE  
PP/LT - POWER POLE W/LIGHT  
TRLT - TRAFFIC LIGHT  
WM - WATER METER

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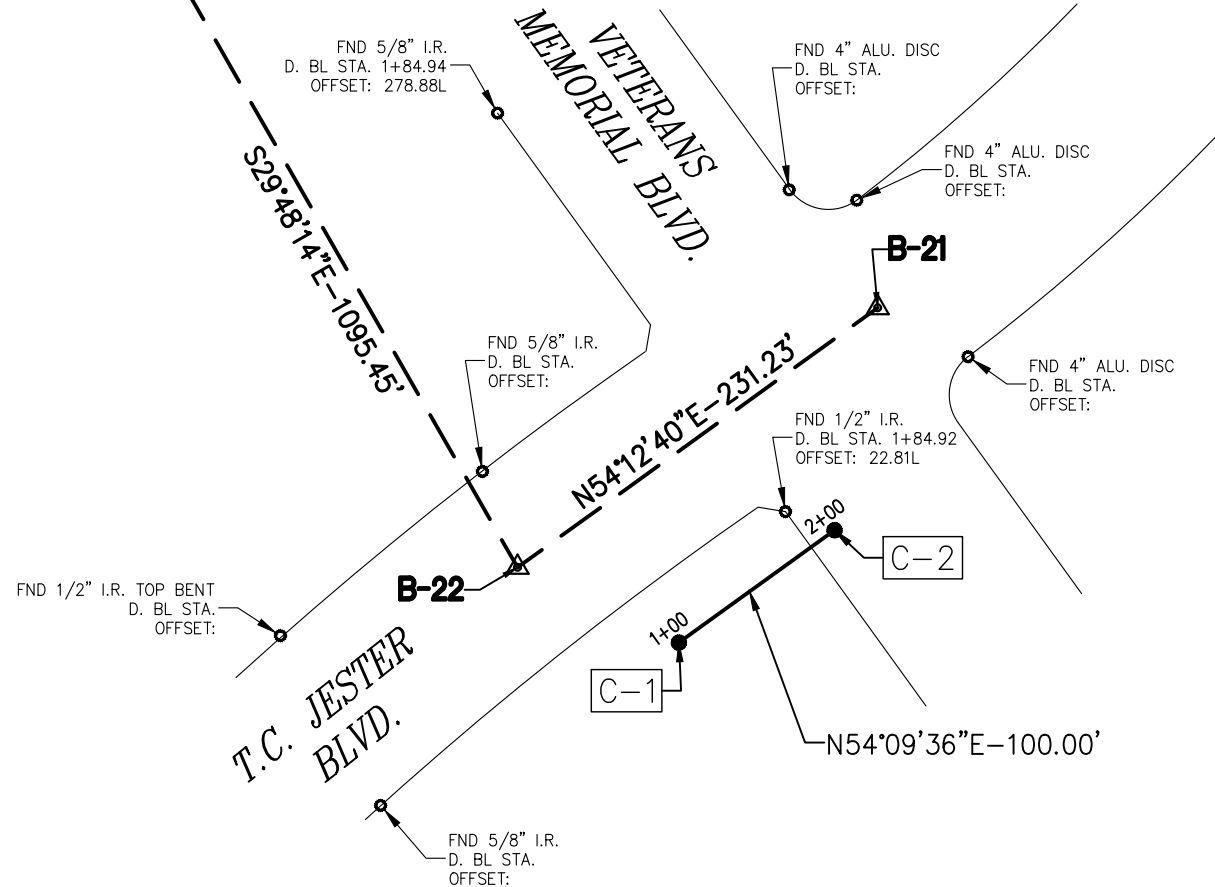
**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

GROUND WATER REDUECTION PLAN  
- CONVERSION WATER LINE  
SITE 1  
SURVEY CONTROL MAP  
(SHEET 2 OF 2)

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
S-000900-0305-3	
DRAWING SCALE	
1" = 40'	
CITY OF HOUSTON PM	
SHEET NO.	OF

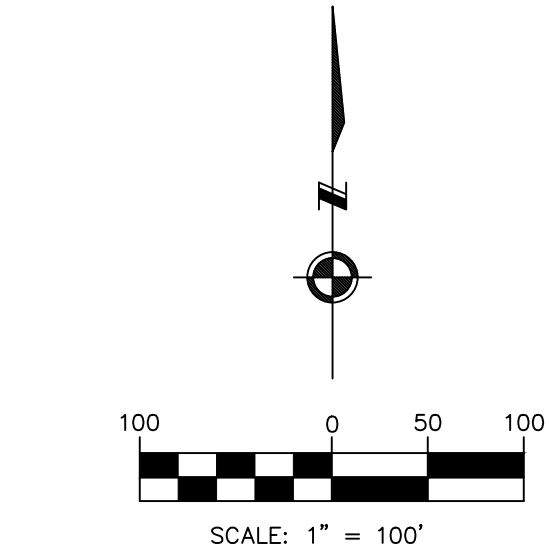
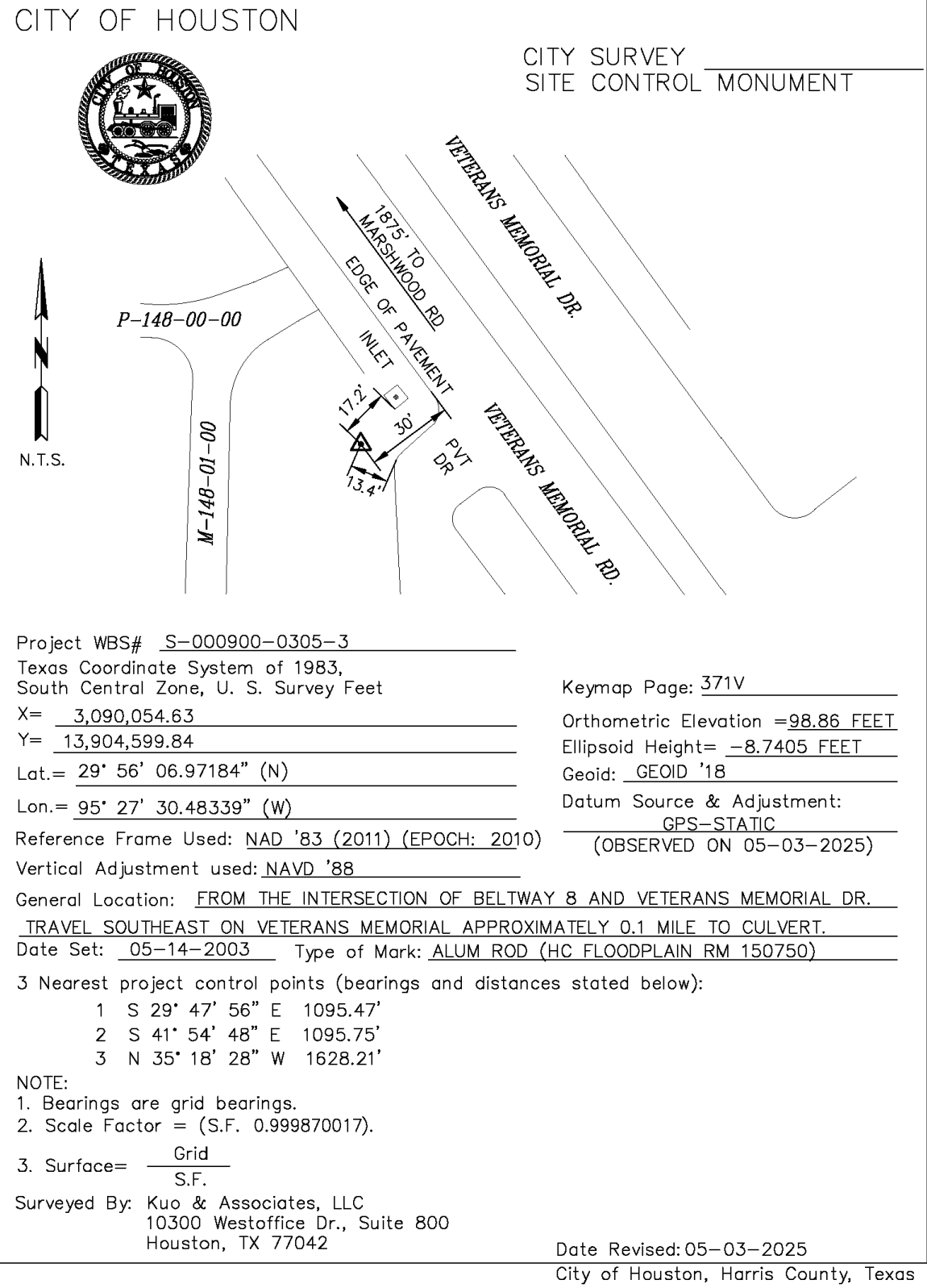


C.O.H. MONU. \_\_\_\_\_  
ELEVATION= 98.86'  
N= 13,904,599.84 (GRID)  
E= 3,090,054.63 (GRID)



SURVEY BASELINE POINTS DATA (TEMPORARY BENCHMARK)								
POINT No.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)	ELEVATION	D. BL STA.	OFFSET	DESCRIPTION
B-21	13,905,592.10	3,091,188.37	13,903,784.61	3,090,786.57	97.06'	-	-	SET 'X' OUT ON CONC.
B-22	13,905,456.88	3,091,000.81	13,903,649.41	3,090,599.03	96.93'	-	-	SET 1/2" I.R. W/CAP

DESIGN BASELINE POINTS DATA					
POINT No.	D. BL STA.	NORTHING (SURFACE)	EASTING (SURFACE)	NORTHING (GRID)	EASTING (GRID)
C-1	1+00.00	13,905,417.71	3,091,084.85	13,903,610.24	3,090,683.06
C-2	2+00.00	13,905,476.26	3,091,165.92	13,903,668.79	3,090,764.12



#### BENCHMARK:

CITY OF HOUSTON MONUMENT \_\_\_\_\_ (ALSO HGFD RM 150750), AN ALUMINUM ROD, LOCATED AT SOUTHWEST CORNER OF A CULVERT ON VETERANS MEMORIAL DRIVE APPROXIMATELY 0.1 MILE SOUTHEAST FROM THE INTERSECTION OF BELTWAY 8.

ELEV. 98.87 FEET NAVD 1988 (GEOID '18)\*

\* OBSERVED BY GPS SURVEYING AND PROCESSED IN REFERENCE TO THE CORS DATED MAY 3, 2025.

#### VERTICAL DATUM ADJUSTMENT:

THE ELEVATION DIFFERENCE IN BETWEEN THE FLOODPLAIN REFERENCE MARK'S (RM 150750) PUBLISHED DATUM NAVD 1988, 2001 ADJUSTMENT AND DATUM NAVD 1988, (GEOID '18) IS 0.66'.

NAVD 1988, 2001 ADJ. ELEVATION  
= NAVD 1988 (GEOID '18) ELEVATION + 0.66 FT

#### NOTE:

ALL BEARINGS AND DISTANCES ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD83. ALL DISTANCES ARE IN SURFACE.

THE COORDINATES SHOWN HEREON ARE TEXAS SOUTH CENTRAL ZONE NO. 4204 STATE PLANE GRID COORDINATES (NAD83) AND MAY BE BROUGHT TO SURFACE BY DIVIDING BY THE COMBINED SCALE FACTOR 0.999870017.

#### LEGEND:

B-X SURVEY CONTROL POINT NUMBER

C-X DESIGN BASELINE POINT NUMBER

▲ SURVEY CONTROL POINT

● DESIGN BASELINE POINT

⊙ CITY OF HOUSTON MONUMENT

D. BL: DESIGN BASELINE ———

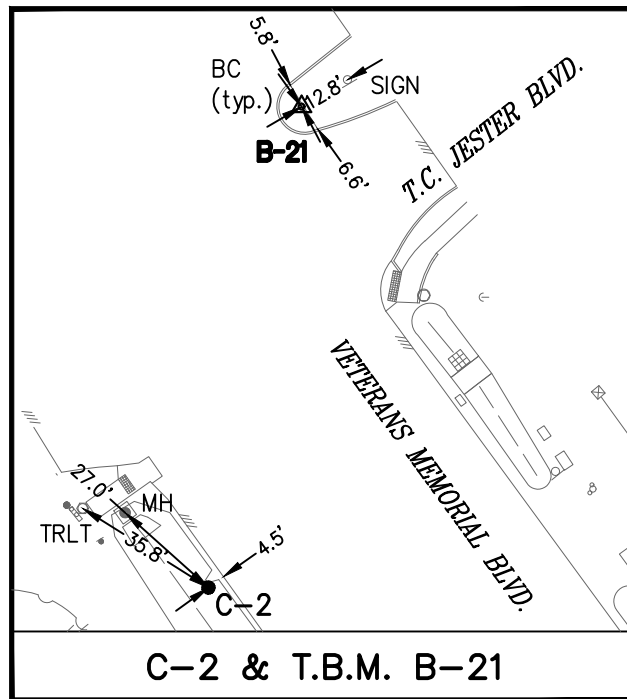
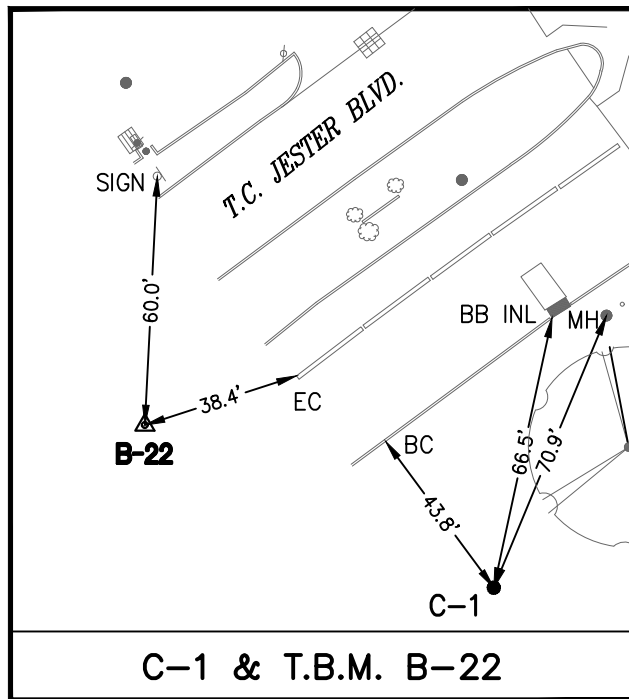
S. BL: SURVEY BASELINE ———

#### EXIST. TOPOGRAPHIC LEGEND

- |                    |                              |
|--------------------|------------------------------|
| /// ASPHALT SYMBOL | PLANTER                      |
| □ B OR BB INLET    | POWER POLE                   |
| ○ BUSH             | POWER POLE W/LT.             |
| ⊙ C INLET          | ⊙ SIGN                       |
| ⊙ CLEANOUT         | ⊙ SIGNAL POLE                |
| ⊙ brick column     | ⊙ SPRINKLER VALVE            |
| ⊙ DOWN GUY         | ⊙ SPRINKLER HEAD             |
| ⊙ E. INLET         | ⊙ STREET LIGHT/FLOOD LIGHT   |
| ⊙ ELEC MANHOLE     | ⊙ STREET LIGHT/PARKING LIGHT |
| ⊙ FIRE HYDRANT     | ⊙ TREE                       |
| ⊙ GAS METER        | ⊙ TREE STUMP                 |
| ⊙ GAS VALVE        | ⊙ TREE-CREPE MYRTLE          |
| ⊙ GATE             | ⊙ TREE-PINE                  |
| ⊙ GRATE INLET      | ⊙ WATER METER                |
| ⊙ GRATE INLET      | ⊙ WATER VALVE                |
| ⊙ MAIL BOX         | ⊙ IRRIGATION CONTROL VALVE   |
| ⊙ STORM MANHOLE    |                              |
| ⊙ SANITARY MANHOLE |                              |

#### ABBREVIATIONS

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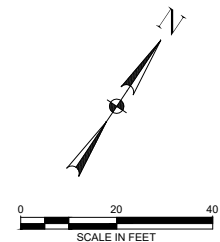
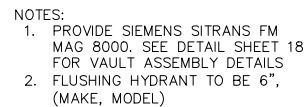
**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

GROUND WATER REDUCTION PLAN  
- CONVERSION WATER LINE

SITE 2

SURVEY CONTROL MAP

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
S-000900-0305-3	
DRAWING SCALE	
AS SHOWN	
CITY OF HOUSTON PM	
SHEET NO.	OF

[illegible]

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

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.

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

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

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LICENSE NO. 88719  
DATED 9/29/2025. IT IS  
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## CITY OF HOUSTON

HOUSTON PUBLIC WORKS

**COH GRP CONVERSION WL  
NE AREA GROUP B**

WBS NO. S-000900-0305-3  
WILLOW TREE BASELINE  
PLAN VIEW  
BEGIN TO STA 6+00

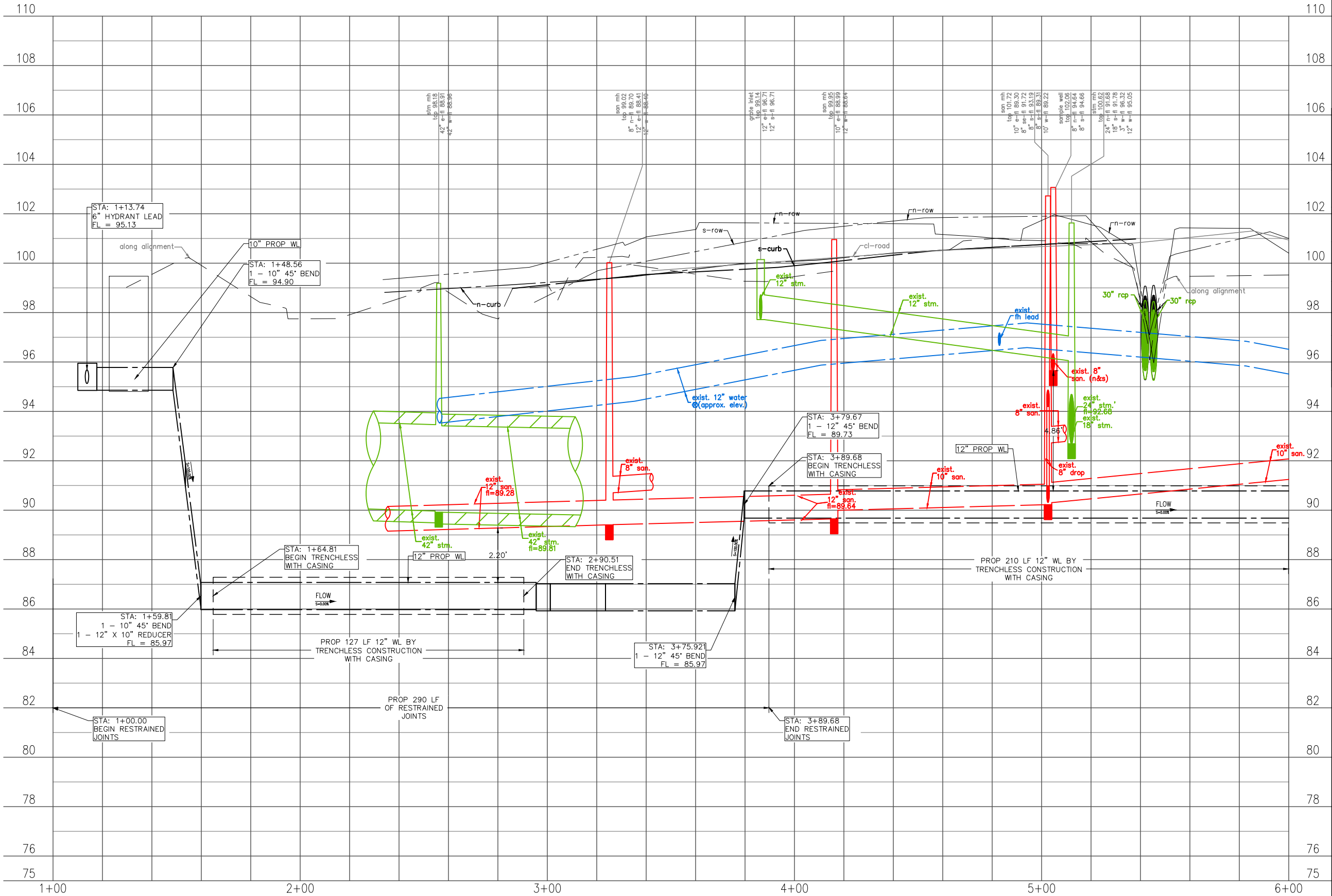
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S-00900-0305-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ANH BOYD	
SHEET NO. 10 OF 33	



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PLOT STYLE: COH.ctb

PLOTTED: 9/26/2025 11:02 AM



NO.	DATE	REVISION	APP.


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FIRM REG. F-2488

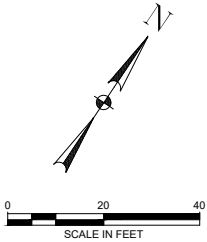
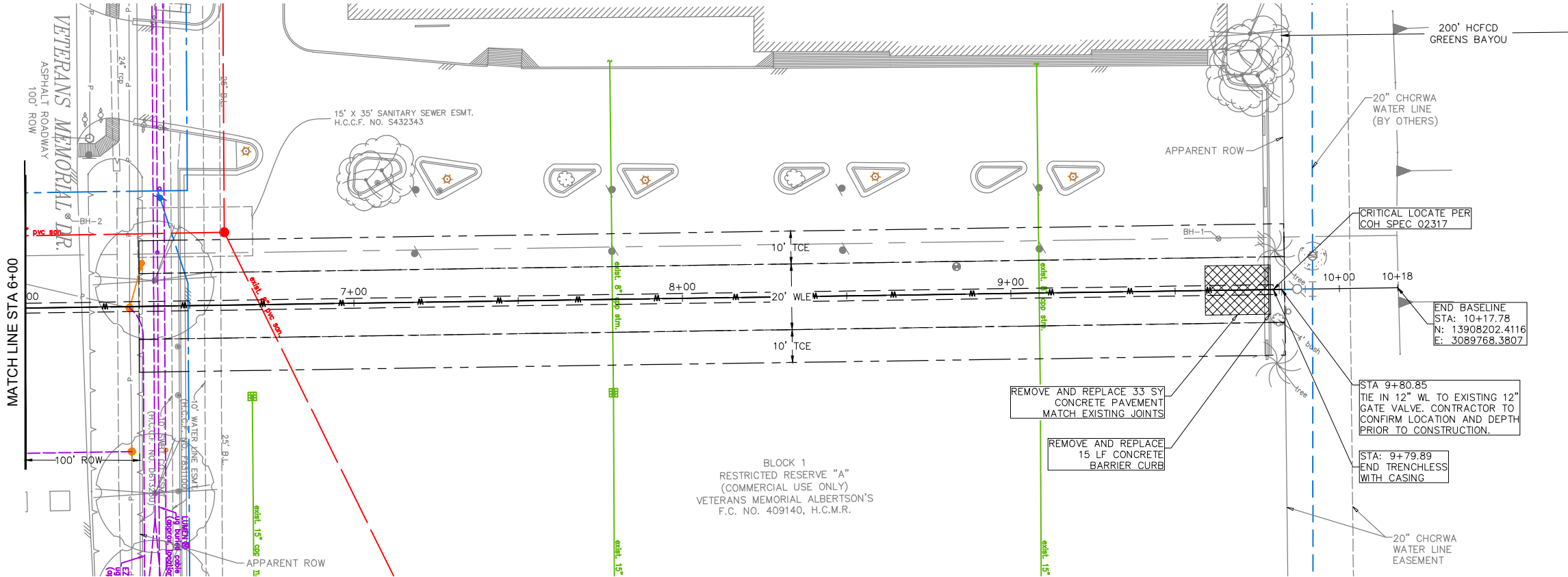
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CITY OF HOUSTON  
HOUSTON PUBLIC WORKS

COH GRP CONVERSION WL  
NE AREA GROUP B

WBS NO. S-000900-0305-3  
WILLOW TREE BASELINE  
PROFILE VIEW  
BEGIN TO STA 6+00

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
S-00900-0305-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ANH BOYD	
SHEET NO. 11 OF 33	



NO.	DATE	REVISION	APP.

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CITY OF HOUSTON

HOUSTON PUBLIC WORKS

COH GRP CONVERSION WL  
NE AREA GROUP B

WBS NO. S-000900-0305-3

WILLOW TREE BASELINE  
PLAN VIEW  
STA 6+00 TO END

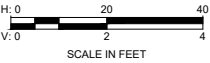
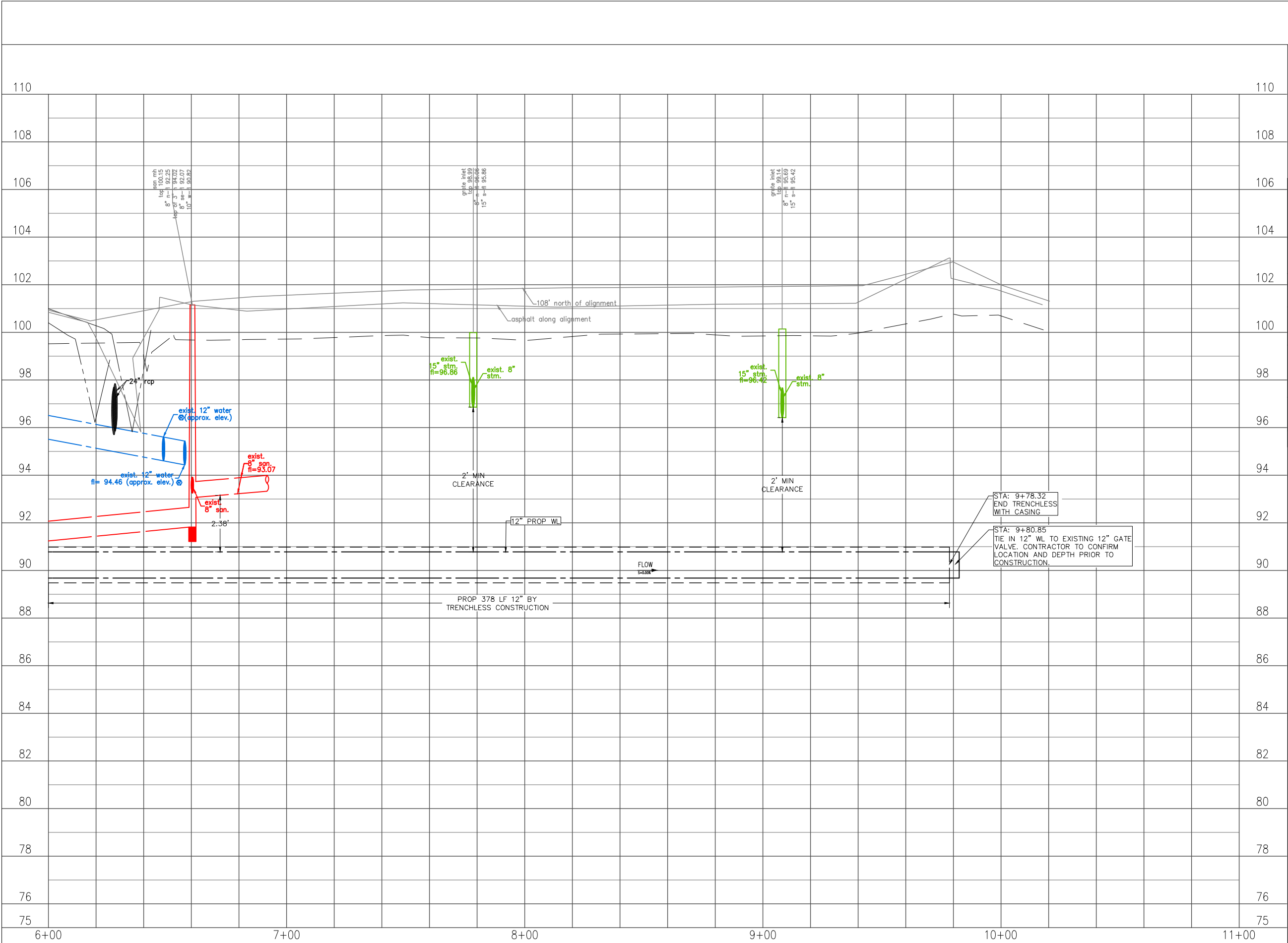
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AS NOTED	
CITY OF HOUSTON PM	
ANH BOYD	
SHEET NO. 12 OF 33	



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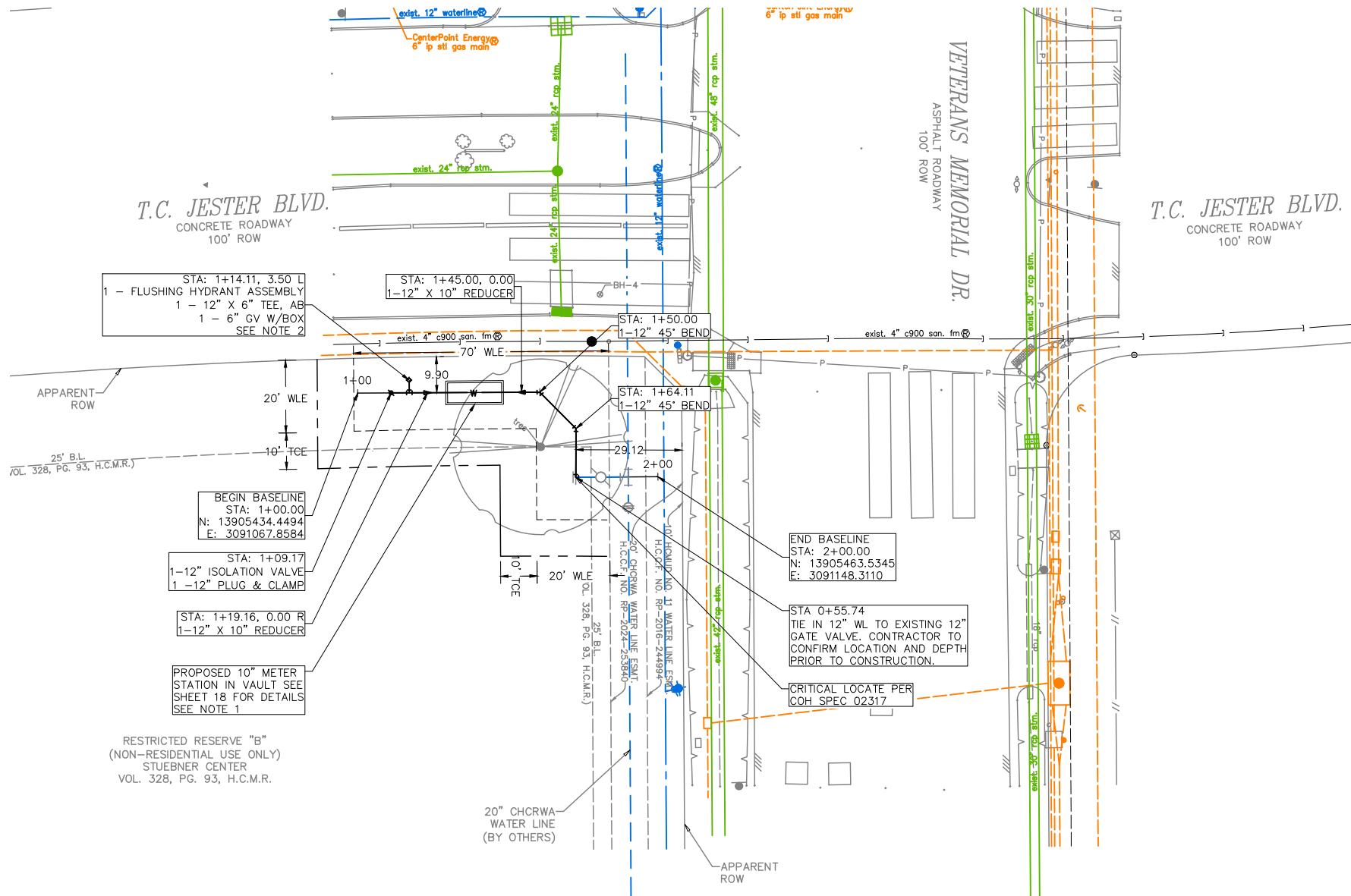
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**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

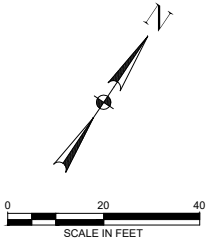
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NE AREA GROUP B**

WBS NO. S-000900-0305-3  
WILLOW TREE BASELINE  
PROFILE VIEW  
STA 6+00 TO END

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
S-00900-0305-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ANH BOYD	
SHEET NO. 13 OF 33	



- NOTES:
1. PROVIDE SIEMENS SITRANS FM MAG 8000. SEE DETAIL SHEETS 18 AND XX FOR VAULT ASSEMBLY DETAILS
  2. FLUSHING HYDRANT TO BE 6", (MAKE, MODEL)



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HOUSTON PUBLIC WORKS

COH GRP CONVERSION WL  
NE AREA GROUP B

WBS NO. S-000900-0305-3  
T.C. JESTER BASELINE  
PLAN VIEW  
STA BEGIN TO END

WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
S-00900-0305-3	
DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ANH BOYD	
SHEET NO. 14 OF 33	



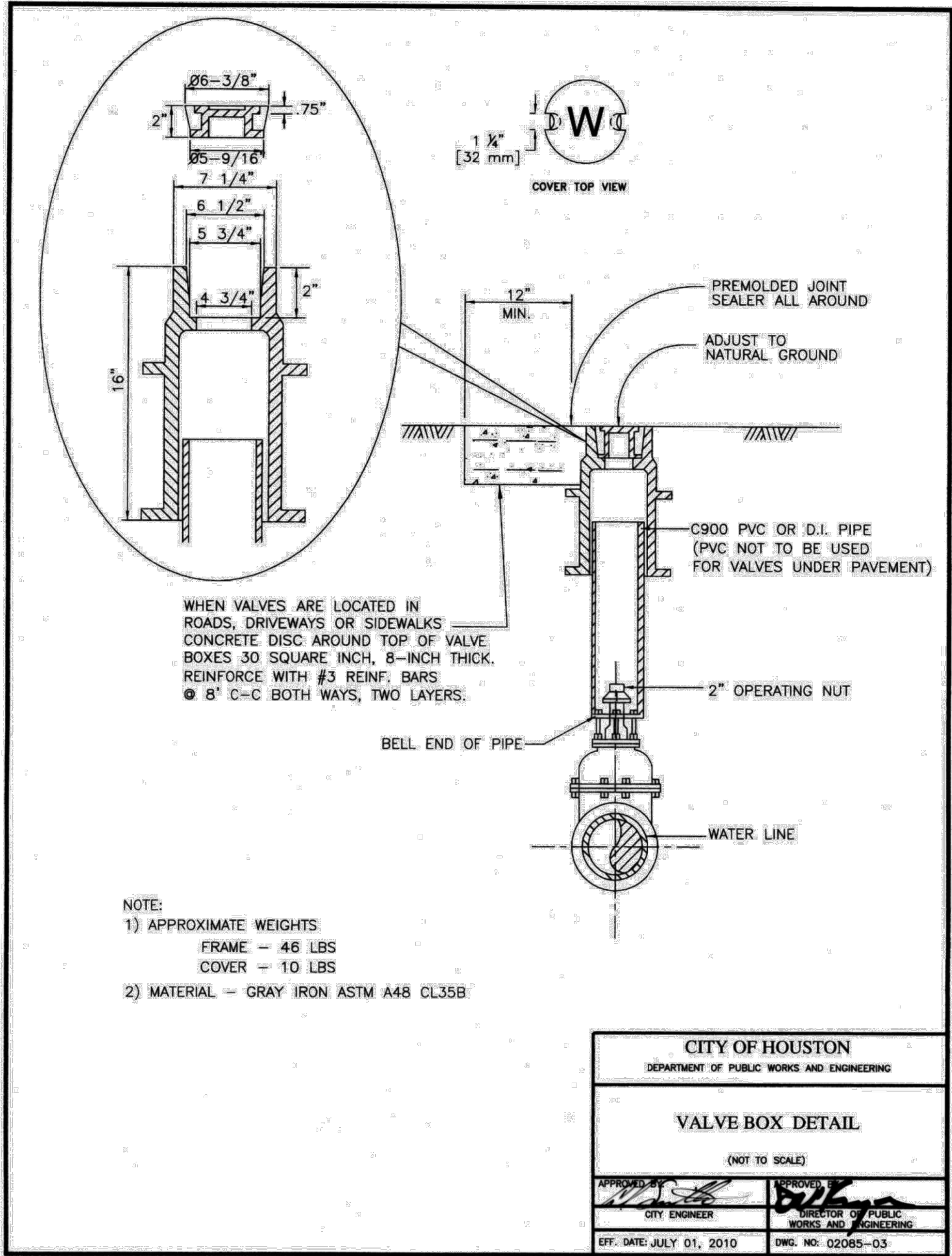
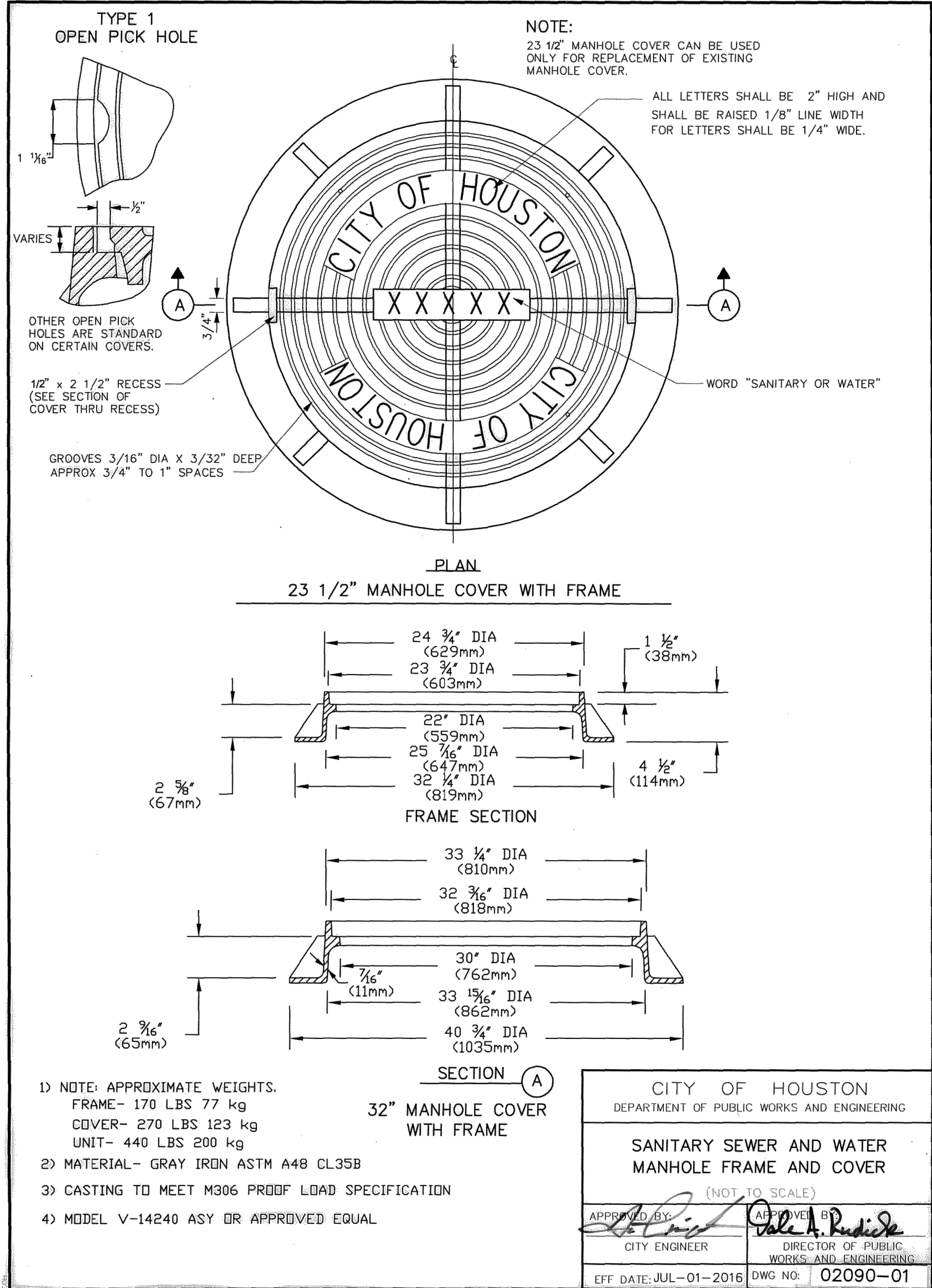


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SHEET NO. 15 OF 33	

FILE PATH: F:\Projects\246-09 COH GRP 24 inch WL\4-Drawings\1-Sheets\Standard Drawings\246-09-017 Thru 020 -Coh Water Details.dwg

Plot Style: coh.ctb

Plotted: 9/26/2025 11:12 AM



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INCORPORATED

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**CITY OF HOUSTON**  
HOUSTON PUBLIC WORKS

**COH GRP CONVERSION WL  
NE AREA GROUP B**

**COH WATER DETAILS  
1 OF 4**

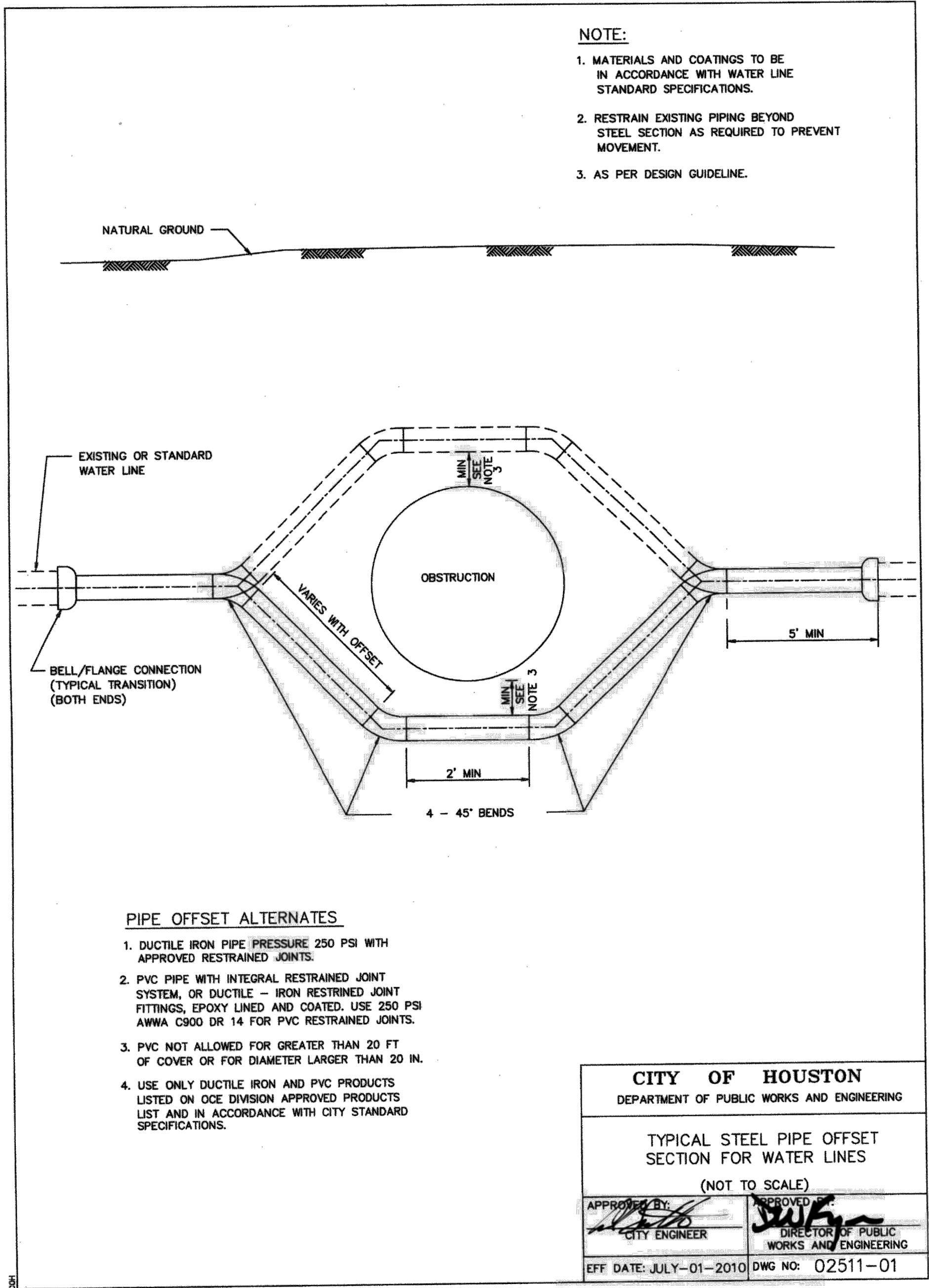
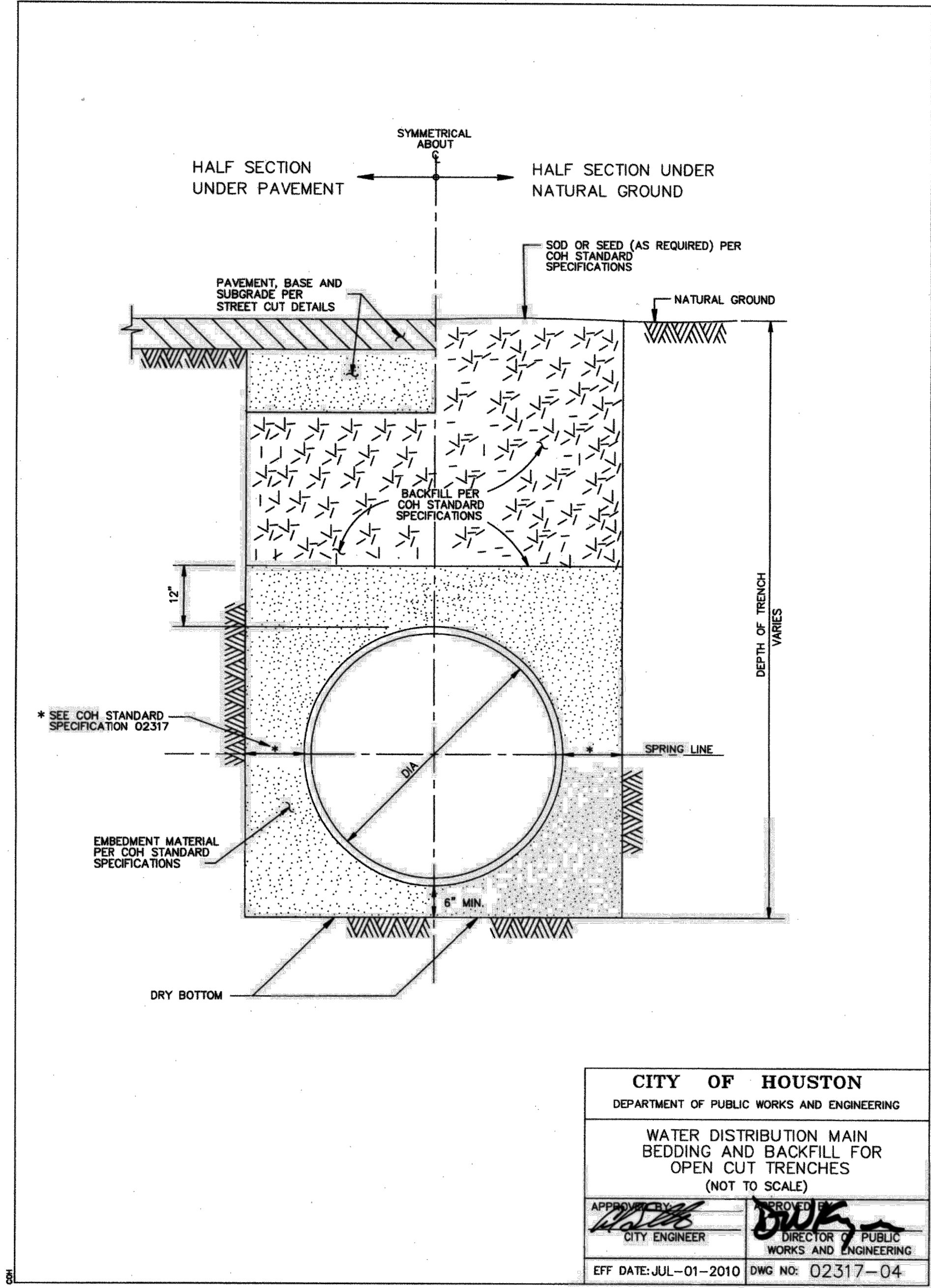
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FILE PATH: F:\Projects\246-09 COH GRP 24 inch WL\4-Drawings\1-Sheets\Standard Drawings\246-09-017 Thru 020 -Coh Water Details.dwg

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PLOT STYLE: COH.ctb



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COH GRP CONVERSION WL  
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COH WATER DETAILS  
2 OF 4

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SHEET NO. 17 OF 33	

**90° BEND**  
(45° BENDS SIMILAR)

**TEE & PLUG**

**PIPE CROSS SECTION**

PIPE SIZE	90° BEND			45° BEND			TEE/PLUG					
	W	H	L	W	H	L	W	H	L			
4"	6	12	14	10	6	8	11	8	6	10	12	12
6"	8	14	26	12	8	14	14	12	8	14	19	19
8"	10	16	40	16	10	18	20	16	10	18	26	26
10"	12	24	42	18	12	22	25	18	12	24	30	30
12"	14	36	40	30	14	26	30	22	14	26	40	40

**NOTES:**

- DEPTH "W" MAY BE GREATER THAN SPECIFIED TO ALLOW WORKING SPACE.
- BLOCKING MUST BE PLACED AGAINST UNDISTURBED EARTH. WHERE THIS IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.
- PROVIDE CONCRETE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 03315 - CONCRETE FOR UTILITY CONSTRUCTION.
- BLOCKING DIMENSIONS SHOWN ARE BASED ON 3000 PSI SOIL BEARING STRENGTH AND 125 PSI INTERNAL WATER PRESSURE. FOR OTHER SOIL CONDITIONS, MULTIPLY DIMENSIONS "L" AND "H" BY THE APPROPRIATE CORRECTION FACTOR.

**CITY OF HOUSTON**  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

**THRUST BLOCK DETAIL FOR WATER LINES (4-INCH TO 12 INCH) (NOT TO SCALE)**

APPROVED BY:   
CITY ENGINEER

APPROVED BY:   
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF. DATE: JULY-01-2010 DWG NO: 02511-02

SOIL TYPE	SOIL BEARING STRENGTH $S_u$ (lb/ft <sup>2</sup> )	MULTIPLY "L" AND "H" BY
SOFT CLAY	1000	1.73
SILT	1500	1.41
SANDY SILT	3000	1.00
SAND	4000	0.87
SANDY CLAY	6000	0.71
HARD CLAY	9000	0.58

PROVIDE 2-2" WIDE STRIPS OF REFLECTIVE TAPE ON BOLLARD (TYP.). PAINT BOLLARD FOREST GREEN. COLOR TO BE SUBMITTED AND APPROVED TO CITY ENGINEER.

SEE NOTE 5

8" CONCRETE BOLLARD PAD ADJUST TO N.G.

2'-0" STREET

1'-0"

UNDISTURBED SOIL

WATER TRANSMISSION LINE

VALVE RISER PIPE

18" DIA.

6" BRANCH (SEE NOTE 4)

6" VALVE

6" OF BANKSAND, CEMENT SAND, OR PEA GRAVEL

WATER TRANSMISSION LINE

LIMITS OF FLUSHING HYDRANT ASSEMBLY

TEE (SEE NOTE 6)

6" GATE VALVE

6" BRANCH (SEE NOTE 4)

**PLAN**

**2 STANDARD FLUSHING HYDRANT DETAIL**

N.T.S.

**NOTES:**

- LOCATE FLUSHING HYDRANTS AS SHOWN ON PLANS.
- ON OPEN-DITCH ROADWAYS OR OTHER CORRIDORS, SET THE FLUSHING HYDRANTS WITHIN 3 FEET OF RIGHTS-OF-WAY LINES, EASEMENT LINE OR AS SHOWN ON PLANS.
- THE FLUSHING HYDRANT STEAMER NOZZLE SHALL FACE THE STREET UNLESS DIRECTED OTHERWISE BY ENGINEER.
- PROVIDE RESTRAINED JOINTS FOR FLUSHING HYDRANT ASSEMBLY.
- PAINT FLUSHING HYDRANT GLOSS FOREST GREEN PER SPEC 02520S. INSTALL DISK ON PUMPER NOZZLE AND LABEL "FOR FLUSHING ONLY".
- IF WATER TRANSMISSION LINE IS PVC OR D.I. PIPE MATERIAL, INSTALL A D.I. TEE. IF WATER TRANSMISSION LINE IS STEEL OR CONCRETE CYLINDER PIPE MATERIAL, INSTALL A MANUFACTURER'S FLANGED TEE AT THE SPRING LINE.
- FLUSHING HYDRANTS SHALL BE RATED FOR A WORKING PRESSURE OF 150 PSIG OR GREATER AND PROVIDED FROM THE FACTORY PAINTED BLACK.
- PROVIDE MUELLER HYDRANT DEFENDER SECURITY DEVICE OR APPROVED EQUAL AND S.S. TAG: "FOR FLUSHING USE ONLY".

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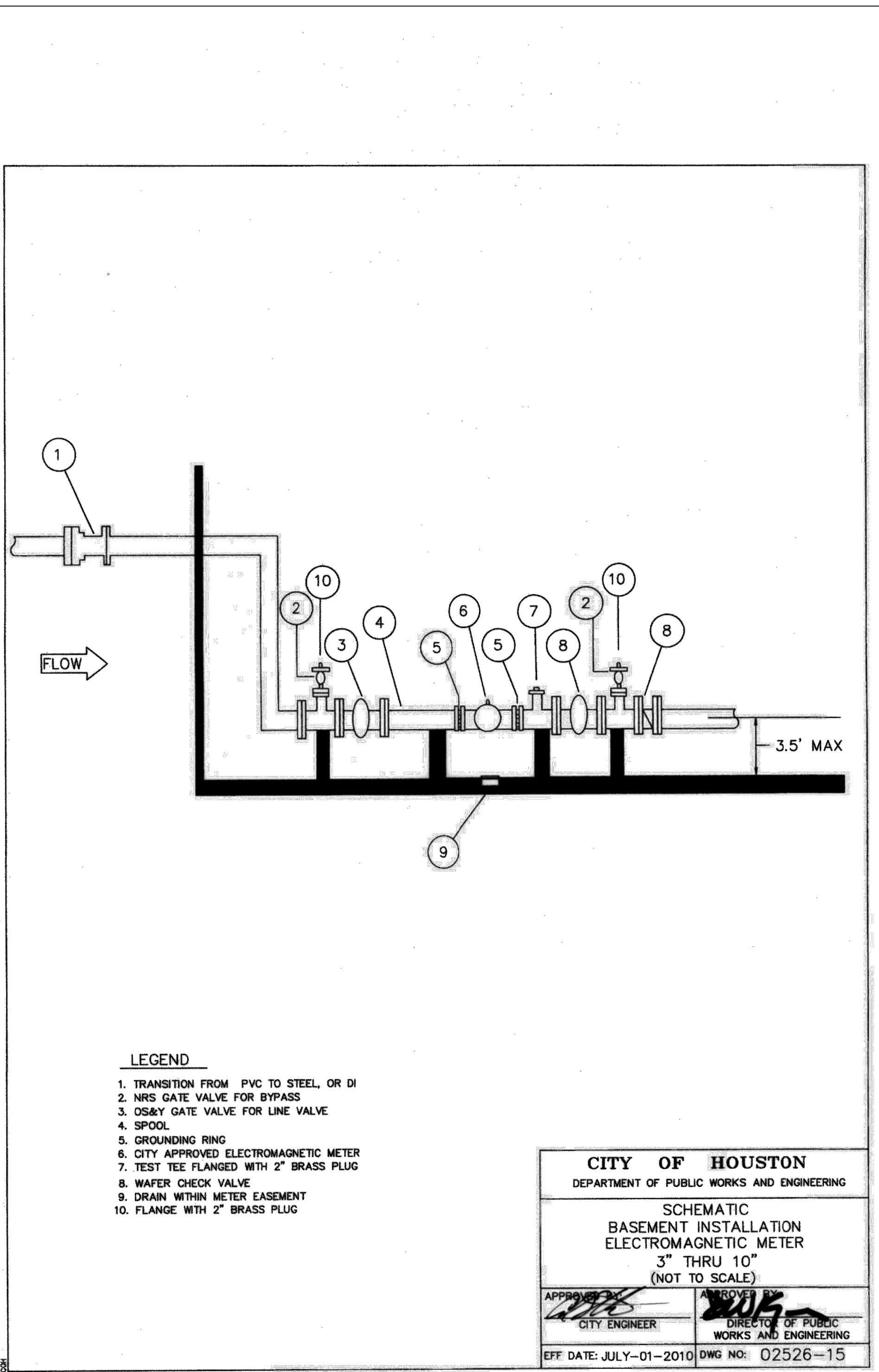
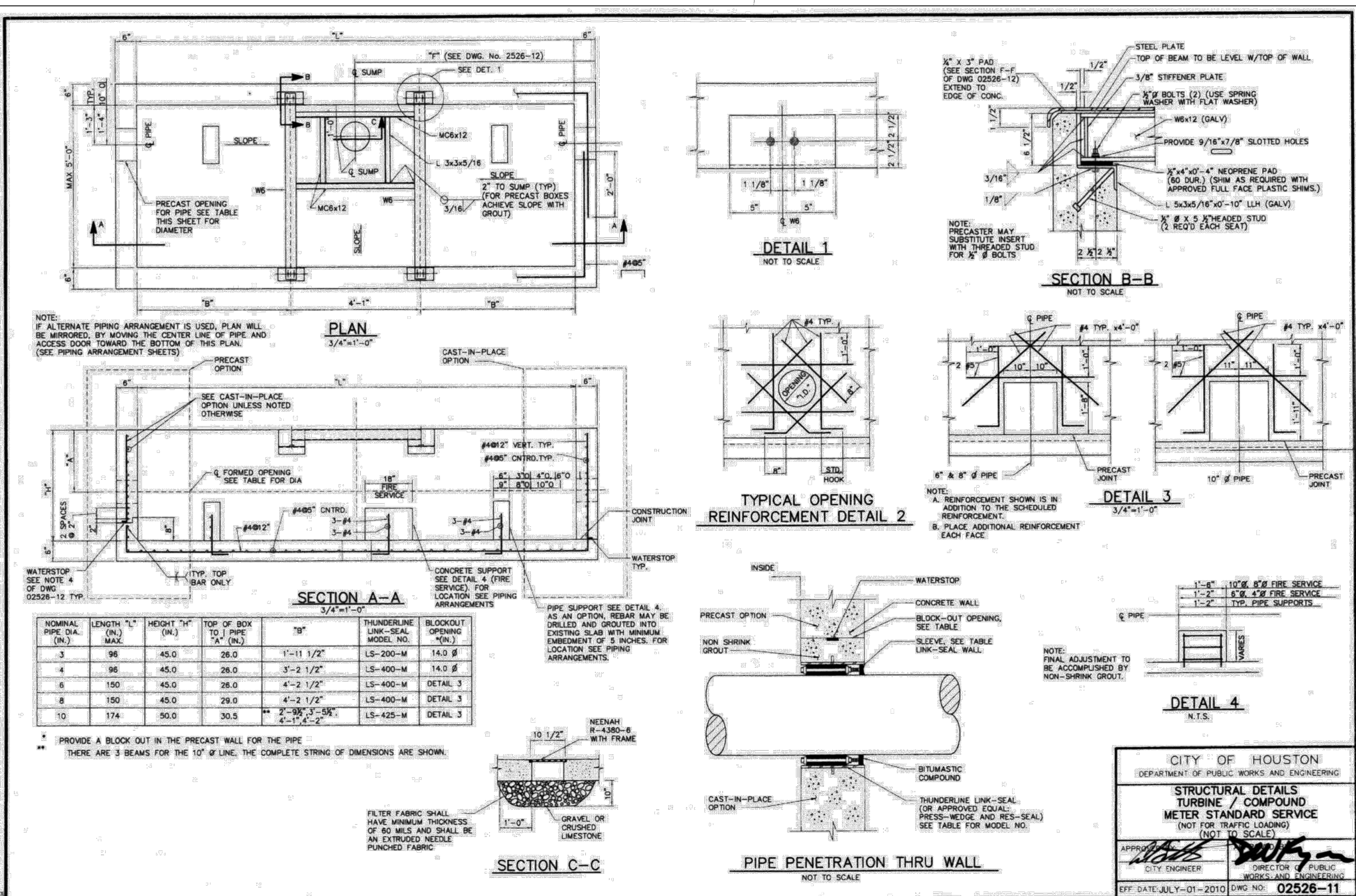
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HOUSTON PUBLIC WORKS

**COH GRP CONVERSION WL NE AREA GROUP B**

**COH WATER DETAILS**  
3 OF 4

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SHEET NO. 18 OF 33	





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**COH GRP CONVERSION WL  
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**COH WATER DETAILS**  
4 OF 4

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SHEET NO.	19 OF 33



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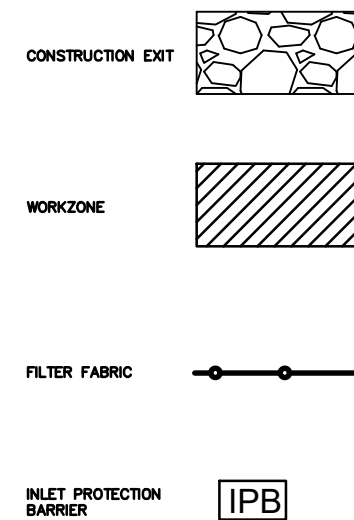
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FOR CITY OF HOUSTON USE ONLY




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**COH GRP CONVERSION WL  
NE AREA GROUP B**

STORMWATER POLLUTION  
PREVENTION PLAN  
SHEET 2 OF 3

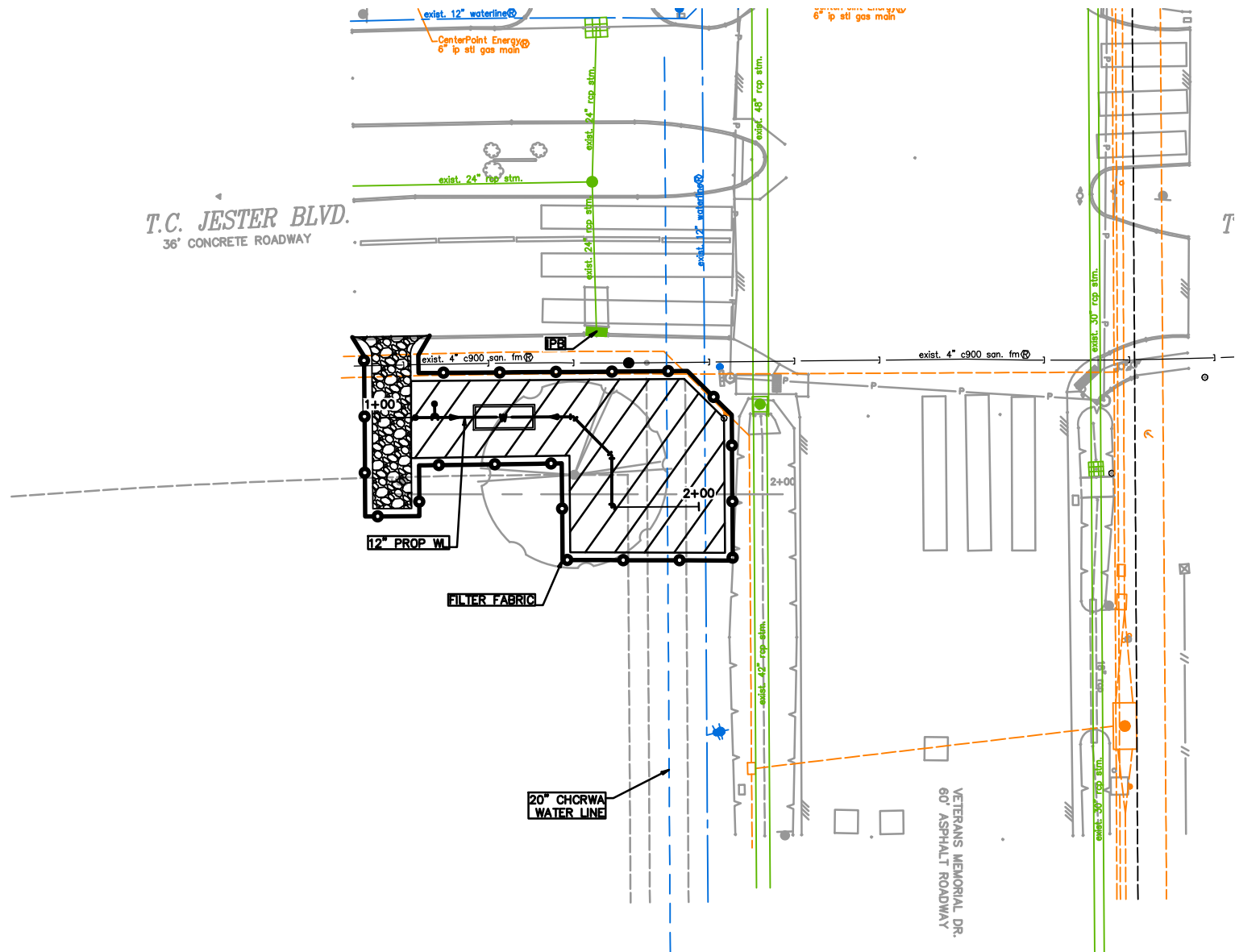
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SHEET NO. 22 OF	



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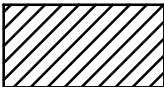
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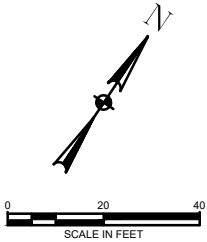
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FILTER FABRIC



INLET PROTECTION BARRIER



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STORMWATER POLLUTION  
PREVENTION PLAN  
SHEET 3 OF 3

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## STORMWATER POLLUTION PREVENTION PLAN DETAILS

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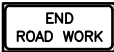
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ROAD  
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AHEAD

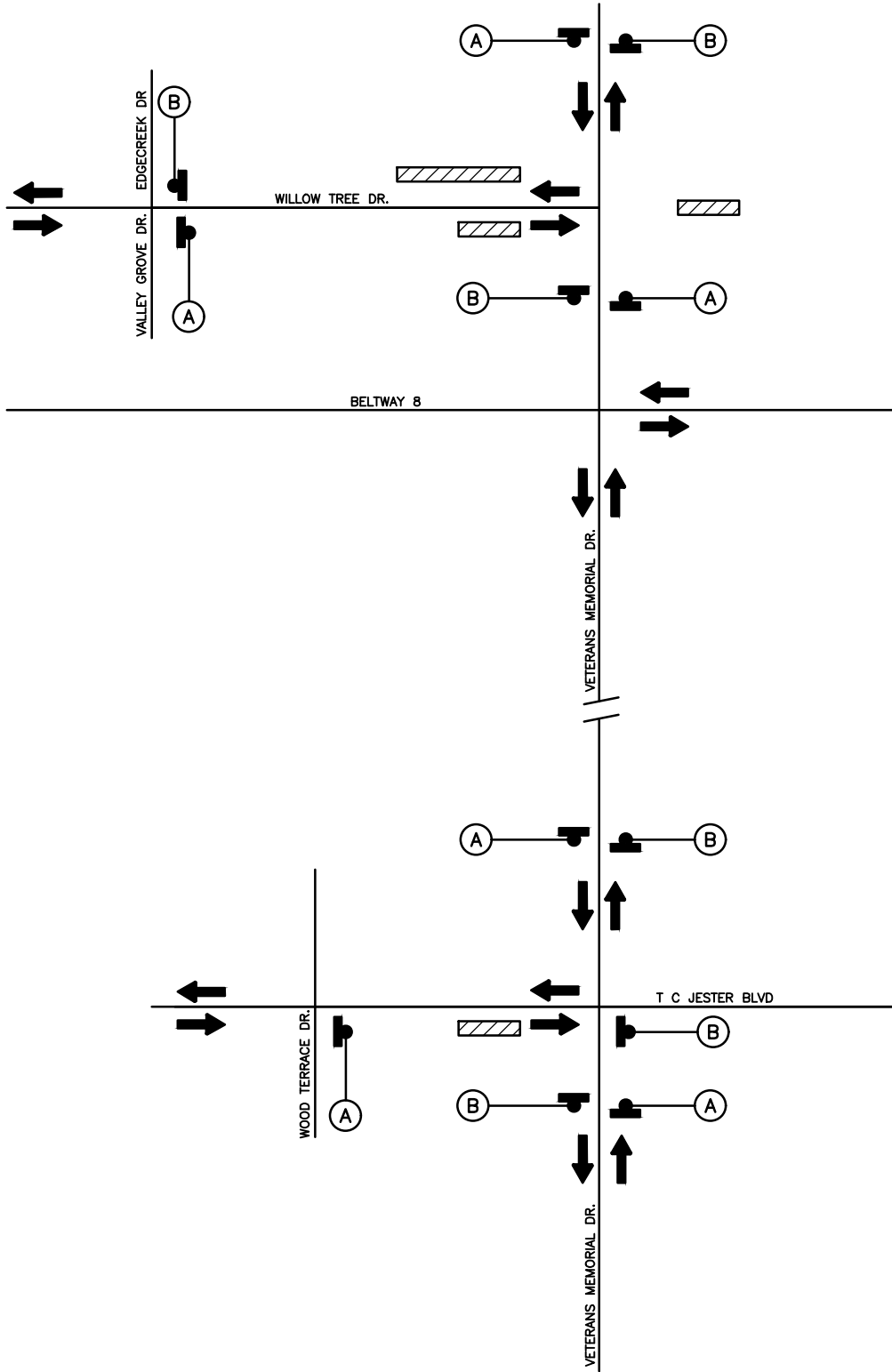
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B



END  
ROAD WORK

G20-2



- LEGEND:
-  SIGN
  -  CHANNELIZATION DEVICE
  -  BARRICADE
  -  AREA UNDER CONSTRUCTION
  -  TRAVEL WAY

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TRAFFIC CONTROL LAYOUT	
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			REVISION
			DATE
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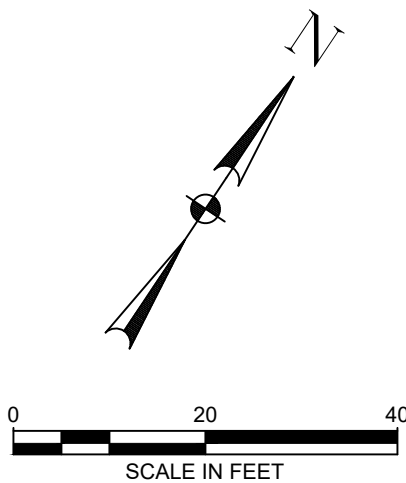
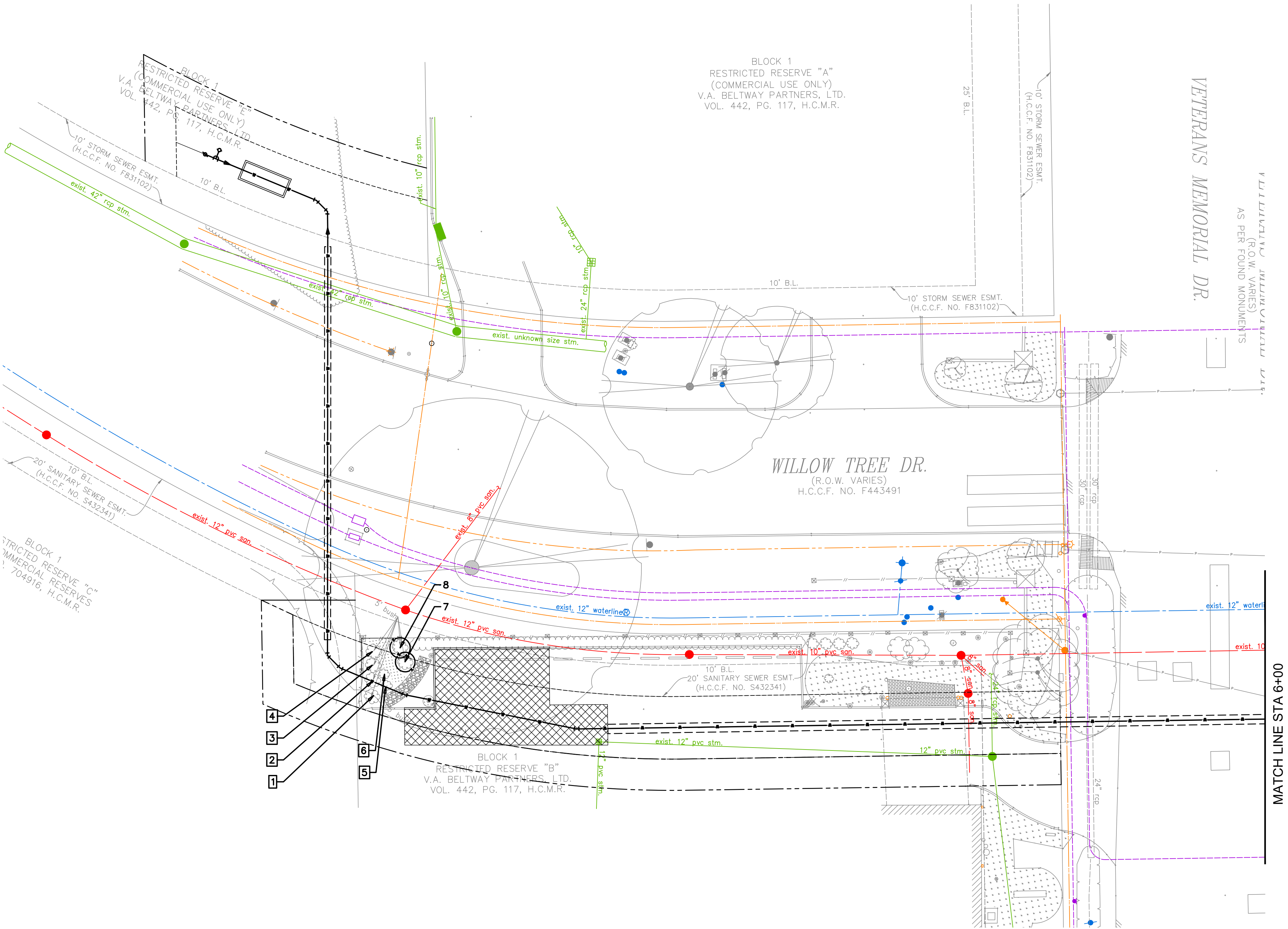




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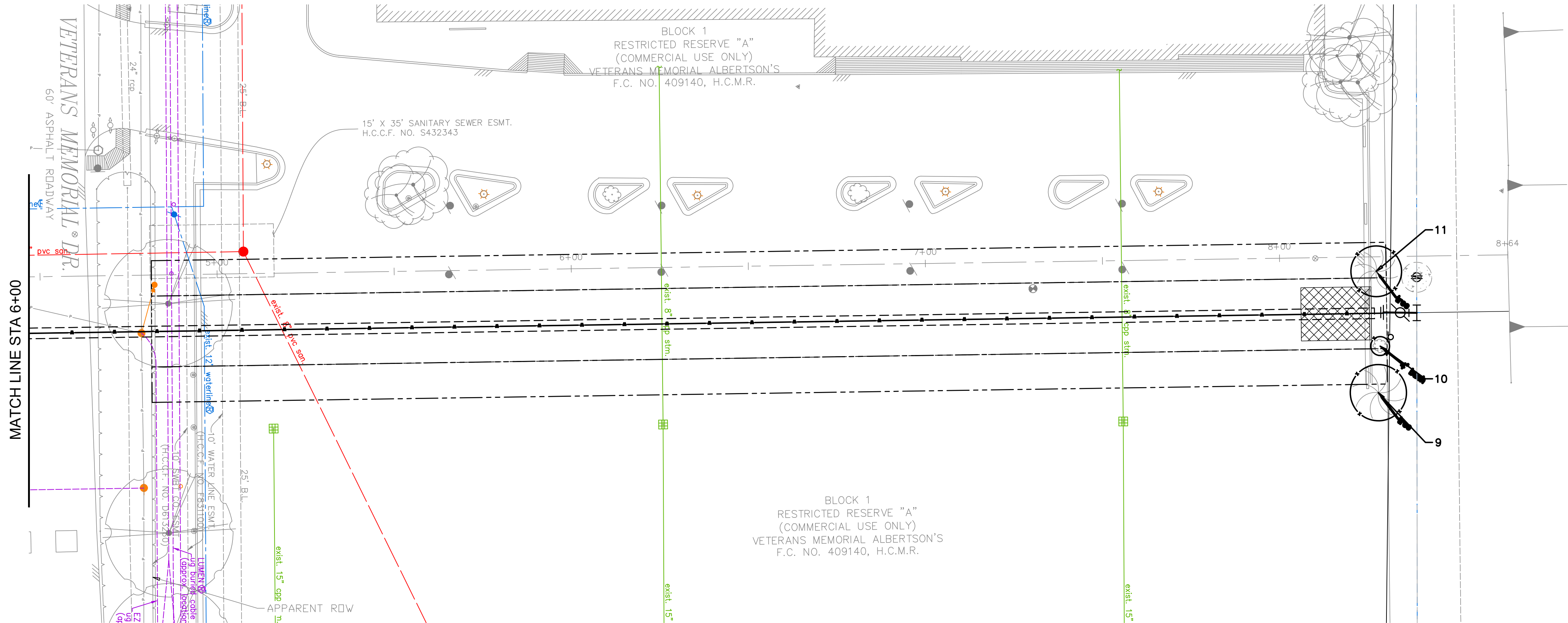
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TREE PROTECTION PLAN  
SHEET 1 OF 3

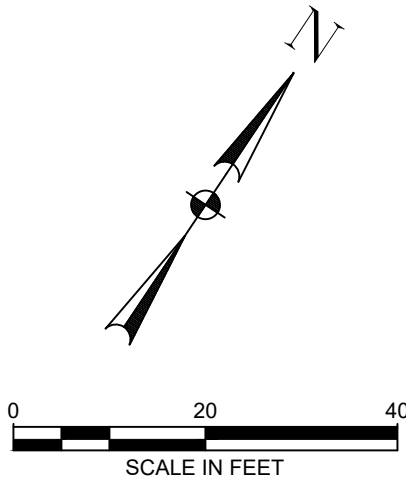
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NO.	DATE	REVISION	APP.





TREE PROTECTION PLAN LEGEND	
1 ↗	TREE TO REMAIN
☐ ↗	TREE TO BE REMOVED
○	TREE PROTECTION FENCING






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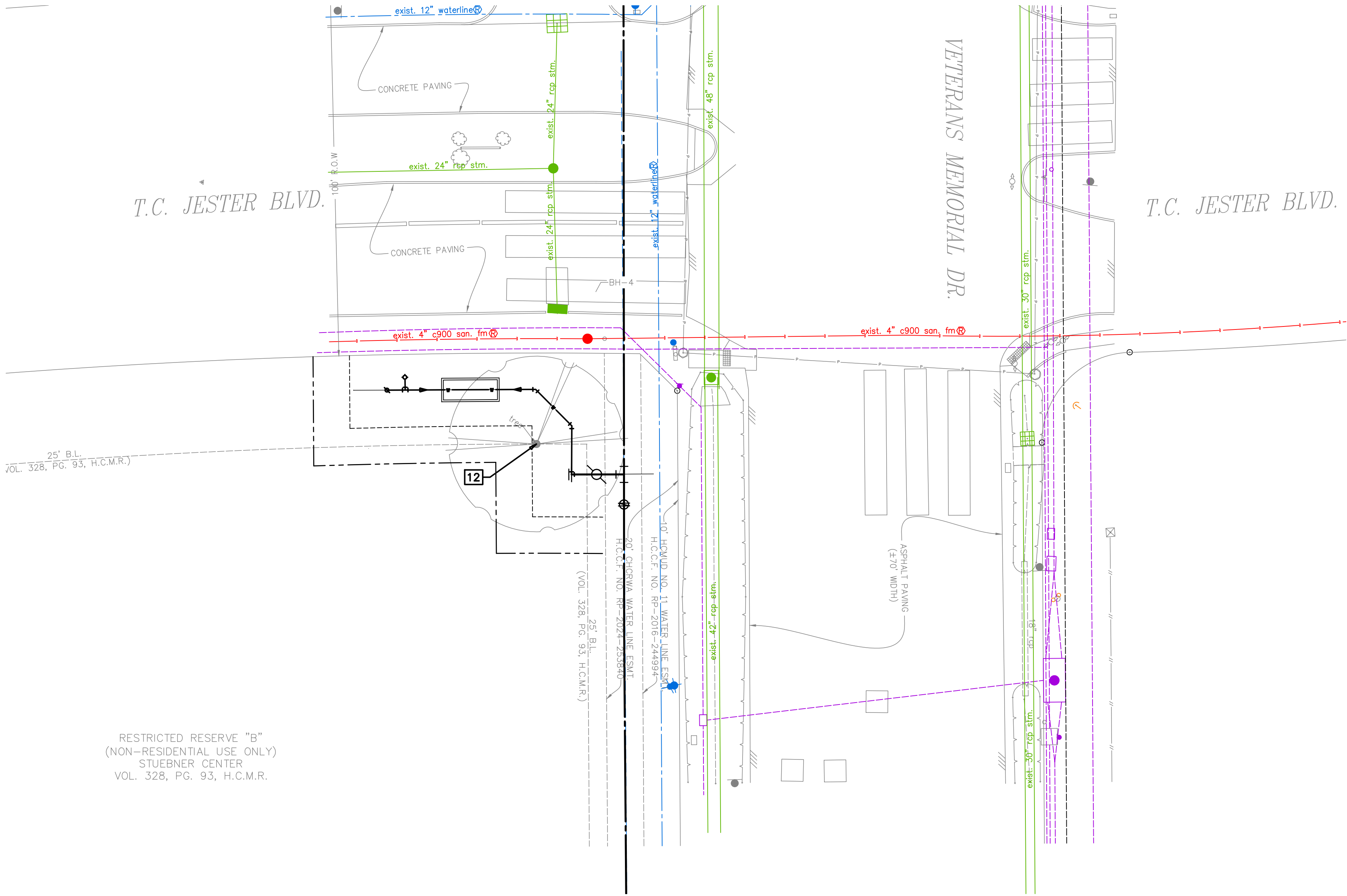
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TREE PROTECTION PLAN SHEET 2 OF 3	
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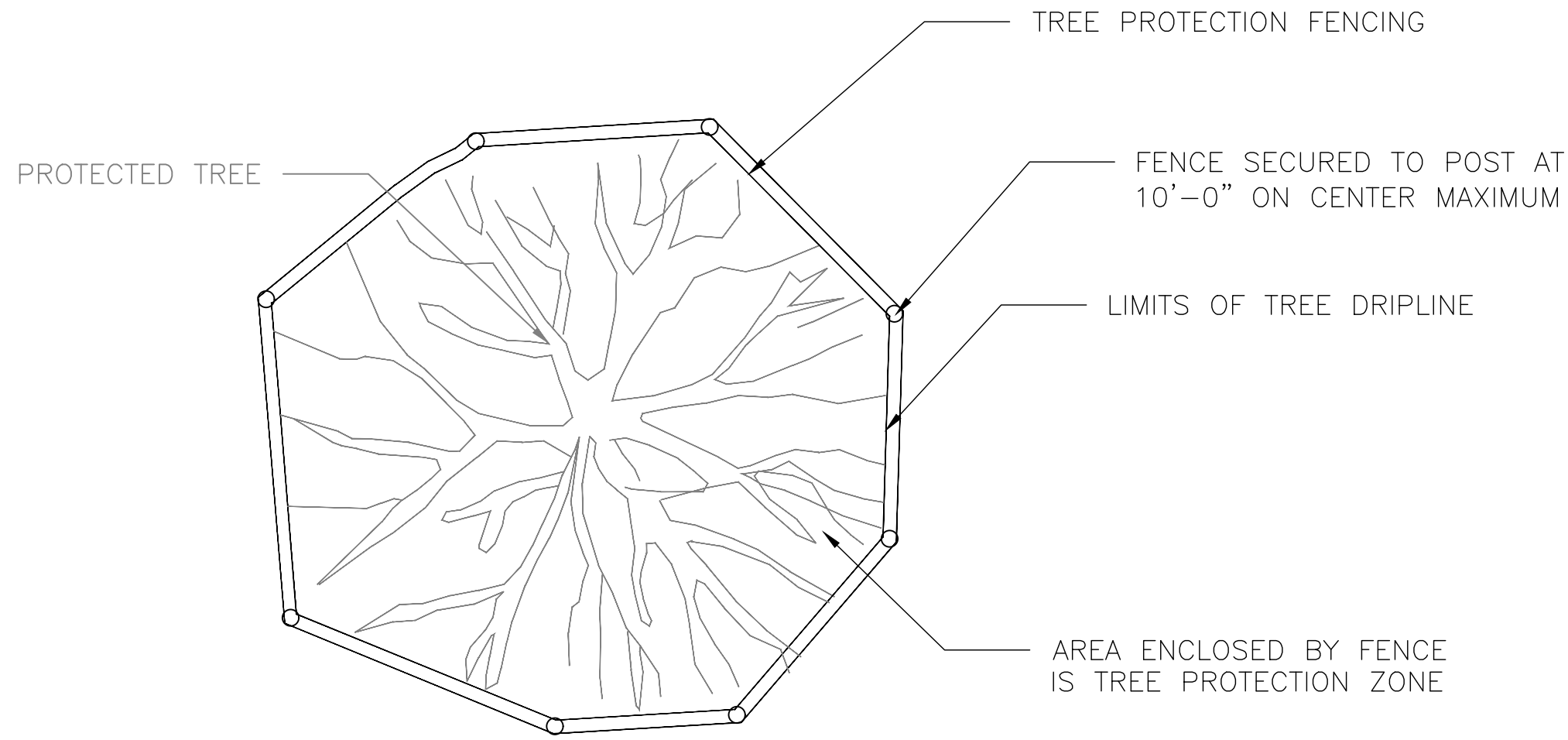
TREE PROTECTION PLAN LEGEND	
	TREE TO REMAIN
	TREE TO BE REMOVED
	TREE PROTECTION FENCING



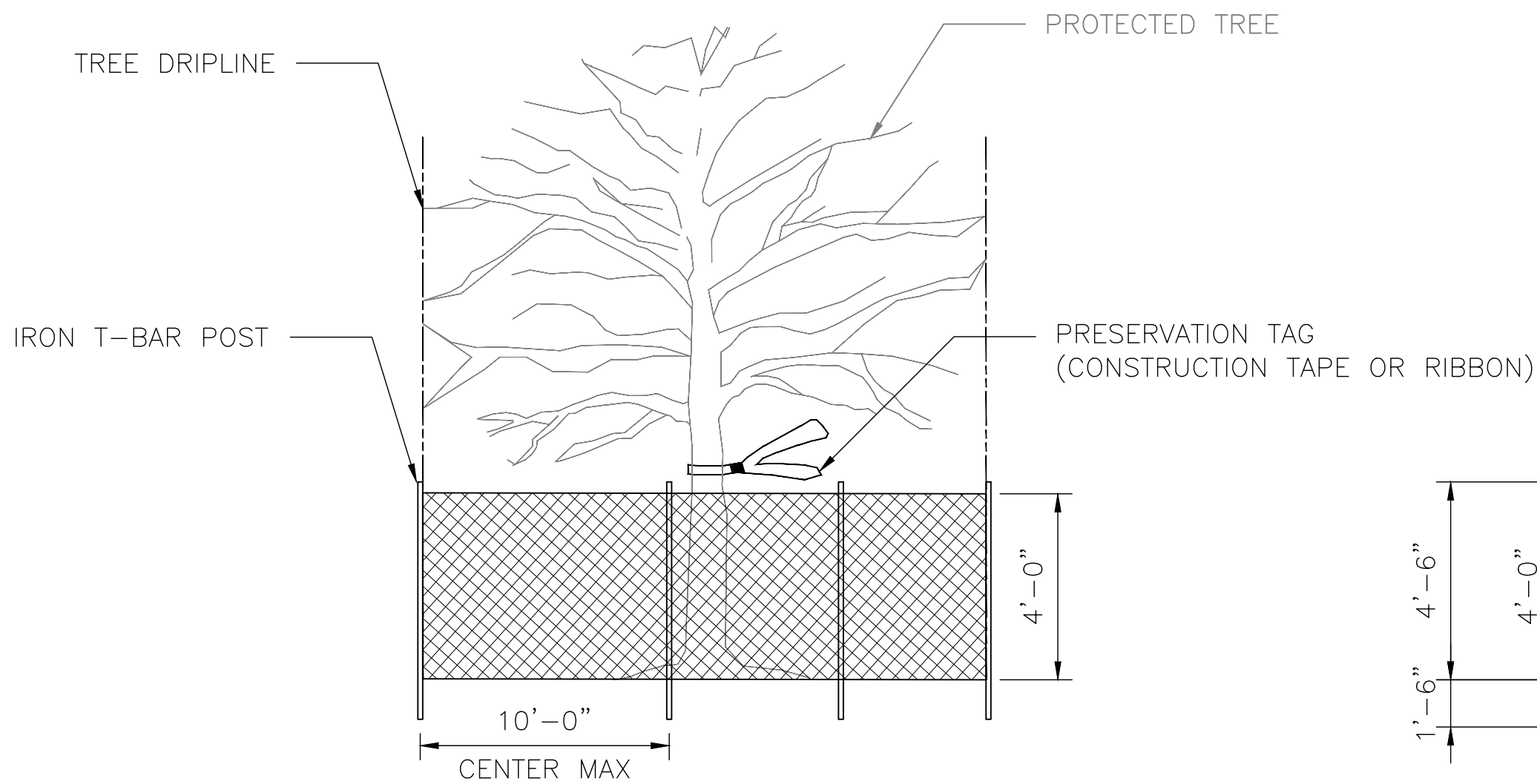
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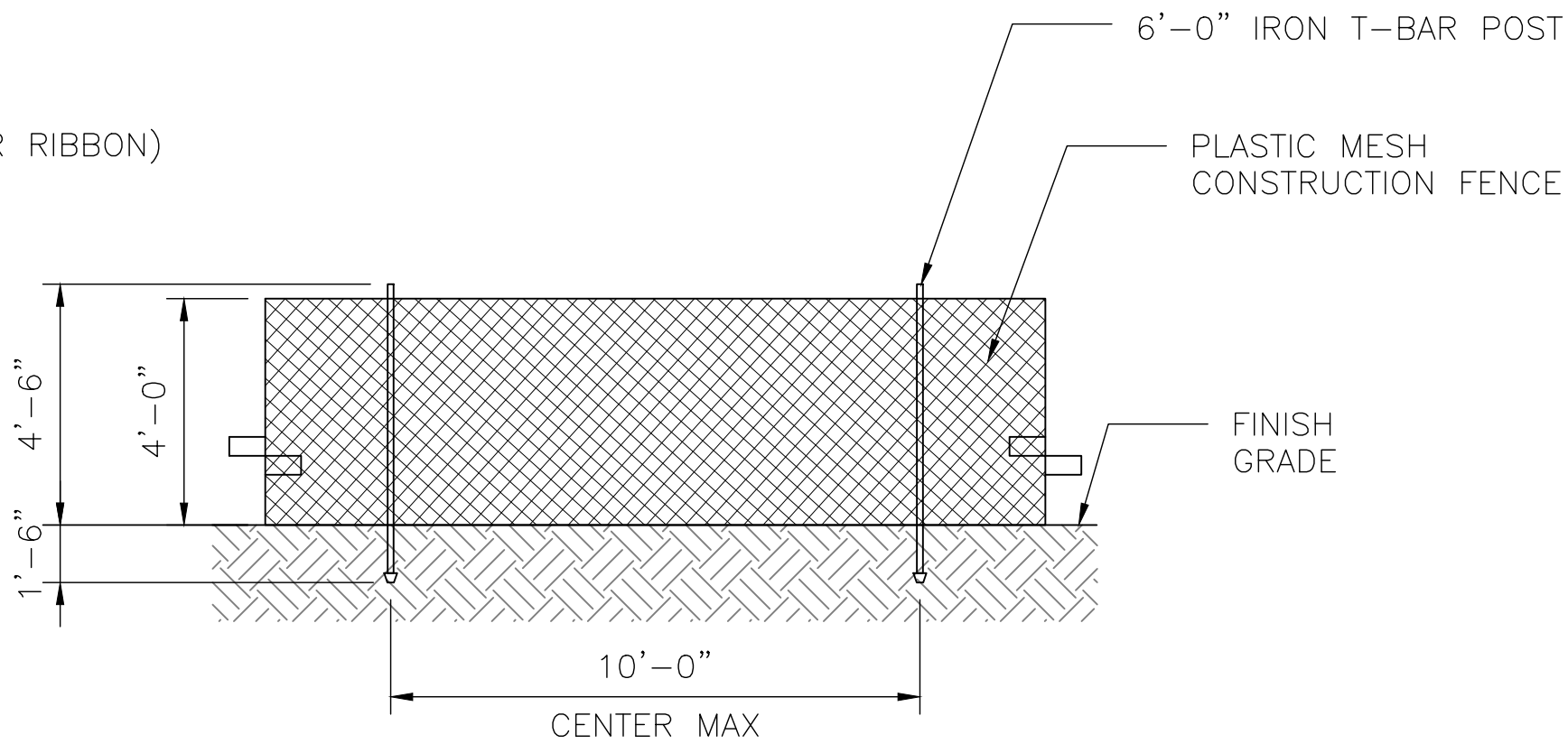
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TREE PROTECTION PLAN SHEET 3 OF 3	
WBS NUMBER	FOR CITY OF HOUSTON USE ONLY
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DRAWING SCALE	
AS NOTED	
CITY OF HOUSTON PM	
ANH BOYD	
SHEET NO. 28 OF 33	



PLAN VIEW  
TREE PROTECTION FENCING DETAIL



FRONT VIEW  
TREE PROTECTION FENCING DETAIL



DETAIL B-4  
PROTECTIVE PLASTIC MESH FENCE

NOTES:

FENCE LOCATION MAY BE ADJUSTED TO ACTUAL SITE CONDITIONS.

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TREE PROTECTION STANDARD  
DETAILS 1 OF 4

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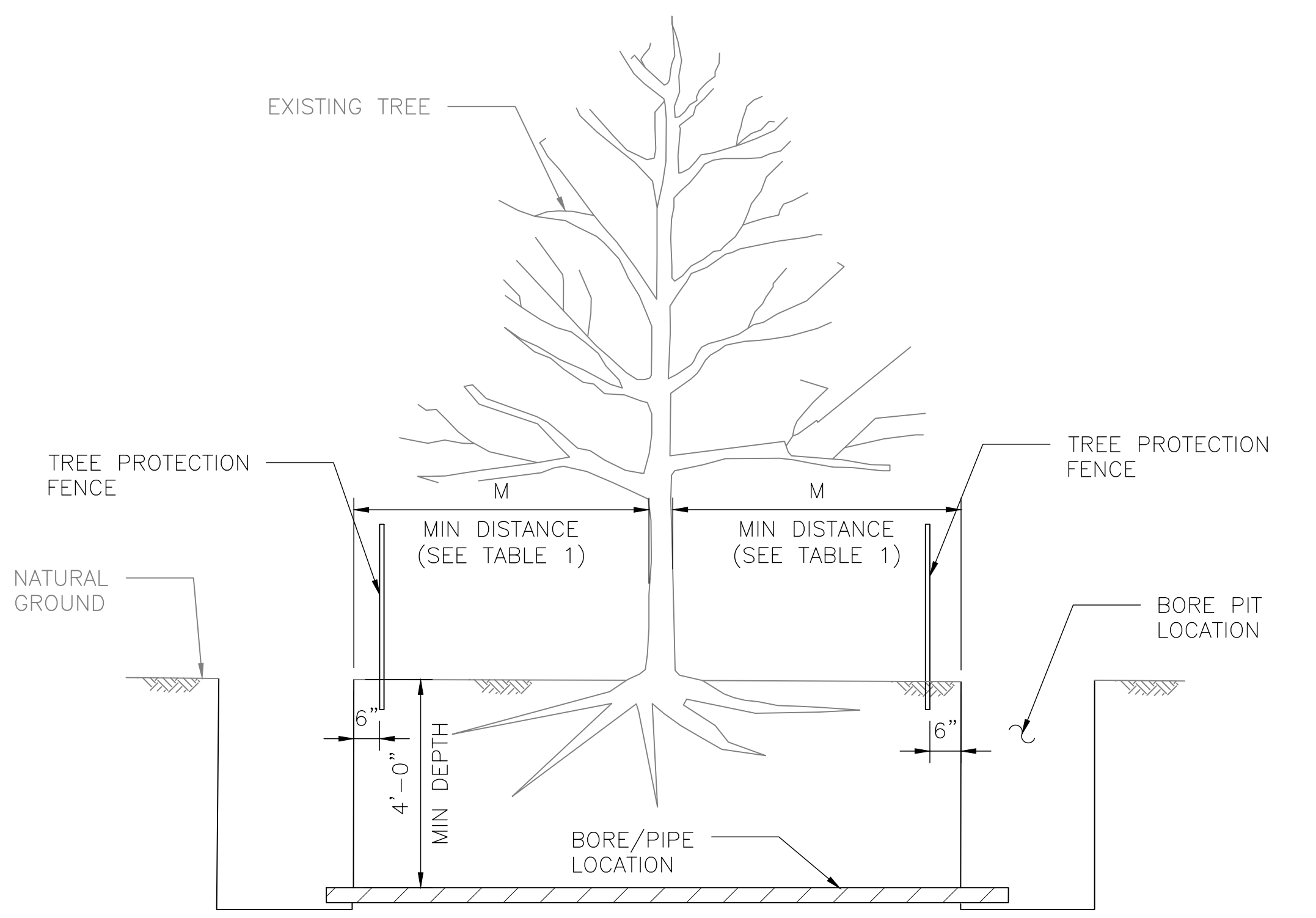




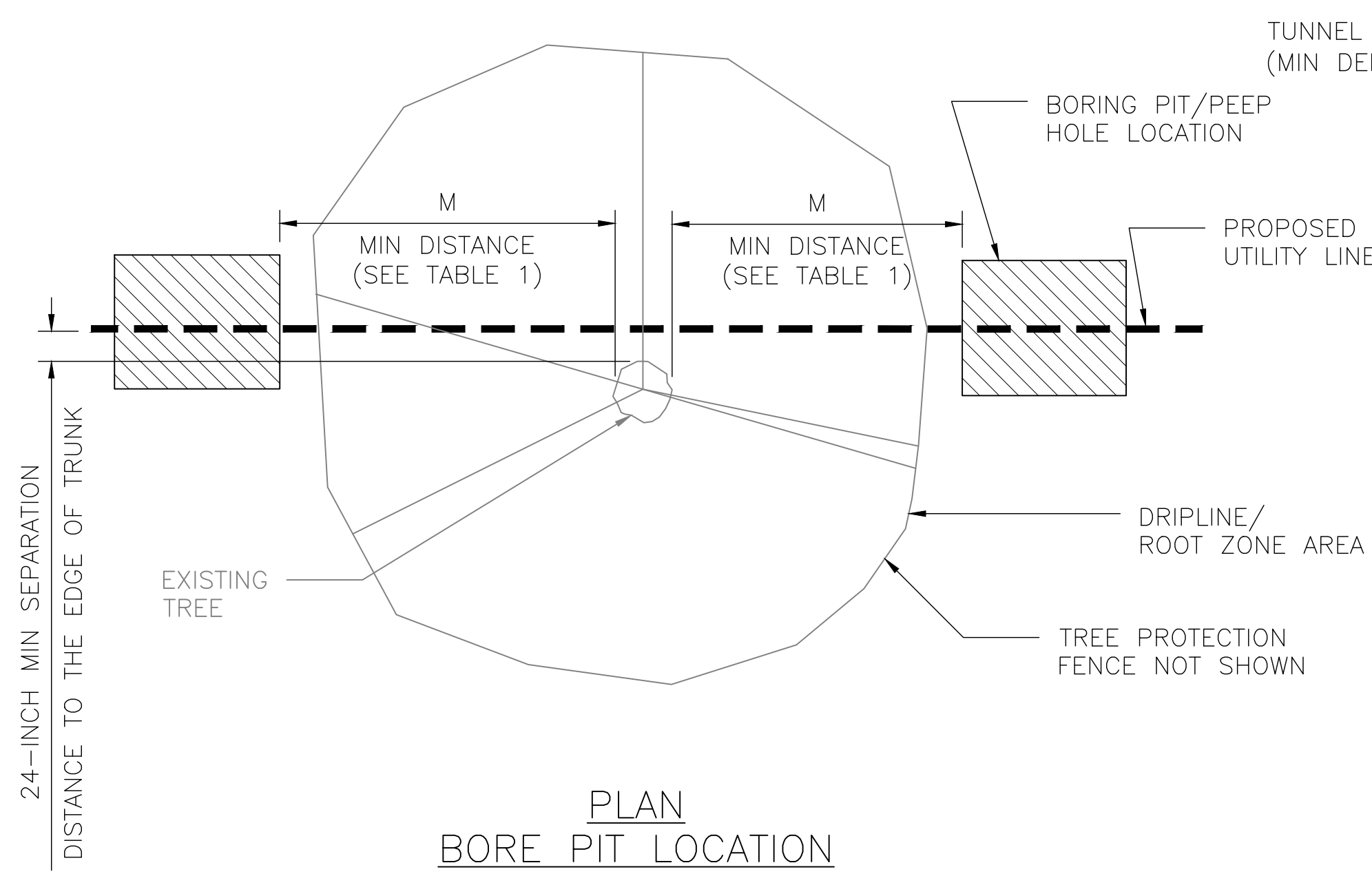
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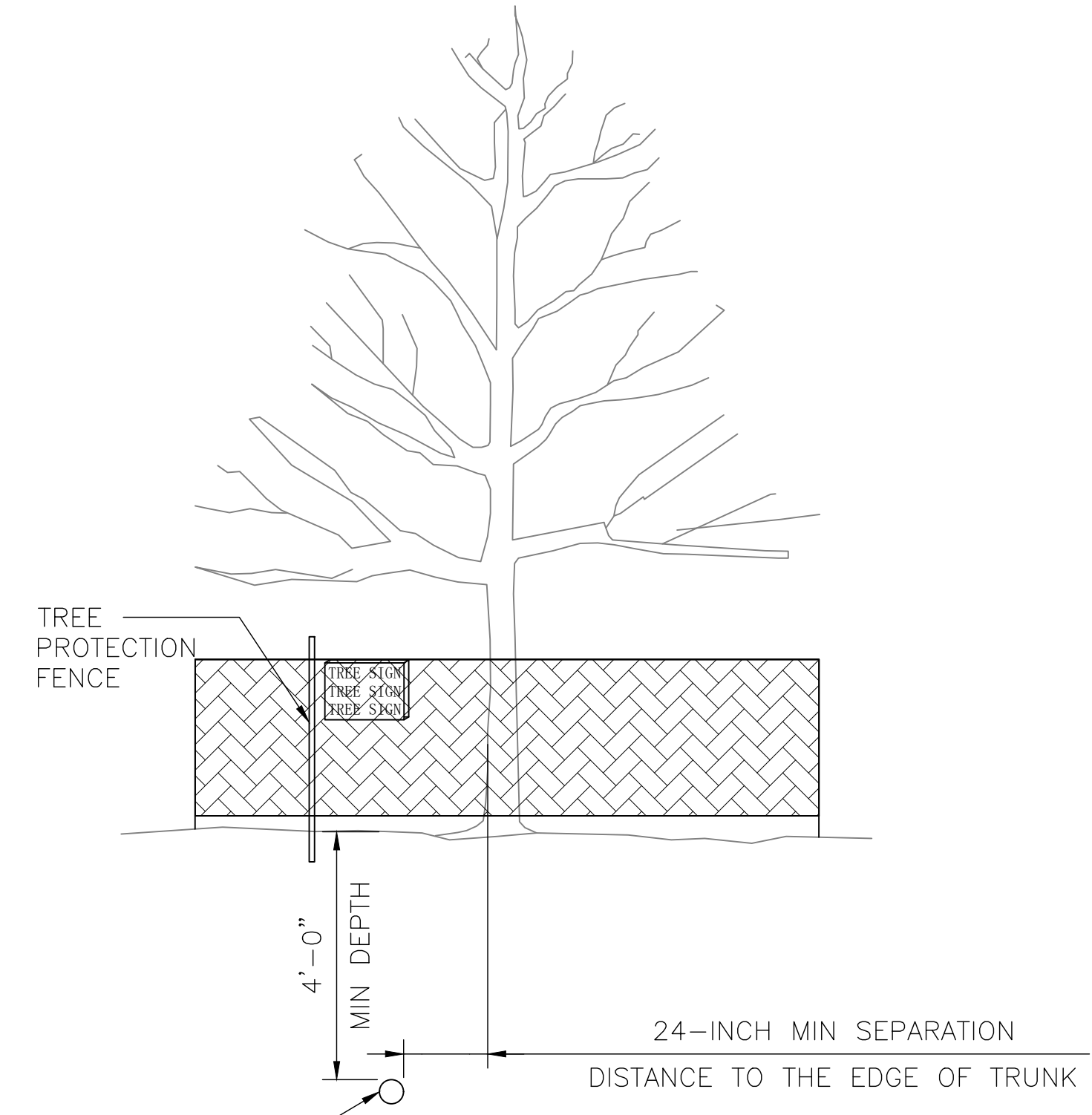
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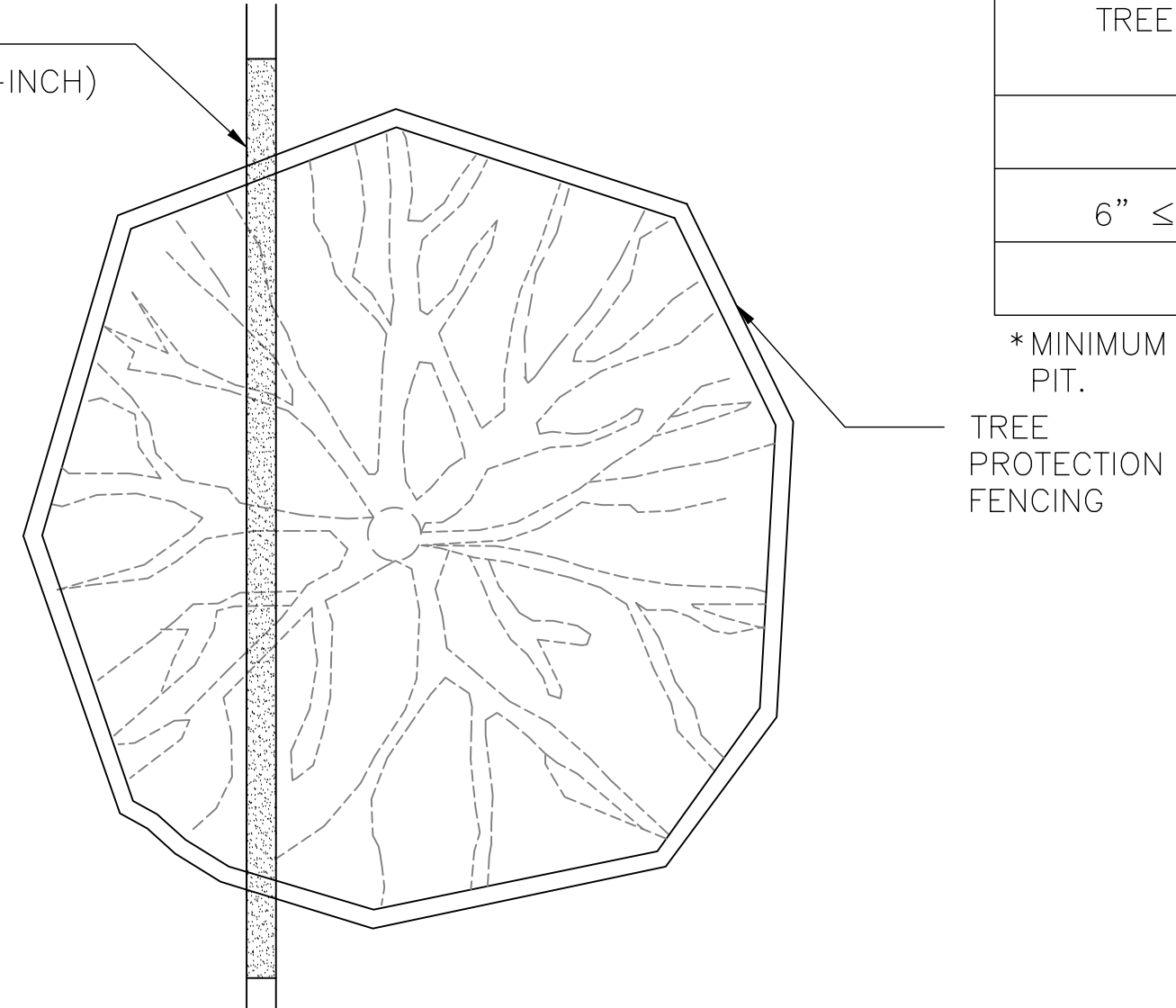
ELEVATION  
BORE PIT LOCATION



PLAN  
BORE PIT LOCATION



ELEVATION  
TUNNEL LOCATION



PLAN  
TUNNEL LOCATION

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 BORE PIT.

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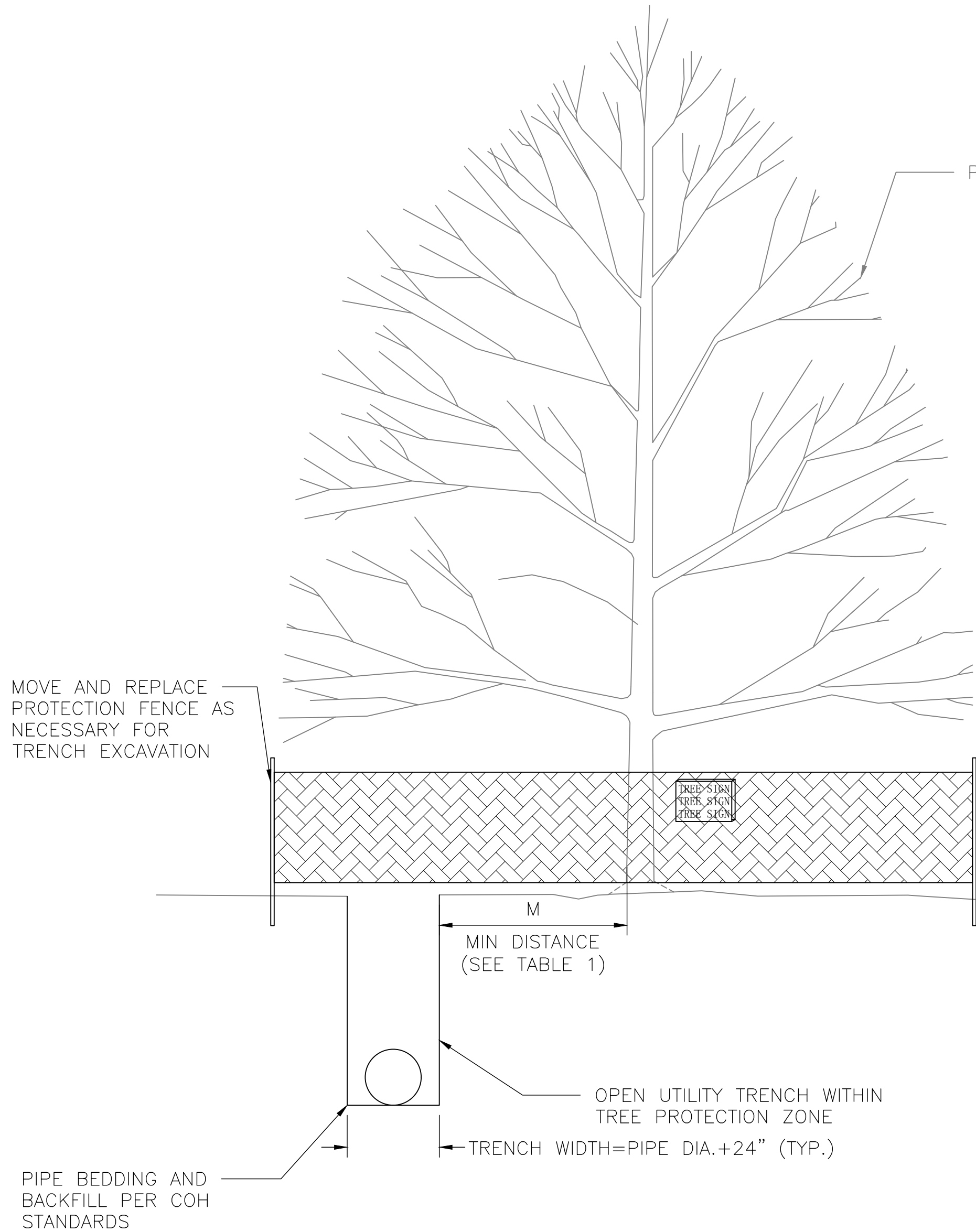
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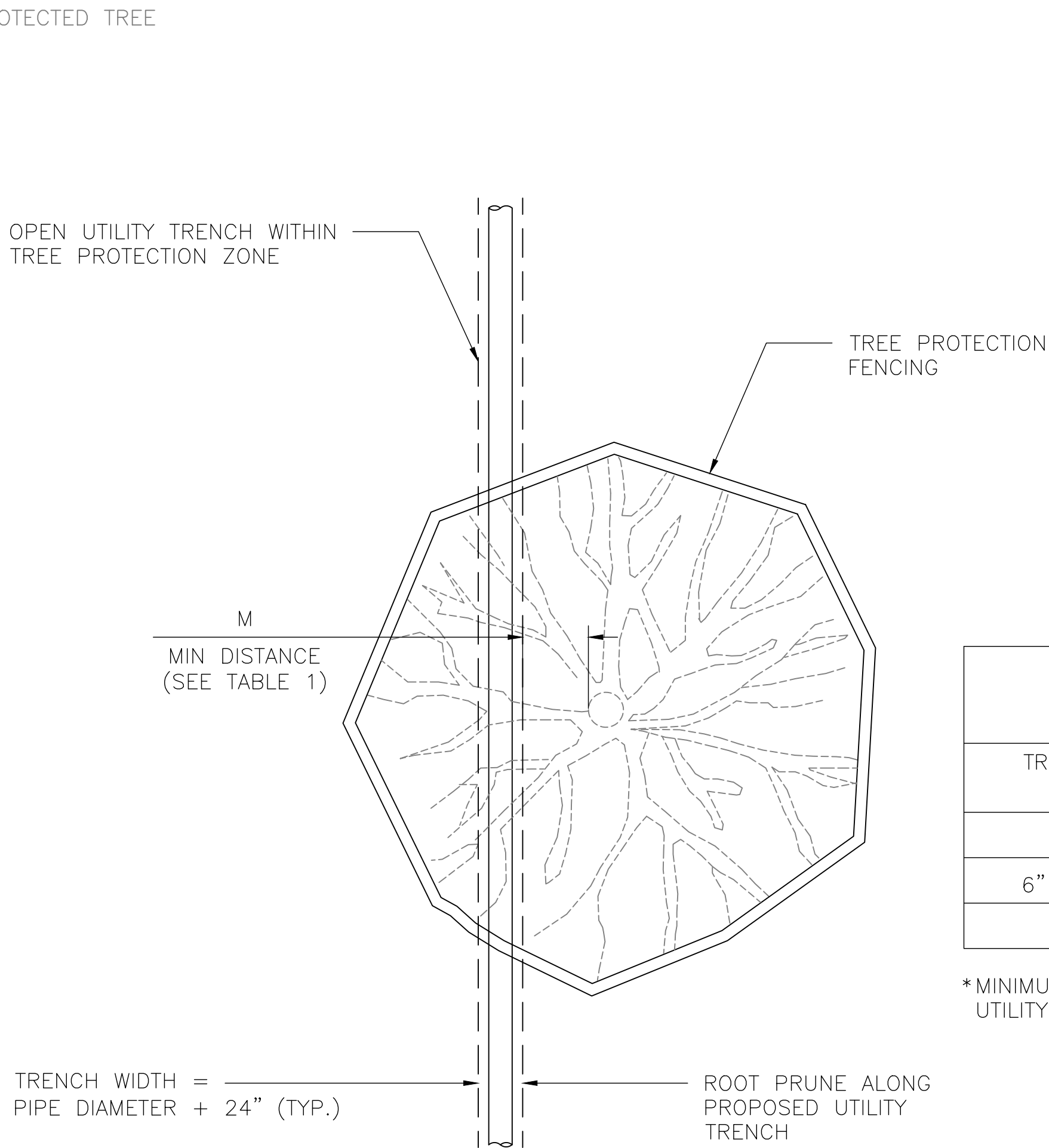
TREE PROTECTION STANDARD  
DETAILS 3 OF 4

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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

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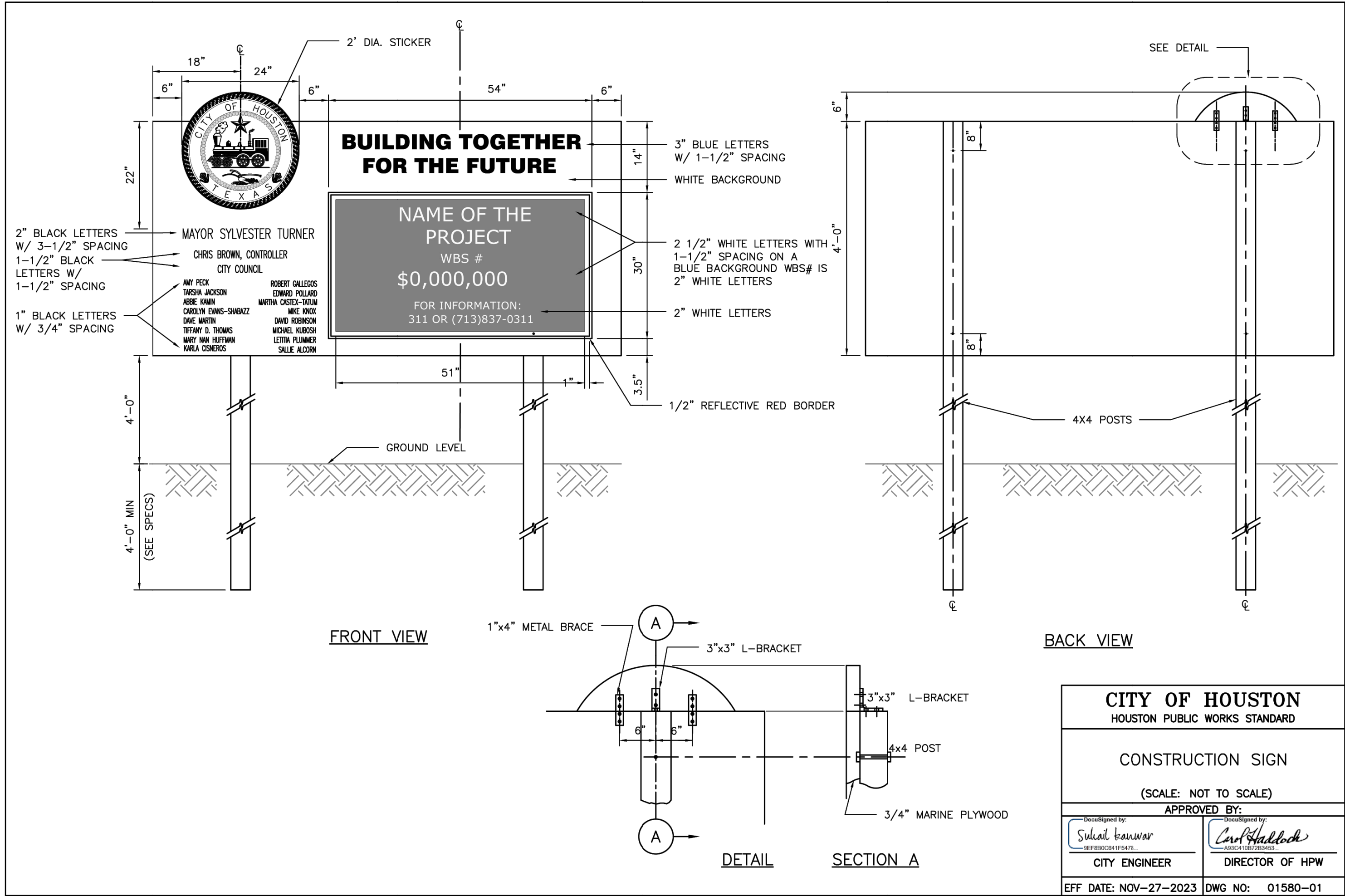
TREE PROTECTION STANDARD  
DETAILS 4 OF 4

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DISCLAIMER:  
THIS STANDARD IS GOVERNED BY THE TEXAS ENGINEERING PRACTICE ACT. THE DESIGN REQUIREMENTS ON THIS STANDARD DO NOT PURPORT TO ADDRESS THE USE OF THE SAFETY CONCERNS ASSOCIATED WITH THEIR USE. THE ENGINEER OF RECORD (EOR) IS TO REVIEW THESE DESIGN REQUIREMENTS AND BY AUTHORIZING THEIR USE, THE ENGINEER OF RECORD ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE. WHEREAS, THE CITY OF HOUSTON ASSUMES NO RESPONSIBILITY FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.



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.



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COH GRP CONVERSION WL  
NE AREA GROUP B

COH CONSTRUCTION  
SIGN DETAILS

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